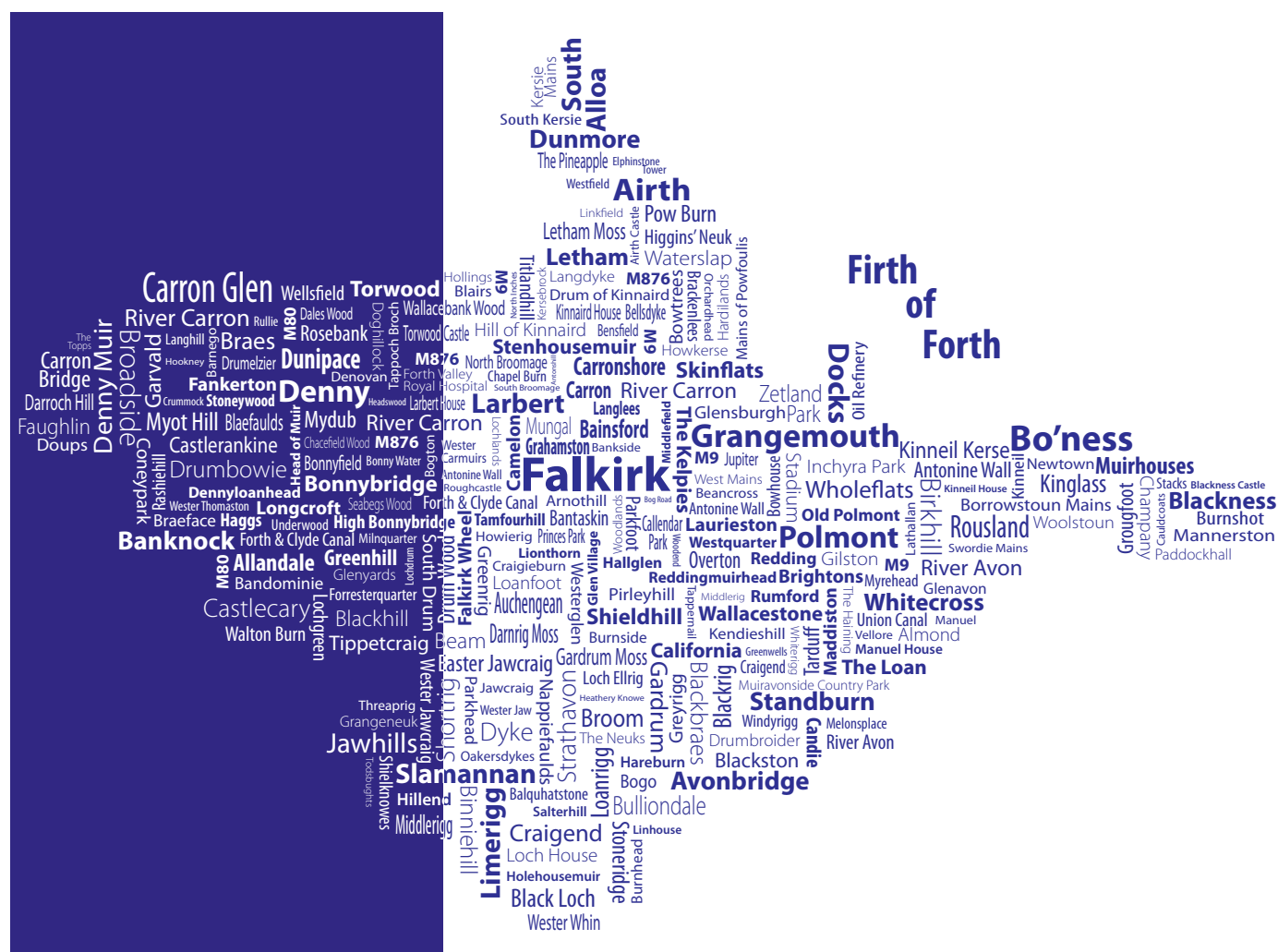


## Local Development Plan<sup>2</sup>

# Technical Report 4 (Revised): **Strategic Constraints**

September 2018



# Falkirk Council

# **Falkirk Local Development Plan 2**

## **Technical Report 4: Strategic Constraints**

### **1. Introduction**

- 1.1 The capacity of the area to accommodate new development is governed by a wide range of issues, many of which manifest themselves at a detailed site specific level. There are however a number of issues which can be considered at a strategic (Council wide) level. This paper will consider these issues to provide an overall picture of the constraints on the area's capacity to accommodate new development.

### **2. Environmental**

#### **Topography/Landscape**

- 2.1 Falkirk Council, while covering a relatively compact geographical area of just under 300 sq kilometres, has a surprisingly diverse range of landscape and topographical features.
- 2.2 A more detailed discussion on landscape character is provided in Supplementary Guidance SG09 but essentially the district is covered by 6 landscape character types. Starting at the Forth Estuary boundary there is a broad flat coastal margin adjacent to the Forth extending over much of the coastal length except from Kinneil eastwards, where the land rises quickly from the estuary. The coastal zone is backed by an extensive area of lowland river valleys, rolling farmlands and lowland hill fringes, with predominantly undulating topography. This zone in turn rises to a lowland plateau area to the south (generally 160m to 220m above sea level) and a significant lowland hills area rising to over 350m (part of the Campsie massif) to the west.
- 2.3 Extensive areas of the undeveloped coastal zone are subject to flood risk and are therefore not in principle suitable for development (see section on flood risk). The remainder is largely good quality agricultural land which development should avoid or is already heavily developed (at Grangemouth and Bo'ness) with very few vacant areas. Top tier Natura 2000 natural heritage designations along almost the whole of the coastal area also represent a considerable constraint to development options.
- 2.4 Most of the current extent of Falkirk's built up area lies in the undulating river valley and lowland hills zones (Falkirk, Larbert/Stenhousemuir, Polmont/Maddiston, Bonnybridge, and Denny). The topography of this area is generally amenable to settlement growth and a number of potential urban extension areas offer themselves. However it is worth noting that the stock of sites which are relatively unconstrained by features such as steep slopes or water courses is diminishing – the best sites have already been developed or are covered by current allocations.
- 2.5 The upland areas present more constrained topographical circumstances, most obviously due to the prevalence of sloping ground but also because they contain a number of other constraining designations or conditions. The western upland area is almost completely contained within the Denny Hills Special Landscape Area, which in principle protects that area from extensive development. The southern upland plateau offers more development potential

