

Appendix A – Areas of Economic Activity Technical Note

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1. Introduction

The remit for the Strategic Transport Projects Review (STPR) is to assess the existing and future performance of the transport network, identify gaps and shortfalls, identify and appraise potential interventions and produce a prioritised programme of such interventions that will make a significant contribution to three key strategic outcomes, namely:

- Improve journey times and connections;
- Reduce emissions; and
- Improve quality, accessibility and affordability.

To assist the analysis process, different elements of the network have been identified - four urban networks (Aberdeen, Dundee, Edinburgh and Glasgow), two strategic nodes (Inverness and Perth) and 20 land based corridors of national importance.

In defining the appropriate level of detail to assess the urban networks and strategic nodes, the role of the STPR in the urban networks and strategic nodes has been identified as connecting the strategic corridors, providing access to international gateways or access to areas of economic activity of national significance and access to regeneration areas.

2. Purpose

The purpose of this paper is to identify areas of economic activity which are of national significance in order to provide a framework to assess the performance of transport within these urban areas and strategic nodes.

The paper describes the broad approach, defines the criteria used and lists the identified areas of economic activity with reasons for their selection. The paper identifies such areas within the urban networks and strategic nodes as well as similar key concentrations of economic activity elsewhere in the transport network. This paper does not seek to define regeneration areas as these have been identified previously⁸¹⁹ as Clyde Gateway, Clydebank, Inverclyde (particularly Riverside Inverclyde URC) and Ayrshire (particularly Irvine Bay URC).

3. Selection Approach

The following approach was used to select areas of economic activity of national significance:

- An initial review of each of the four urban networks and two strategic nodes was undertaken. Specific sub regions were identified as potentially containing areas of nationally important economic activity. These areas were selected by drawing upon the knowledge and experience gathered by the study team during previous work in each city region and the review of the local and strategic planning documents carried out during SWP3. Areas were selected on the basis of their existing status as employment centres as well as their status as areas in which strategic employment developments are planned in future.
- In selecting these areas, the analysis recognised the importance of city centre locations in each of the urban networks and strategic nodes. A broad geographical definition of 'city centre' was adopted at the core of each city.
- Beyond the city centre, a number of key areas of economic activity were identified and included for consideration. These areas concentrated on key existing industrial sites and areas with high profile new or planned developments.
- Each of these areas was then assessed against a number of criteria to determine whether they could be considered of national and strategic importance as centres of economic activity.

4. Definition Criteria

Throughout the selection approach the analysis adopted a definition of 'nationally significant areas of economic activity' which is consistent with key objectives for the Scottish economy as set out in policy documents such as The Framework for Economic Development in Scotland and Smart Successful Scotland. In particular, the selection approach paid specific attention to the Growing Businesses strand of the Smart Successful Scotland vision which aims "*to enable existing businesses to grow to a scale where they can compete effectively on a world stage*" and to "*achieve global success in key sectors*"⁸²⁰.

Towards this, the analysis defines an area of nationally significant economic activity in Scotland as one which exhibits two key characteristics:

⁸¹⁹ People and Place: Regeneration Policy Statement; Scottish Executive, 2006

⁸²⁰ A Smart Successful Scotland – Strategic direction to the Enterprise Networks and an enterprise strategy for Scotland, Scottish Executive, 2004

- A concentration of employment in key strategic sectors of the economy; and,
- A concentration of large companies operating on a global scale and employing significant numbers of staff on site.

The next stage of the analysis assessed each of the areas identified during the initial selection process against this definition using data gathered from secondary sources.

In order to assess areas against the first characteristic, an analysis was undertaken of the employment density (measured as number of jobs per hectare) of each area. Each area was defined in terms of datazones⁸²¹ and the employment density in each area was calculated. The employment densities were calculated for total employment in the area and for employment in key strategic industries. Key strategic industries have been defined in line with the 6 national priority sectors identified in the Scottish Enterprise Operating Plan for 2007-2010, specifically – electronic markets, energy, financial services, food and drink, life sciences and tourism. Data gathered in this part of the analysis is presented in Appendix A, along with a listing of the Standard Industrial Classification (SIC) codes used to identify and gather data on key strategic industries.