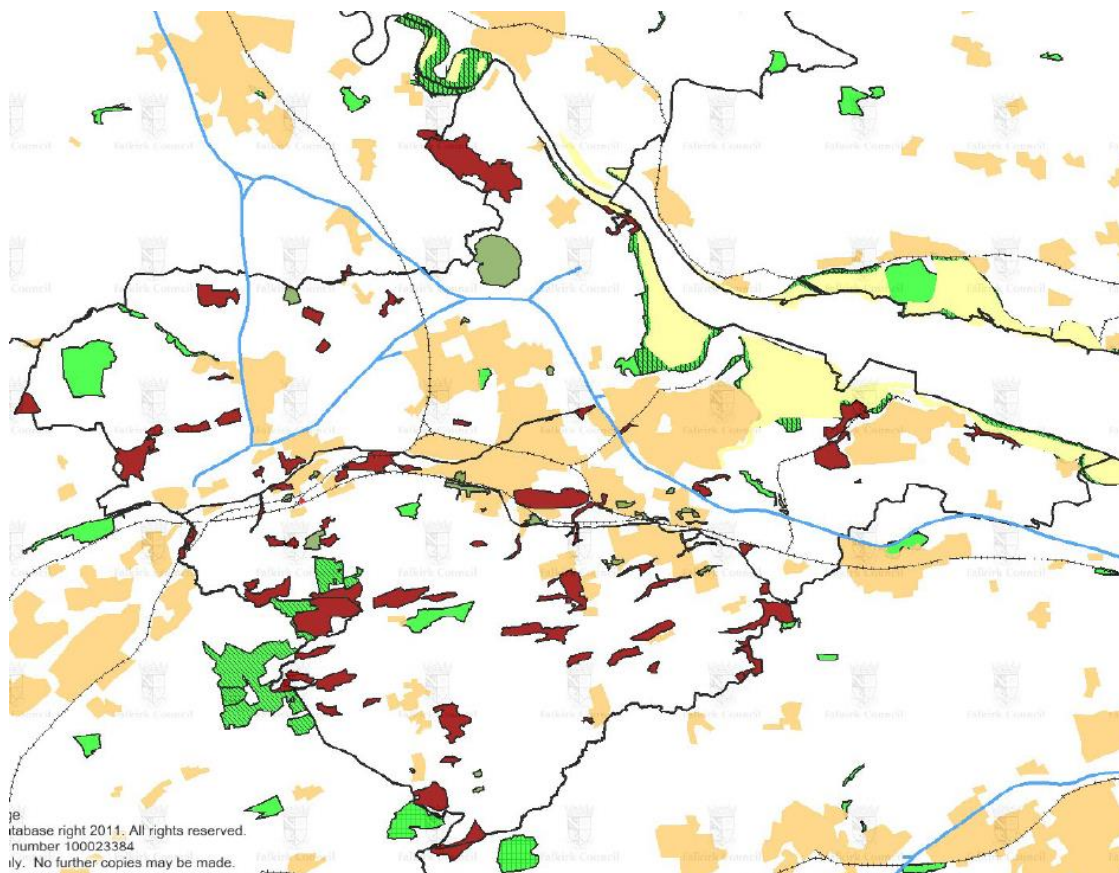
topographically, but is also partially covered by the Slamannan Plateau/Avon Valley Special Landscape Area and subject to a wide range of other constraints, such as natural heritage designations, flood risk, high risk coalmining areas, and lack of supporting infrastructure, some of which are discussed in more detail elsewhere.

- 2.6 In summary the landscape and topography of this area presents an extensive range of constraints across considerable sectors of the district. In general terms only the middle zone of undulating river valleys/lowland hill fringes provides reasonable prospects for expansion of urban areas. This area, though, also contains an extensive overlay of green belt designations (see separate technical report) and the Antonine Wall World Heritage Site Buffer Zone, which further limit the options for expansion.

### **Natural Heritage Designations**

- 2.7 There are a wide range of designations related to the protection of habitats or species across the Falkirk Council area. These are graded within a hierarchy of protection from international to local importance. While it is intended here to concentrate on those designations of international and national importance, as they provide the greater constraint to new development, the map below covers all designations to show their considerable areal extent in the Council area and their relationship to the existing built-up area.

Map 1: Natural Heritage designations



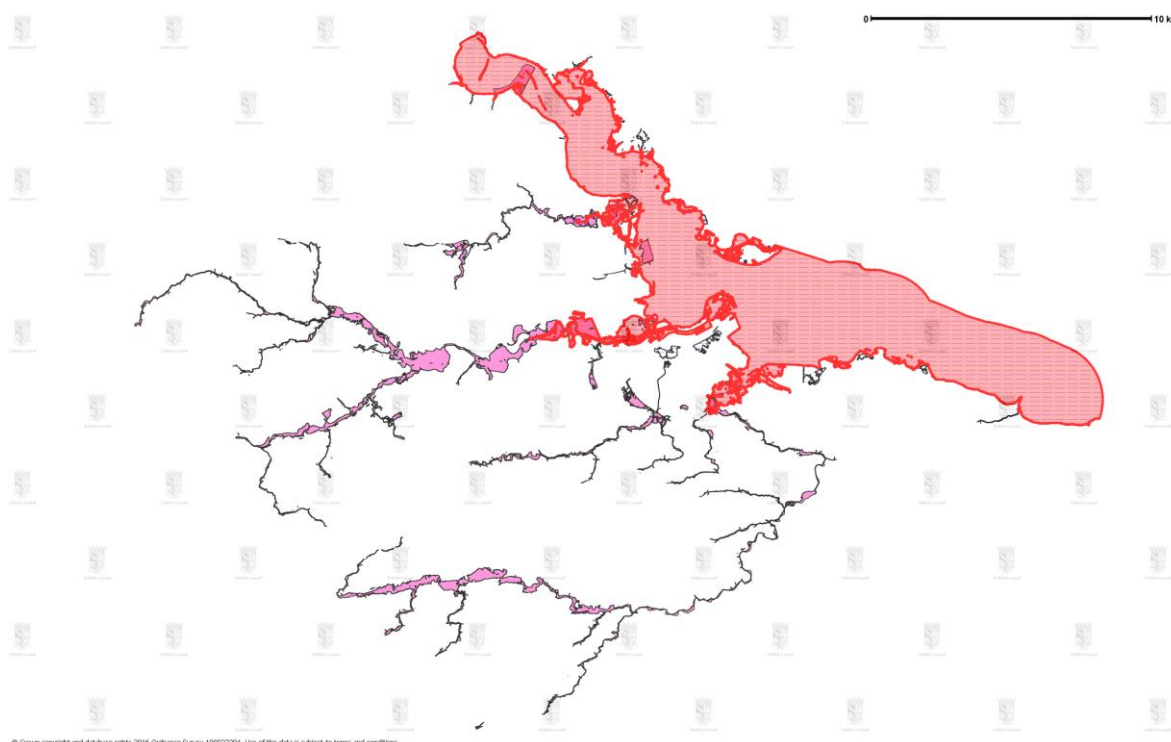
- 2.8 At the top of the hierarchy are the Natura 2000 sites with European level significance, the Special Protection Areas (SPAs) and Special Areas of Conservation (SAC). In Falkirk Council area there are 2 SPAs and 1 SAC. The largest by far is the Firth of Forth SPA (also a Ramsar site) which stretches along virtually the whole length of the Forth Estuary for a distance of nearly 14 miles, covering an area of 1,440 hectares. Any new proposal on or adjoining this designation has to meet the test of overriding public interest to overturn the presumption against development, and the extent of this SPA represents a major constraint to new development.
- 2.9 The other two Natura 2000 sites cover relatively small territories within Falkirk Council area, although are afforded the same level of protection. The Falkirk portion of Slamannan Plateau SPA is located in the Rural South area, at Tippetcraig, north-west of Slamannan and extends to 10.3 ha, (other portions in North Lanarkshire to the west of Slamannan adjoin the council boundary). At Black Loch, south of Limerigg, there is an SAC which is 2.5 ha in area which also extends further into neighbouring North Lanarkshire.
- 2.10 The next most important level of protection is the nationally important Special Sites of Scientific Interest (SSSI). There are 10 such sites within the council area (covering some 2000 ha), a number of which are absorbed within the SPA and SAC designations mentioned above. The other freestanding ones are scattered around the area and protect a range of habitats or species. The largest is on the western edge of the council area, on the upland Denny Muir covering 197 ha, which is of grassland, heathland and bog importance, supporting valuable bird populations. Darnrigg Moss, north-east of Slamannan, protects important peatland and extends to 77 ha. Other significantly sized SSSIs are located at Carron Glen, west of Denny, and Avon Gorge, near Muiravonside Country Park on the southern boundary of the district, both of which protect important ancient and semi-natural woodland; at Carron Dams, an important island of protected fen or marsh in the urban area of Stenhousemuir; and Howierig Muir, another area of peatland on the Lochgreen Road west of south Falkirk.
- 2.11 Although the designations classified as of local importance could be viewed as of lesser significance as constraints because they afford less protection from development than the higher order designations, some of these do cover considerable geographical extents and are noted here. In total these designations, made up of 62 Wildlife Sites, 25 Sites of Importance for Nature Conservation and 3 Local Nature Reserves cover over 3,500 ha. The notably extensive or spatially significant ones include Dunmore Moss and Wood, Letham Moss, Garbethill Moss, Callendar Woods, Loch Ellrig and Gardrum Moss, Kinneil Estate, Kinneil Foreshore, Polmont Woods, Cowden, California, Auchegean and Roughcastle Wood.
- 2.12 Many of the designated sites in Falkirk Council area contain peatland, raised bogs or woodland habitats which have assumed particular significance as carbon sink repositories in the climate change agenda, and therefore their role as constraints has been heightened.
- 2.13 A number of the natural heritage designations overlap with other constraints such as flood risk or green belt, and therefore serve to reinforce the effect of these other constraints on development potential. A further facet of the natural heritage designations is their ability to provide corridors for wildlife migration and propagation, to form an integrated habitat network. The

cumulative impact of the various designations and their spatial extent are an important element of the Falkirk Greenspace network, which is intended to play a complementary, rather than constraining role on future development. (see separate Technical Report).

### Strategic flood risk assessment

- 2.14 The most extensive information on flood risk across the council area is provided by the SEPA Flood Hazard maps. From a land use planning perspective these provide estimates of flood risk at the 1:200 year event level for coastal flooding, fluvial flooding covering river catchments above 3 square kms in area, and since 2014, also encompassing flood risk from pluvial sources (surface water flooding). They may not necessarily take account of barriers such as road and railway embankments, and only take account of existing flood defences where known. Although by no means comprehensive the SEPA maps are a useful baseline of information on flood risk. In some localities, notably Grangemouth, the Council has commissioned, or has access to, more detailed flood risk assessments and these are also indicated here as a source of information. At a council wide level it is difficult to adequately show the flood risk but, for illustrative purposes, the map below shows the area's principal hydrology and picks up the coastal flood risk in red and fluvial flood risk in pink.

Map 2: Hydrology and flood risk



- 2.15 According to the SEPA map extensive areas of the district are subject to coastal flood risk, in particular stretches of the carseland north of the River Carron as far as South Alloa, including the villages of Dunmore and parts of Airth, parts of Grangemouth, and foreshore areas of Bo'ness/Carriden.

- 2.16 In Grangemouth the SEPA maps now take account of a specially commissioned Flood Modelling Study carried out by CH2M on behalf of Falkirk Council. This study indicated that the main residential urban area of the town is not affected by coastal flood risk, but that areas close to the two rivers which envelope the town, the Carron and Avon, remain at high risk e.g. the Old Town and Glensburgh to the west and Wholeflats to the east. Parts of the industrial and docks area close to the estuary are also subject to a high risk of coastal flooding.
- 2.17 SEPA's Flood Risk Management Strategy notes that coastal and river flooding interaction occurs in a number of localities, including Grangemouth, Carron/Carronshore, parts of Falkirk and around Airth. Fluvial (river) flood risk covers a more scattered territory across the council area. Much of the River Carron is bounded by floodplains of varying extent and its catchment encompasses a mix of urban and rural areas. Flood risk extends into the Falkirk Gateway Strategic Business Location (SBL) and Langlees in the lower reaches, at Mungall and Checkbar, west of Larbert, and stretching into residential and industrial parts of the built up area of Denny/Dunipace. In turn, riparian areas along the tributaries of the Carron are also shown as being at risk of flooding, including areas adjacent to the Bonny Water as far west as Banknock, including parts of Bonnybridge town centre and adjacent industrial areas, and along the Castlerankine, Avon and Little Denny Burns, affecting adjacent parts of Denny. The upper reaches of the Chapel Burn, which passes through Larbert, Stenhousemuir, Carron and Carronshore are also vulnerable to flood risk.
- 2.18 The other major river catchment in the Council area is that of the River Avon. In contrast to the Carron its catchment is much more rural in character, except for its length close to its confluence with the Forth. Significant areas at risk of flooding include the Wholeflats industrial area of Grangemouth, at Manuelhaugh, near Whitecross, and more extensive areas of floodplain to the west, north and east of Slamannan and around Avonbridge. Flood risk studies associated with earlier development proposals in Slamannan broadly confirm the extent of areas at risk along the Avon to the north of the town. As with the River Carron, tributaries of the Avon also carry flood risk, with notable areas shown along the Culloch Burn through Slamannan, the Rashieburn to the west of Slamannan, the Manuel Burn stretching from Whitecross to Maddiston and the Gilston Burn from Wholeflats south through Old Polmont to the Gilston SBL.
- 2.19 A third catchment of note is that of the Grange Burn, which traverses Central Grangemouth and extends southward to Beancross and into Polmont. Some areas shown at flood risk exist in the Zetland Park area of Grangemouth, and substantial areas around Beancross close to junction 5 of the M9. Some relief is afforded to the Grangemouth section by a flood relief channel which skirts around the southern edge of Grangemouth and the northern edge of the Inchyra Grange Hotel site, linking into the River Avon, and this serves to divert water away from the built up area in times of spate. However a combination of high tide and high rainfall can compromise this measure. In its Polmont Burn tributary there are notable flood risk areas in a residential area north-east of Polmont railway station. The Westquarter Burn tributary of the Grange Burn has some areas of flood risk in Westquarter itself, and further upstream at Hallglen and Lionthorn (on the Glen Burn).