When defining the areas in terms of datazones, it should be recognised that there are limitations in terms of the physical size of datazones. Datazones are defined to represent areas with populations of between 500 and 1,000 people. Hence, the actual size of the zone (in hectares) varies considerably throughout Scotland. This distorts the employment densities as some of the zones outside the city centre will cover a physical area well beyond the area on which the economic activity is located. This means that some areas have employment densities which are lower than would be expected due to the physical size of the datazone. Such potential distortions have been considered during the analysis.

Data gathered on employment densities for each site were compared against the average for the local authority in which the site is located. This approach was adopted to allow the analysis to identify key areas of activity within urban networks and strategic nodes. An alternative approach would be to compare employment density of our selected areas to the average for Scotland as a whole. Given the rural character of much of Scotland, however, the average employment density across the country is very low. As such, it was considered that a single, nationwide comparator would not provide a meaningful benchmark for this analysis.

Within the Urban Networks and Strategic Nodes (Aberdeen, Dundee, Edinburgh, Glasgow, Inverness and Perth), therefore, sites were accepted against the first criteria of a nationally significant area of economic activity if they exhibit an employment density in key sectors above the average for their local authority area.

⁸²¹ Datazones are geographical units determined by the Scottish Executive for the purpose of gathering social and economic statistics for small, local areas. The data zone geography covers the whole of Scotland and nests within local authority boundaries. Data zones have populations of between 500 and 1,000 household residents, and cover an area considerably smaller than other standard geographical units such as Wards or Postcode Districts or Sectors. As such, these units are commonly used to define small areas and gather information on a range of topics including employment activity.

For other areas an additional indicator was adopted. In many local authorities outside the large urban networks, the rural nature of much of the country again means that average employment densities are often too low to usefully identify areas with important concentrations of employment. To account for this, alongside the analysis of employment density, sites in non-urban local authorities are also assessed against the scale of employment located at each site. Sites are accepted against the first criteria of a nationally significant area of economic activity if they contain more than 33% of all employment in key sectors located in their local authority. As such, the approach aims to avoid the inclusion of sites which show high employment densities compared to the rest of their local authority, but which are actually relatively small in absolute employment terms.

Using this approach the analysis assessed each area identified in the initial selection process against the first definition criteria – i.e. concentrations of employment in key strategic sectors. While the approach used is useful in identifying areas which exhibit this characteristic at present, it is recognised that the analysis reflects an historic view of economic development across the country and may not recognise sites and areas of potential growth in future. To correct for this, where areas do not meet the criteria at present the analysis has also considered the future potential of the area in terms of any known plans for development which are currently in place and the likely impact and scale of these developments.

Overall, this approach is considered a useful way of identifying areas or concentrations of economic activity in most of the national priority sectors listed by Scottish Enterprise. In the case of tourism it is recognised that employment is often less high density in nature than other key sectors and as such the approach used here is unlikely to select areas which are important tourism destinations. For tourism destinations, the strategic corridors are considered most important for this sector and they are covered elsewhere in SWP3.

As well as reviewing areas in terms of the first definition criteria, the analysis also examined areas against the second criteria – the concentration of large companies operating on a global scale and employing significant numbers of staff on site.

In this part of the analysis, 'large companies operating on a global scale' were defined as international businesses identified among the largest companies in the UK, listed on the FT Global 500 or Scottish Business Insider 500 and which employ a minimum of 250 staff in the location being assessed. To determine whether each of the selected areas met the second criterion, an analysis of local business directories and other sources was undertaken.