- 2.20 Smaller catchments north of the Carron include the Pow Burn, where flood risk is shown south of Airth, and along the Tor Burn in a relatively extensive area east of Torwood between Glenbervie Golf Club and Bogend.
- 2.21 Since 2014 SEPA have provided information on surface water (pluvial) flood risk across the council area. Many small areas scattered across the district are susceptible to surface water flood risk, notably areas close to the canals and river or burn networks. Surface water flood risk is associated typically with short term rainfall events and any flood waters tend to disperse relatively quickly. The risk from pluvial flooding is not regarded as an intrinsic constraint to development in such areas, in contrast to the risk from coastal and river flooding.
- 2.22 Flood alleviation measures have been taken in a number of localities over the years. A major scheme was completed around Bo'ness on the Forth and the Grangemouth study mentioned earlier has contributed to the ongoing preparation of a flood prevention scheme required to deal with the substantial flood risk to this major asset of the Scottish economy. The issue is integral to taking forward the Grangemouth Investment Zone National Development in NPF3 and is listed as the top priority action in the Forth Estuary Flood Risk Management Plan.
- 2.23 In 2008 a much smaller flood protection scheme was constructed to reduce the risk of flooding from the Avon (Anchor) Burn in Dunipace, an area which had been subject to flooding in the past. With regard to the flood risk on the Chapel Burn in Larbert, the Council has constructed an offline flood storage facility immediately upstream of the railway in Larbert to attenuate flood flows and reduce the risk of spill to the railway.
- 2.24 Sites proposed in Falkirk Local Development Plan 2 where a requirement to assess flood risk is highlighted are listed below:

<b>Housing sites/Major Areas of Change</b>			
<b>Housing</b>		<b>Mixed Use</b>	
H01/MU02	Kinglass Farm 1, Bo'ness	MU08	Stein's Brickworks
H08/MU04	Banknock sites	MU13	Callendar Riggs
H09	Dennyloanhead	MU18	Grangemouth Town Centre
H10	Broomhill Road, Bonnybridge	MU20	East Bonnybridge
H12	Garngrew Road, Banknock	<b>Business</b>	
H22	Bridgend Road, Avonbridge	BUS03	Beancross, Polmont
H25	Slamannan Road, Limerigg	BUS07	Caledon Business Park
H26	Avonbridge Road, Slamannan	BUS11	Falkirk Wheel
H27	Main Street, Slamannan	BUS12	Earlsgate Park, Grangemouth
H29/BUS02 /IN38	Whitecross	BUS13	Glensburgh, Grangemouth
MU09/H30, H32	Denny South East	BUS14	South Bridge Street, Grangemouth
H33	Carrongrove Mill	BUS15	Grangemouth Docks West
H35	Rosebank, Dunipace	BUS16	Bo'ness Road, Grangemouth
H39	Cauldhame Farm, Falkirk	BUS17	Wholeflats Road, Grangemouth
MU16/ BUS05/H41	Falkirk Gateway	BUS18	Wholeflats Business Park
H43	Westburn Avenue, Falkirk	BUS19	Glenbervie
H50	The Glebe, Airth	BUS20	Glenbervie Business Park
H53	Cumbernauld Road, Longcroft	BUS21	Gilston, Polmont
		BUS23	Grandsable Road, Polmont

### 3. Transport Network

#### Strategic Transport

- 3.1 At a strategic level Falkirk Council is very well connected to the rest of Scotland. Its central location between Glasgow and Edinburgh means the council area lies astride the principal road and rail connections of the country. Significant portions of the country's principal motorway network, comprising the M80, M876 and M9, skirt the northern edge of the central built up area. Branches continue northwards to Stirling and Perth via the M9 and M80, and

north-eastward to Fife and Dundee via the M(A)876 and the Kincardine and Clackmannanshire Bridges.

- 3.2 The principal rail route between Edinburgh and Glasgow passes through Falkirk Council area and, from the loop serving Falkirk Grahamston, there is a branch northwards to Stirling and Perth. These lines support a high frequency daytime service through Falkirk High on the Edinburgh to Glasgow route and improved connections on the Stirling route via Larbert when services were extended to Alloa in 2009.
- 3.3 A third piece of strategic transport infrastructure, and the first historically, crosses the district, that of the Forth and Clyde and Union Canals. Falkirk is at the centre of this combined network, with the Falkirk Wheel providing the strategic connection between the two canals. Since 2002 the canals have once again supported boat traffic for the leisure market, although studies have been carried out to assess the limited potential for freight use. On the maritime theme Falkirk Council area also contains the country's principal container port at Grangemouth where significant investment has been made, and is planned for in the future, to expand handling facilities. As a consequence the area is one of the most important intermodal and logistics hubs for freight distribution in the country.
- 3.4 The benefits of a central location for the Council area also bring constraints on the strategic network. On both the road and rail networks there is a considerable volume of through traffic which means at peak periods the network has capacity problems which affect the more local journeys of the majority of Falkirk residents. Despite improvements to the M80 route congestion is experienced regularly between the M876 slip and Haggs in the west of the district and there are also congestion pinch points on the M9 on the eastern side of the built up area, most noticeably at Junction 6 and to a lesser extent at Junction 5.
- 3.5 The Council undertook a considerable amount of modelling work through previous development plans to identify and design mitigation measures to address the problems at these junctions attributable to the impact of proposed development. The issue was acknowledged in the National Planning Framework and Transport Scotland's Strategic Transport Projects Review (STPR), and improvements to Junction 6 have been completed and those to Junction 5 are programmed using the Council's Tax Increment Finance mechanism.
- 3.6 On the rail network capacity issues are evident on the Glasgow to Edinburgh via Falkirk High route at peak periods, with overcrowding of trains. To a considerable extent the increase in frequency of this service to 4 trains per hour during the 2000's has been a victim of its own success, with larger numbers of passengers attracted to the service than can be handled by the rolling stock. Passenger numbers using routes through Falkirk have continued to increase since 2010. This has resulted locally in severe parking problems at Falkirk High, Polmont, and more recently Larbert stations, only partially relieved by the completion of works at each station to increase parking capacity.
- 3.7 The operator, Scotrail, has increased peak hour train length in recent years to meet demand and Phase 1 of work to completely electrify the whole network through Falkirk Council area is now complete. This will marginally improve