By using these two key criteria, the analysis focuses not only on areas with high levels of employment density, but on areas where key strategically important employers and sectors are located. Overall, the analysis identifies broad geographical areas which are home to concentrations of such activity and differentiates areas of national economic importance from residential areas and local economic centres.

5. Key areas of economic activity

This section provides an overview of the locations selected as areas of economic activity of national importance. The analysis gives a brief description of each area in terms of employment density, key sectors and key employers. A discussion of other locations which were not considered to be of strategic importance is also included. Reference should be made to the employment density data in Appendix A and the maps in Appendix B.

Within the Urban Networks and Strategic Nodes, the following locations have been defined as areas of nationally significant areas of economic activity:

- Aberdeen City Centre
- Dyce
- Aberdeen South East
- Dundee City Centre
- Kingsway
- Edinburgh City Centre
- Edinburgh West
- Edinburgh South East
- Glasgow City Centre
- Inverness City Centre.

Outside these networks, the following locations have been defined:

- Grangemouth
- Livingston
- Glasgow Airport Corridor.

Urban Networks and Strategic Nodes

Aberdeen City

Key concentrations of economic activity within Aberdeen City are shown on Figure 1 and include the following:

City Centre:

- Exhibits an employment density of 18 jobs per hectare in strategic industries, considerably above the local authority average of 2 (see appendix A). Overall, 10,500 jobs in strategic industries are located in the area;
- Key sectors include – finance and business services, energy, and tourism;
- Strategically important employers include – Aberdeen Asset Management, Talisman, and Mobil.

Dyce:

- Exhibits an employment density of 11 jobs per hectare in strategic industries, considerably above the local authority average. The area employs 4,400 people in key sectors;
- Key sites – Fairburn Industrial Estate
- Key sectors – energy, tourism
- Strategically important employers include – BP, Kvaerner, Baker Hughes

South East Aberdeen:

- Again, an employment density of 10 jobs per hectare in strategic industries is well above the local authority average. The area employs 5,600 people in key sectors;
- Key sites – Altens Industrial Estate
- Key sectors – Energy
- Strategically important employers include – Shell, Amec, Kerr McGee, and Total.

Other areas within Aberdeen which were considered but did not meet the criteria used in this assessment included Aberdeen North (including Bridge of Don, Aberdeen Energy Park and Aberdeen Science and Technology Park). While the business parks located in the area are of importance to key industry sectors and some international companies, the density of employment in the area was recorded at lower than the average for the local authority area (see appendix A).

Dundee City

Key concentrations of economic activity within Dundee are shown on Figure 2 and include the following:

City Centre:

- Exhibits an employment density of 5 jobs per hectare in strategic industries compared to a local authority average of 2 jobs per hectare. Some 4,300 people are employed in key sectors in the area.

- Key sites: Dundee Medipark
- Key sectors include – finance and business services, tourism, life sciences;
- Strategically important employers include – BT, Ninewells Hospital, Norwich Union,

Kingsway area:

- While the area shows an employment density of only 2 strategic jobs per hectare (equal to the local authority average), the area is still considered a key strategic site, with a number of key employers and locations such as Dundee Technology Park which is subject to significant expansion plans in the near future. The area employs 1,100 people in key sectors.
- Key sites: Dundee Technology Park, Dryburgh Industrial estate
- Key sectors include – finance and business services, life sciences
- Strategically important employers include – NCR, Tesco Customer Services,

No other areas within Dundee were considered to meet the criteria used in this assessment in terms of high levels of employment in key sectors.

City of Edinburgh

Key concentrations of economic activity within Edinburgh are shown on Figure 3 and include the following:

City Centre

- Records an employment density of 40 strategic jobs per hectare, significantly above the local authority average of 3. The area employs 42,700 people in key sectors
- Key sectors include – finance and business services, tourism
- Strategically important employers include – Clydesdale Bank, Standard Life, HBOS

Edinburgh West

- Records an employment density of 7 strategic jobs per hectare, significantly above the local authority average⁸²². The area was home to an estimated 13,800 jobs in strategic industries in 2005;

⁸²² Due to the non-residential area of the region surrounding key sites in the Edinburgh West and Edinburgh South East regions, the datazones used to define areas in this analysis are significantly larger than those in other, more urban locations and include wide rural areas surrounding the key sites being examined here. As a result, the data gathered here is likely to significantly understate the true density of employment at key sites such as Gogarburn, Edinburgh Park and South East Edinburgh.