journey times locally and provide new rolling stock and lengthened trains at peak times. Phase 2 improvements which involve electrifying the Grahamston loop and the line north towards Stirling will follow in 2018-19.

- 3.8 The area is a significant generator of freight traffic by rail, with two intermodal hubs located at Grangemouth Docks and Fouldubs/Wester Newlands. The national significance of these facilities is recognised in NPF3 which supports measures to improve freight handling facilities and the rail link as National Developments. The Grangemouth branch railway line is to be electrified in tandem with the phase 2 EGIP improvements by 2019.

### **Local network**

- 3.9 Important as the strategic network is for external connections, most journeys in the Council area are made internally, using the local road network, either by car or public transport. In general this network is relatively uncongested, but there are a number of pinch points which become congested at peak times. These pinch points appear principally on and around the radial routes into Falkirk Town centre, conveying traffic from the north (Grahams Road/Carron Road), the west (Glasgow Rd/Camelon Road), the south (High Station Rd/Glen Road) and from the east (Callendar Road and Grangemouth Road/Kerse Lane). This focussing of traffic into the town centre means that the circulatory routes around the town centre also experience weekday peak period and weekend congestion, the latter due to shopper traffic.
- 3.10 The other district centres have relatively little congestion, with the exception of Denny, where there has been a long standing problem of peak period congestion at Denny Cross. A proposal to partially relieve that congestion is contained in the LDP2 (see para 3.15 below).
- 3.11 Away from radial routes into Falkirk town centre some congestion also appears on the roads feeding into the strategic road network. These occur notably on the A9 Laurieston Bypass and its extension to the Mary Street Roundabout, on the A905 Grangemouth Road on the approaches to Earlsgate roundabout, and on all the routes feeding into the Westfield Roundabout near Falkirk Stadium. In the far west the access onto the M80 at Haggs is another pinch point and, since the opening of the Forth Valley Royal Hospital in Larbert there has been some peak time congestion as traffic tries to access the nearby M876 junctions.
- 3.12 More localised congestion is associated with the school run, which principally affects the morning peak. The most problematic location for this is close to St Mungo's RC Secondary School where school traffic competes with commercial and commuter traffic circulating around Falkirk on the A9 Northern Distributor Road.
- 3.13 The Council has a hierarchical approach to promoting sustainable transport in the LDP and Local Transport Strategy, which favours active modes before public transport with car transport at the bottom of the hierarchy. Nevertheless it is prudent to assume that the current balance of transport usage will prevail in the short to medium term. The most recent evidence of transport usage is contained in the 2011 Census. This found 72.5% of commuting trips in Falkirk Council area were made by car (up 8% on the Council's 1998 Household Survey results), in contrast to 11% of trips by public transport (up 3% on 1998 level) and 9% either walking or cycling (down

8% since 1998). The findings show that policy imperatives to move people towards sustainable modes have had little impact to date. There is no more recent evidence since 2011 to suggest this pattern has altered significantly since then.

- 3.14 A number of issues of current transport provision are addressed in LDP2 and NPF3. On the strategic road network the congestion issues and need for improvement highlighted in NPF3 at Junction 5 of the M9 is being tackled by localised interim improvements (IN03), such as carriageway widening and/or signalisation of roundabout approaches. The NPF3 also intimates the requirement to improve the A801 strategic link at Avon Gorge to West Lothian, on which both Falkirk and West Lothian Councils have completed all preparatory work (project IN05) and which has extant planning permission.
- 3.15 On the local road network improvements are programmed on the A904 corridor and at Westfield Roundabout to enable better access to the Falkirk Gateway SBL (project IN06). Work has started on phase 1 of the Denny Eastern Access Road which will eventually provide a bypass for Denny Cross as well as facilitate access to the Denny South East SGA (project IN09). A number of other road improvements listed in the LDP remain to be tackled when funding becomes available.
- 3.16 The approach to the accommodation of new development will be through the use of sustainable development principles. Future allocations of development land (principally housing) will be located in existing settlements, in locations with good access by active and public transport facilities to work, shopping and recreational/community facilities.
- 3.17 While every effort will be made to minimise impact the geography of the network is such that traffic growth generated by committed and any additional development will likely exacerbate capacity problems on a number of arterial and circulatory routes. The 10 busiest stretches of roads in the Council area are, in descending order: M80 (J6a to J8), M9 (J4 to J8), M876, A803 (Camelon Main Street), A876 (to Kincardine Bridge), A904 (Falkirk Road at stadium), B902 (Carron Road), A9 (Laurieston Bypass), A803 (Camelon Roundabout to Wheel Park and Ride) and B902 (Grahams Road).
- 3.18 For example new development in Larbert/Stenhousemuir puts strain on the routes into Falkirk. There are just two crossings of the River Carron from that settlement area, from where traffic then funnels onto the congested Carron Rd or Camelon Main Street corridors. Similarly, future development which may be located on the Polmont/Braes area would funnel traffic down the B805 Redding Rd/Maddiston Rd corridor directly to the Mary St roundabout on the A803 near Callendar Business Park or via Polmont, subsequently feeding into the same pinch point.
- 3.19 With a reliance on use of the existing road network for the foreseeable future a balance will have to be struck between the need for more housing land and the capacity of the transport network to absorb traffic from new development. Areas considered for major new development should make the minimum impact on the pinch points in the network discussed earlier. A detailed assessment of the transport impact of potential new housing growth is contained in a separate Technical Report.