- Key sites: Edinburgh Park, Gogarburn
- Key sectors include – Finance and business services
- Strategically important employers include – Royal Bank of Scotland, BT, Scottish Equitable, BAE Systems, Diageo

South East Edinburgh

- While the area records a very low employment density in key industries at present, it is included here as a nationally significant site as a result of its status as the site for the Centre for Biomedical Research and other developments adjacent to the Edinburgh Royal Infirmary. Such developments are expected to create an estimated 6,000 jobs on the site over the next 15 years.
- Key sites: Centre for Biomedical Research
- Key sectors include – life sciences
- Strategically important employers include – University of Edinburgh, Edinburgh Royal Infirmary.

Other areas within Edinburgh which were considered but did not meet the criteria used in this assessment included Edinburgh Waterfront and retail parks at Kinnaird Park and Straiton. Whilst the waterfront area is identified as a key expansion area in the Edinburgh and Lothians Structure Plan, for the purpose of this paper it is considered to be a predominantly residential development rather than a nationally important area of economic activity and records an employment density lower than the average for the city as a whole. Kinnaird Park and Straiton are primarily retail and leisure sites.

Glasgow City

Key concentrations of economic activity within Glasgow are shown on Figure 4 and include the following:

City Centre

- Records an employment density of 106 strategic jobs per hectare, considerably higher than the local authority average of 4. The area employs 34,000 people in key sectors;
- Key sectors include – financial and business services, tourism
- Strategically important employers include – Scottish Power, Clydesdale Bank, Direct Line, Lloyd's TSB

Other areas within Glasgow which were considered but did not meet the criteria used in this assessment included West of Scotland Science Park (including Beatson Cancer Research Institute). The area exhibits an employment density no higher than the local authority average, while the analysis could not identify any companies meeting the large employer's criteria.

As noted at the beginning of this report, this analysis has concentrated on identifying areas which have not already been included for analysis in other parts of SWP3. In particular the analysis has not considered areas which have already been identified as key regeneration sites. In Glasgow this covers large areas along the Clyde Gateway and Clydebank developments and includes key sites at Glasgow Harbour, Atlantic Quay and Pacific Quay.

Inverness

Key concentrations of economic activity within Inverness are shown on Figure 5 and include the following:

City Centre (defined as covering the area from the River Ness, through the city centre to include key sites such as Longman Industrial Estate, Raigmore and Beechwood Business Park)

- Records an employment density of 5 strategic jobs per hectare, considerably higher than the local average. Some 2,700 people are employed in key sectors in the area
- Key sectors include – financial and business services, life sciences, tourism
- Strategically important employers include – Centre for Health Sciences, Johnson and Johnson.

Other areas within Inverness which were considered but did not meet the criteria used in this assessment included Inverness Airport. At present the site does not meet the selection criteria in terms of employment density. Although it is recognised that there are significant plans for development on the site, little evidence has been found as to the nature of employment likely to be generated and the fit, therefore, with the strategic industries being assessed here.

Perth

While Perth town centre was noted to record an employment density of 3 strategic jobs per hectare, this was not considered particularly high compared to the other city centre densities. At the same time, no specific concentrations of sites housing major strategic industries or employers were identified. As such, Perth town centre was not considered to pass the criteria for definition as a nationally important concentration of economic activity.

Areas outside Urban Networks and Strategic Nodes

Using the criteria outlined earlier, it is difficult to identify many significant concentrations of employment outside the main urban centres of sufficient scale to be considered of national and strategic importance. While there are many locations with clusters of key strategic sectors and concentrations of locally important employers, there are relatively few which provide the same combination of high job density, key sectors and internationally important companies located together as is seen in the areas above.

In terms of employment densities in strategic industries, (as was noted earlier for sites in the West of Edinburgh), due to the non-residential nature of some of these locations the datazones used to define sites in this analysis are significantly larger than those located in more urban locations. As a result, they include wide rural areas surrounding the key sites which has the effect of understating the true density of employment at these key sites. Such biases are unavoidable in any approach to collecting data for small, local geographies and it is considered that a datazone based approach remains the most appropriate method for collecting the information required for this study.

Areas outside the main urban centres which are considered as nationally important economic locations using the definitions outlined in section 3 include the following:

Grangemouth (Figure 6)

- Records an employment density of 2 strategic jobs per hectare, significantly higher than the average for Falkirk region. Overall, some 2,200 jobs in key strategic industries are located in Grangemouth. Accounts for 33% of all jobs in strategic industries located in the Falkirk local authority area
- Key sites – Grangemouth;
- Key sectors– energy
- Strategically important employers include – BP, Avecia

Livingston (Figure 7)

- Employment density of 4 strategic jobs per hectare, significantly higher than the average for West Lothian as a whole. Overall, some 6,900 jobs in key strategic industries are located in the area, accounting for 46% of all West Lothian employment in these sectors
- Key sites – Alba Campus, Kirkton Campus, Deer Park, Almondvale Business Park
- Key sectors – financial and business services, electronics, life sciences
- Strategically important employers include – Intelligent Finance, Quintiles, Johnson and Johnson, Encap, GE Network Solutions, Motorola

Glasgow Airport corridor (Figure 4)

- Records an employment density of 2 strategic jobs per hectare. While this ratio is not high when compared against the average for Glasgow City, it is considerably higher than the average across other areas in Renfrewshire and the surrounding region. At the same time, the area is of strategic importance in providing access to Glasgow airport and associated employment sites. The area supports 3,400 jobs in key sectors, accounting for 35% of all such employment in Renfrewshire;
- Key sites include - Hillington Industrial Estate, Hillington Innovation Centre, Inchinnan Industrial Estate, Braehead

- Key sectors include – financial and business services, electronics, food and drink
- Strategically important employers include –Diageo, Chivas Bros, Fujitsu

In addition to these areas a number of other locations were considered but did not meet the criteria for inclusion as nationally significant areas of economic activity. These included:

- Prestwick in South Ayrshire - employment density in the key sectors identified here is no higher than the local authority average (although the area is an important concentration of employment in sectors such as Aerospace, defined by Scottish Enterprise as a regional priority industry);
- Eurocentral in North Lanarkshire - the area does not account for a sufficiently high proportion of local authority employment in key sectors to be included here;
- Bellshill in North Lanarkshire (including Strathclyde Business Park) – similarly, the area does not account for a sufficiently high proportion of local authority employment in key sectors to be included here; and,
- Hamilton in South Lanarkshire (including Hamilton International Park) – the area does not account for a sufficiently high proportion of local authority employment in key sectors to be included here.

6. Summary

This note has identified the nationally important areas of economic activity, both within and outwith the urban networks, and described the criteria used for their selection.