## 4 Water and Sewage

### Water Supply

- 4.1 The council area receives its water supply from three sources; Carron Valley Water Treatment Works (WTW), which serves the bulk of the area, Balmore WTW, which serves Grangemouth and Bo'ness, and Turret WTW, which serves Rural North and the northern and eastern sections of Larbert/Stenhousemuir settlement area. According to the latest information publicly available from Scottish Water, through its Strategic Asset Capacity tables and its Asset Capacity Finder webtool, each of these WTWs has strategic capacity exceeding 2000 housing units.
- 4.2 Discussion in the past with Scottish Water (SW) has brought the reassurance that the organisation has the capability of switching water supplies around between treatment works in the event of temporary shortages. Taking into account this flexibility to all intents and purposes there is sufficient capacity available at a strategic level to supply water to all potential development sites within Falkirk Council area.

### Sewerage (Waste Water)

- 4.3 The position in regard to capacity at Waste Water Treatment works is more mixed across the council area. There are 11 Waste Water Treatment Works (WWTW) serving the council area, and the table below shows their respective capacities in 2015.

Waste Water Treatment Works Capacity 2015

WWTW	Capacity (housing units)	SW comment
DALDERSE	1747	Current capacity is sufficient for identified development needs
BONNYBRIDGE	1717	Current capacity is sufficient for identified development needs
DENNY	673	Current capacity is sufficient for identified development needs
KINNEIL KERSE	1972	Currently not prioritised for additional strategic capacity
BO'NESS	796	Currently not prioritised for additional strategic capacity
AIRTH	190	Strategic investment carried out in 2014 to increase capacity
SLAMANNAN	449	Current capacity is sufficient for identified development needs
SOUTH ALLOA	13	Current capacity is sufficient for identified development needs
TORWOOD	<10	Currently under consideration for strategic investment
WHITECROSS	54	Prioritised for strategic investment as a forthcoming Growth Project
AVONBRIDGE	87	Current capacity is sufficient for identified development needs

Source: Scottish Water SACDP Capacity Tables 2015

- 4.4 As the table shows there are 5 large capacity works serving the bulk of the urban area. The remaining rural area is served by a number of smaller works with varying capacities. Some of the works have limited capacity and so any proposed allocations in these areas will require to be carefully phased to take account of Scottish Water growth requirements. In the case of Torwood WWTW, Whitecross WWTW, and Avonbridge WWTW, all have capacities lower than the sum of housing units located on currently allocated sites within their catchments. While phasing of development may allow management of remaining capacity, and Torwood WWTWs has been programmed for investment which may provide more capacity, it is nevertheless likely that promotion of these localities for further development by the Council should be considered cautiously.
- 4.5 Scottish Water, since 2006, has been funded to provide strategic capacity at water, and waste water, treatment works for domestic demand and their approach is to discuss potential issues and identify solutions to enable development rather than relying too prescriptively on the tables. Their view is that the principle of developing in the localities showing low capacity should not be threatened. Funding will be allocated to carry out work at treatment works to provide growth 'in line with local authority priorities', which criteria requires sites to be allocated in development plans **and** have secured planning consent.
- 4.6 With regard to connections to local and trunk mains pipelines developers still have to provide the funding which is then eligible for a fixed level of rebate (reasonable cost contribution) from Scottish Water. In some localities there have been concerns that capacity on these networks is unable to cope with demand at times of heavy rainfall. Falkirk Council has been working with Scottish Water to carry out Integrated Catchment Studies of the Dalderse, Kinneil, Bo'ness and Slamannan systems to ascertain the extent of the problem.
- 4.7 The draft study aimed to improve knowledge of the significant interaction between flows in small watercourses which traverse urbanised areas, and the sewer network. A series of flood cluster locations were then identified associated with those watercourses where there was the highest number of recorded incidents of flooding in past years. Examination of incidents and hydraulic modelling has suggested a wide range of likely causes, from under capacity in the watercourses, overflowing of culverts and insufficient capacity in the surface water or combined sewer systems.
- 4.8 These first stage findings are being fed into a pre-optioneering catchment plan from which Scottish Water and Falkirk Council can identify the highest priority needs for inputting into Surface Water Management Plans.

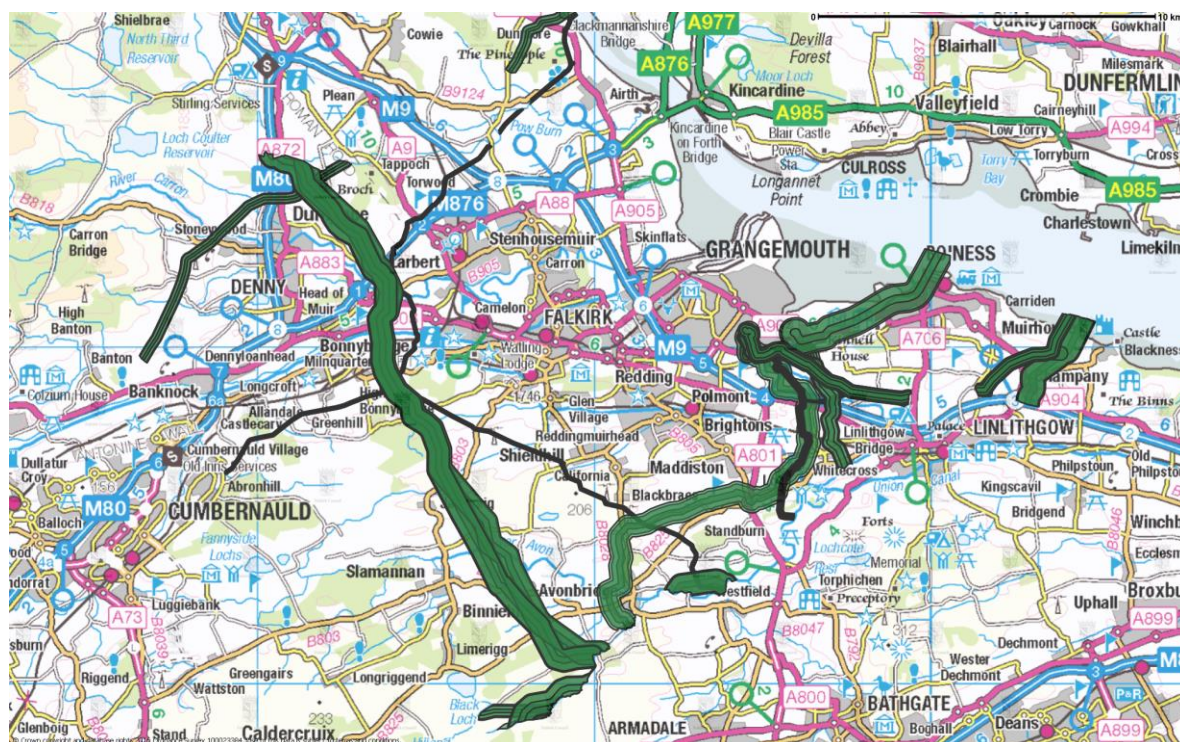
## **5 Health and Safety Consultation Zones and Pipeline Corridors**

- 5.1 Grangemouth is home to the largest concentration of COMAH (Control of Major Accident Hazards Regulations 2015) "Top Tier" establishments in Scotland. Regulation of the chemicals manufactured at the various plants in the town is tightly controlled under health and safety legislation and a series of hazard consultation zones defined by HSE operate around each hazard source, which restricts the scale and nature of new development. The web of

consultation zones in Grangemouth effectively means that the scope for new development in many parts of the town is very constrained.

- 5.2 There are some hazard consultation zones in other communities around the area, albeit smaller in scale than in Grangemouth; these occur west of Bonnybridge, in Larbert, and at Kinnaird House.
- 5.3 With the presence of the petro-chemical complex at Grangemouth it is clear that the area will be transected by pipelines supplying oil and petroleum products. The strategic location of the council area in central Scotland means that the area is also criss-crossed by strategic pipelines for other energy providers, notably National Grid Gas and Scottish Gas Networks.
- 5.4 The combination of these pipelines means that some locations are 'hot-spots' for corridor routes. The width of the consultation zones in these corridors varies depending on the fuel being transported; typically they range from 150m for National Grid's trunk pipeline traversing the west of the district, to 870m for the BP/Shell pipelines meandering around the Bo'ness, Avondale and south-eastern rural areas of the district.
- 5.5 Some pipelines have no hazard consultation zones attached to them and are discounted here. Nevertheless in particular localities the corridors do present a constraint to development which, on a precautionary principle, should be avoided in a search for potential development areas.
- 5.6 The map below shows the pipeline corridors traversing the Council area:

Map 3: Pipeline zones



As a general guide the following areas have significant concentrations of pipeline corridors

Grangemouth/Bo'ness

Wholeflats, Inveravon, Polmonthill, Avondale, Avonbank, Kinneil, Bo'ness  
Foreshore west, Birkhill

Rural South

Myrehead, The Loan, Whitecross, Bowhouse, Standburn North, Avonbridge  
West, East Bonhard (by Champany), Greenrigg, Auchengean, Darnrigg  
Moss, Holehouse

Rural North

Dunmore, Glenbervie House

Denny District

Wellsfield/Quarter (nth of Dunipace)

Bonnybridge/Banknock

Hills of Dunipace, East Bonnybridge, Roughcastle, East of High Bonnybridge

- 5.7 With NPF3's proposal for a power station with Carbon Capture still extant, a potential new pipeline, for the conveyance of CO<sup>2</sup>, may be constructed during the period of the new LDP. The hazardous status of CO<sup>2</sup> has yet to be established, but areas affected are likely to be in the Rural North area, particularly Letham, Bowtrees, Powfoulis, Drum of Kinnaird and Dales Wood.

## **6. Schools Capacity**

- 6.1 The Council's development strategy has been very successful over the last 15 years in raising the Council area's population to unprecedented levels, reaching 158,460 in 2015. While this has been largely due to higher levels of net in-migration in some years than was predicted, it is also partly due to an increase in the birth rate which has slowed more recently.
- 6.2 This population growth has put pressure on the various infrastructure components serving the area, not least that of the school estate. Schools capacity has been closely monitored since 1999 when Falkirk Council created a Schools Planning Liaison Group to bring together officers from the Council's Education, Research and Planning services. The group's remit is to provide a strategic overview of planning, demographic and school capacity issues to ensure that the development planning process is fully informed of the constraints and opportunities associated with schools infrastructure.
- 6.3 In general terms increases in birth rates, coupled with in-migration to recent new housing developments, has resulted in rising numbers of pre-school children in the Falkirk Council area. Population projections from the National Records of Scotland show the primary age population will peak in 2017/18 but the secondary age population will continue to rise until an expected peak in 2023/24.
- 6.4 It is incumbent on the Council to plan for changing school age populations to ensure sufficient school spaces exist in each locality. Extending a school's capacity, or building new schools, is often the only practical way of addressing capacity pressures. This is expensive and is an additional cost, so the capital cost of additional capacity required as a consequence of new housing requires to be offset by appropriate developer contributions. Considerable progress has been made strategically and locally to extend capacity; currently all 8 of the area's secondary schools having been replaced and three new primary schools have been completed, at Kinnaird, Maddiston,

and Antonshill (St Bernadette's). Significant extensions to schools at Wallacestone, Antonine, Westquarter, Larbert Village and St Joseph's have also been completed in recent years, and more are planned at Kinnaird, Maddiston, Bankier, Head of Muir, Denny and Whitecross. Numerous smaller projects are progressing, including temporary classrooms at several schools. Further capacity enhancements may also be required at Braes High School, Graeme High School and Denny High School.

- 6.5 In some circumstances it is possible that changing the boundary of two or more school catchments will re-organise demand for places to fit available capacity. There is a statutory duty to formally consult parents, other stakeholders and Education Scotland on any rezoning proposal. This has been carried out in regard to denominational primary catchments in Rural North and to non-denominational secondary catchments in Rural South. The most straightforward approach is "pre-zoning" where an area of new housing is rezoned before any houses are occupied so that no disruption to existing schooling will result.
- 6.6 Where surplus capacity exists, rationalisation of the school estate can release funds to allow expansion elsewhere. Like rezoning, formal consultation is a legal requirement for any school closure proposal, and closure decisions can be called in by Scottish Ministers for determination by the Schools Closure Review Panel.
- 6.7 While the area as a whole has experienced general and school age population growth this has not been evenly spread. Thus a pattern has emerged where population growth has been greatest in the very areas where school capacity is already constrained and least where the school capacity is adequate. A more detailed assessment of the projected situation in each settlement area is given below.

### **Bo'ness**

- 6.8 The primary schools in Bo'ness as a whole have sufficient long-term capacity to support currently committed new housing growth, This is complicated, however, by the geography of the school catchments and imbalance in demand resulting from high levels of placing requests.
- 6.9 As regards secondary provision, in the non-denominational sector the school roll at Bo'ness Academy is expected to remain fairly static, but will increase in the early years of LDP2 as a result of planned new housing proposals and recent increases in the birth rate. Modest expansion in the locality can also be accommodated and only if there was significant large scale expansion would the need for new capacity be contemplated.