Appendix A

Table A1						
Employment density in key strategic employment sites						
Urban Networks and Strategic Nodes						
Area	Area (Ha)	Employees in Employment (2005)		Employees Density (jobs/Ha)		Area of Strategic Economic Activity (Y/N)
		All sectors	National Priority Sectors	All sectors	National Priority Sectors	
Aberdeen City						
Aberdeen City Centre	580	52,925	10,492	91	18	Y
Aberdeen Dyce	403	11,200	4,439	28	11	Y
Aberdeen North	1,359	8,401	2,037	6	1	N
Aberdeen South East	542	18,499	5,569	34	10	Y
Rest of Aberdeen City	15,793	76,289	14,369	5	1	N
Total	18,676	167,314	36,906	9	2	
Dundee City						
Dundee City Centre	806	28,045	4,301	35	5	Y
Dundee Kingsway	657	9,136	1,120	14	2	Y
Rest of Dundee City	4,547	39,350	5,143	9	1	N
Total	6,011	76,531	10,564	13	2	
Edinburgh, City of						
Edinburgh City Centre	1,080	137,510	42,674	127	40	Y
Edinburgh South	446	6,064	4	14	0	Y
Edinburgh Waterfront	278	3,205	429	12	2	N

Edinburgh West	1,935	35,620	13,809	18	7	Y
Rest of Edinburgh	22,733	134,728	25,551	6	1	N
Total	26,472	317,127	82,467	12	3	
Glasgow City						
Glasgow City Centre	320	153,634	33,957	480	106	Y
W. Scotland Science	110	993	462	9	4	N
Rest of Glasgow	17,362	256,266	29,753	15	2	N
Total	17,792	410,893	64,172	23	4	
Highland						
Inverness City Centre	551	22,064	2,707	40	5	Y
Inverness Airport	4,758	781	93	0	0	N
Rest of Highlands	2,566,912	72,524	13,683	0	0	N
Total	2,572,222	95,369	16,483	0	0	
Perth & Kinross						
Perth town centre	1,362	26,317	4,372	19	3	N
Rest of Perth	529,348	33,687	8,865	0	0	N
Total	530,710	60,004	13,237	0	0	
Source: Annual Business Inquiry, Scottish Neighbourhood Statistics						

Table A2

Employment density in key strategic employment sites

Areas outside Urban Networks and Strategic Nodes

	Area (Ha)	Employees in Employment, 2005 All sectors	National Priority Sectors	Employment density National priority sectors	% of local employment National priority sectors	Area of Strategic Economic Activity (Y/N)
Falkirk						
Grangemouth	1,368	12,686	2,156	2	33%	Y
Rest of Falkirk	28,401	45,340	4,387	0	67%	N
Total	29,769	58,026	6,543	0	100%	
Renfrewshire						
Glasgow Airport Corridor	1,435	24,014	3,435	2	35%	Y
Rest of Renfrewshire	24,675	51,770	6,415	0	65%	N
Total	26,110	75,784	9,850	0	100%	
South Ayrshire						
Prestwick	1,777	4,984	373	0	6%	N
Rest of South Ayrshire	120,594	40,116	6,168	0	94%	N
Total	122,371	45,100	6,541	0	100%	

West Lothian

Livingston	1,782	28,302	6,938	4	46%	Y
Rest of West Lothian	41,144	45,061	8,007	0	54%	N
Total	42,926	73,363	14,945	0	100%	

North Lanarkshire

Eurocentral	1,031	4,680	1,077	1	6%	N
Bellshill	277	11,295	2,587	9	15%	N
Rest of North Lanarkshire	45,936	108,816	13,633	0	79%	N
Total	47,244	124,791	17,297	0	100%	

South Lanarkshire

Hamilton	164	2,687	2,222	14	10%	N
Rest of South Lanarkshire	177,064	119,986	19,071	0	90%	N
Total	177,227	122,673	21,293	0	100%	

Source: Annual Business Inquiry, Scottish Neighbourhood Statistics

Table A3	
Key Strategic Industries defined by Standard Industrial Classifications	
Sector	SIC definition
Electronics	30-33
Energy	10-12, 23, 40
Financial Services	65-67
Food and drink	15
Life Sciences	33, 24.4, 73
Tourism	55

Appendix B

Figure 1: Aberdeen

Figure 2: Dundee

Figure 3: Edinburgh

Figure 4: Glasgow

Figure 5: Inverness

Figure 6: Grangemouth

Figure 7: Livingston