### **Bonnybridge and Banknock**

- 6.10 In contrast to Bo'ness, this area's school capacity has been under considerable pressure. Growth in Bonnybridge in the 2000's required the extension of Antonine Primary in 2006 and 2015 and at St Joseph's Primary in 2008 and 2015 and both schools can now manage the foreseeable demand. Large scale planned commitments in Banknock and Dennyloanhead will be accommodated through developer contributions already agreed in principle for extending Bankier and Head of Muir Primary Schools.

- 6.11 Modest expansion in the area could be accommodated through extending the existing programme of primary school extensions. Primary school capacity should be seen as a key constraint to major new housing growth in the Bonnybridge area.
- 6.12 Secondary provision is provided at Denny High School, where a replacement school opened in 2009 with the flexibility to increase capacity to take account of future development. Further pressure will be put on Denny High School longer-term and capacity enhancements may be required.

### **Denny**

- 6.13 In common with Banknock and Bonnybridge this area has experienced population growth but so far school capacity has been able to cope. In the primary sector development of existing planned commitments can be accommodated with an extension to Denny Primary. Medium to large scale expansion would require a major extension at Dunipace Primary.
- 6.14 In the non-denominational secondary sector capacity enhancements may be required to Denny High School. Denominational pupils are zoned to St Modan's RC Secondary in Stirling.

### **Falkirk**

- 6.15 Most non-denominational primary schools in Falkirk are not experiencing capacity pressures and can, in the main, cope with planned commitments, although some have rising rolls such as Bainsford Primary which will be kept under review.
- 6.16 In the past, Comely Park and the denominational primary schools were the exception but the picture there has changed. Comely Park's capacity strains are easing as the downturn in house building has worked through the system. Pressures at St Francis RC and St Andrews RC Primaries have also eased due to the opening of a new denominational primary school (St Bernadette's) at Antonshill in Stenhousemuir in 2013, allowing consequential catchment realignments.
- 6.17 Although Falkirk has relatively few options geographically for settlement expansion, if growth to the south was contemplated, it could be accommodated within the current primary school capacities.
- 6.18 At secondary school level two renewed schools, Falkirk High and Graeme High, can accommodate existing commitments although capacity enhancements may also be required at Graeme High School to accommodate future predicted growth. St Mungo's High School is expected to be able to deal with development pressures in the area.

### **Grangemouth**

- 6.19 There are no capacity issues in Grangemouth as this is the largest settlement area which has not shared in the overall population growth in Falkirk Council area. Beancross Primary School is experiencing high occupancies but the

other three primary schools and the renewed Grangemouth High School have some surplus capacity. While the area suffers from many other constraints to growth, school capacity is not one of them.

### **Larbert/Stenhousemuir**

- 6.20 This settlement area has experienced some of the highest growth in the last 15 years and some of its schools have capacity constraints. The largest pressure has been at secondary level where Larbert High School has been operating at high occupancies for a number of years and will exceed its current capacity by 2018. Extension of its capacity by around 300 spaces has been agreed through moving into the adjacent Carrongrange (ASN Secondary) School from 2017/18, when its pupils move to a new school in Grangemouth.
- 6.21 At primary level a new school at Kinnaird was opened in 2007 to cater for the Inches/Bellsdyke/Kinnaird major expansion, but this has already been expanded into a 3-stream school using temporary classrooms, and a permanent extension now has planning permission. Larbert Village and Ladeside Primaries were extended to cope with earlier pressures, Stenhousemuir and Carron have been operating at high occupancies and Carronshore Primary has the most spare capacity.
- 6.22 For the denominational sector new accommodation within the settlement was created when St Bernadette's RC primary opened in 2013. As with many new schools this has proved very popular and is now facing accommodation pressures similar to those of the schools it relieved.
- 6.23 Without at least a further new stream of primary capacity, existing school capacity remains a significant constraint to major growth in this settlement area.

### **Polmont**

- 6.24 As with Larbert/Stenhousemuir this area has also experienced considerable growth in housing development over the recent period. A new secondary school, Braes High, was opened in 2000 to cater for population growth in the area and this had already reached very high occupancies by 2009. Measures have been taken to alleviate these pressures by rezoning areas in Rural South at Whitecross and Slamannan into the catchments of other secondary schools, but increasing accommodation pressures are expected in the longer term as a consequence of further growth from housing commitments. The northern part of the area is zoned to Graeme High School which may need capacity enhancements.
- 6.25 At primary school level a number of schools in this area currently have or have already experienced capacity pressures. Maddiston Primary was replaced with a larger school but a permanent extension will be required to cope with planned development. Wallacestone Primary was extended from 2 stream to 3 stream in 2007, but pressure here has diminished recently, while Westquarter Primary has been extended to cope with existing commitments. Modest growth in this area will put pressure on some schools such as St Margaret's Primary, which would need extending.

- 6.26 Denominational pupils in this area travel to St Andrews Primary in Falkirk, where capacity pressures have eased. Major growth would require a further round of new school building or some rezoning of catchments and therefore school capacity does form a constraint on growth in this area.

### **Rural North**

- 6.27 The three non-denominational primary schools serving Rural North are Airth, Larbert Village and Bothkennar. Existing commitments may require further capacity at Airth Primary, which has already been extended and has a physically constrained site, and Larbert Village has been expanded to deal with earlier housing growth. Denominational children from Airth were rezoned to Sacred Heart in Grangemouth to relieve pressure on St Francis in Falkirk and the new St Bernadette's denominational Primary has also created new capacity for this area. Modest growth can probably be accommodated but any major growth would require new primary schools in either of Airth or Torwood.
- 6.28 Secondary pupils travel to either Larbert High or St Mungo's High, with capacity pressures already noted at Larbert, so major growth in Rural North would further exacerbate an already pressured situation.

### **Rural South**

- 6.29 The widely scattered nature of settlements in this area means that primary school capacity pressures vary considerably, from under occupation in some to near full capacity at others. Many schools are small and so are susceptible to marked change even if only modest growth is contemplated. With regard to existing growth commitments capacity enhancements may be required at Whitecross PS. Both Limerigg and Slamannan have capacity at present. California PS may have capacity issues dependent on housing growth.
- 6.30 As regards secondary schools rezoning means that the area is now divided between the catchments of Falkirk High for Slamannan and Limerigg, Graeme High for Whitecross, and Braes High for the bulk of the area. Braes High is projected to continue with high occupancy levels. Denominational pupils feed into St Mungo's RC High where capacity will continue to be monitored.
- 6.31 Modest growth can be accommodated, dependent on scale and the particular school catchment affected. Major growth would be problematic unless of sufficient scale to provide funding for a new school.

**FALKIRK**

## Technical Report 4 (Revised): Strategic Constraints

September 2018



# Falkirk Council