

## PROFILE

- 11.1 Grangemouth has a population of 16,827 and is located on the southern banks of the Forth where both the Rivers Carron and Avon flow into the estuary. The town grew around port-related industries and since the 2nd World War, its dominant role has been as a petrochemical and chemical industrial centre.
- 11.2 Grangemouth grew rapidly in the 1960's and early 70's with substantial areas identified for both housing and industrial expansion. This included a comprehensive redevelopment area to create a new town centre. This has resulted in the town being developed up to its obvious physical limits. The population peaked at 24,500 in 1971 but has gradually fallen away, both in absolute terms and relative to the population of Falkirk Council area as a whole. Opportunities for new development are therefore limited to re-development of previously developed sites.
- 11.3 Large areas of vacant and derelict land have been identified for development in Grangemouth Docks for a number of years. There are many constraints to be overcome however the dock area provides the opportunity for the further expansion of the port. The successful regeneration of this area is one of the challenges the Local Plan needs to meet.

## STRATEGIC CONTEXT

- 11.4 The Falkirk Council Structure Plan provides for:
- 400 houses to be built in Grangemouth from 2001-2020, to be provided by infilling within the urban area;
  - The identification of the vacant land at Grangemouth Docks as a Strategic Development Opportunity for a mixed use development including expansion of the town centre, new railway station, new housing, employment opportunities and the expansion of the port;
  - Subject to appropriate safeguards the identification of Grangemouth and Kinneil Kerse as a Strategic Development Opportunity for new chemical related development;
  - Improvements to the town centre and provision of new food retailing;
  - The maintenance of the Green Belt between Grangemouth and Falkirk/Polmont/Laurieston, with a new Green belt between Grangemouth and Bo'ness; and
  - Addressing the issue of coastal and river flooding.

## KEY LOCAL ISSUES

- 11.5 The key issues for the local area are:
- Ensuring appropriate redevelopment of vacant land in the Docks and expansion of the port.
  - Striking a balance between securing investment in the chemical and petrochemical industries without increasing off site constraints or reducing the opportunity for economic diversification.
  - The need to provide new sites for housing.
  - The need to address the issue of coastal and river flooding.
  - The need to protect areas of environmental quality in the town, such as Zetland Park, Grange Burn and the older residential properties around the Park.
  - The need for continuing protection of the Green Belt.
  - The need to harness the potential benefits of the restored canal network for Grangemouth, through improved navigation on the River Carron and links into the Docks.
  - The need to safeguard the Firth of Forth Special Protection Area and SSSI, which covers the intertidal mudflats along the Forth.
  - The need to improve air quality given the presence of the Air Quality Management Area.

## LOCAL PLAN SUMMARY

- 11.6 The Local Plan proposes the following key provisions for the Grangemouth area:
- Meeting Structure Plan housing requirements on brownfield and other infill sites within the built up area.
  - Promoting redevelopment of the vacant land in the Docks primarily for port-related business and industry
  - Regeneration of the Town Centre and the identification of improvements and traffic management measures to encourage its greater use.
  - Safeguarding a site at Kinneil Kerse for future chemical or petro-chemical development.
  - Controlling the off site implications of existing and proposed chemical related developments.
  - Defining an area of townscape value with potential for conservation area designation and protecting existing areas of open space.
  - Providing sites for local economic development through the re-use of land within existing complexes and identification of new sites at South Bridge Street and Glensburgh Road.
  - Addressing coastal and flooding issues as part of an integrated strategy.

## ENVIRONMENTAL QUALITY

### Environmental Enhancement

- 11.7 The priority area for environmental improvements in Grangemouth should be the Town Centre. With the traffic calming of Bo'ness Road and the northwards expansion of the town centre, environmental improvements should be designed to improve the quality of the town centre as a whole and encourage movement between the existing town centre and the new retail facility to the north.
- 11.8 Environmental improvements should be undertaken as part of a comprehensive scheme to encourage greater use of Grangemouth town centre and look at the main entrances to the centre, pedestrian flows within the centre, the quality of public spaces, signage etc. Adjacent developments will be expected to contribute to the implementation of this improvement scheme. Planning policies for Grangemouth town centre are set out in more detail in paragraphs 11.26 - 11.29.

### Built Heritage

#### Area of Townscape Value

- 11.9 There is currently no designated conservation area within Grangemouth. However, the older stone built houses around Zetland Park and Bo'ness Road have a distinctive historic character and presence. This area has been identified as an Area of Townscape Value and will be protected under the terms of Policy EQ13. As an Area of Townscape Value it will also be considered, in due course, as a possible Conservation Area.

#### Listed Buildings

- 11.10 There are 8 listed buildings in Grangemouth, five of which are situated within the proposed Area of Townscape Value. There are also two listed bridge structures. Development affecting listed buildings will be subject to the provisions of Policy EQ14.

### Natural Heritage

#### Green Belt

- 11.11 In accordance with the Structure Plan, the Green Belt around Grangemouth is defined to provide long term separation between the town and Falkirk, Polmont, Laurieston and Bo'ness. The Green Belt will also provide a landscape setting for the town and opportunities for recreation. The Green Belt boundaries are based on pre-existing boundaries but have been adjusted to follow more longer term and defensible boundaries and to accommodate economic development opportunities at Glensburgh Road and West Mains Industrial Estate. It is also considered that the new boundaries provide a robust and long term limit to further development. All development within the Green Belt will be subject to Policy EQ 20.

#### Nature Conservation and Biodiversity

- 11.12 The intertidal mudflats at Kinneil Kerse and Skinflats are part of the Firth of Forth SSSI, which has also been confirmed as a Special Protection Area (SPA) and a Ramsar Site. The Council has a statutory duty to ensure that new development does not have a detrimental affect on designated sites. In the case of the habitats this would include coastal protection works and any discharges into any of the water courses that flow into the mudflats.
- 11.13 There is one non-statutory site within Grangemouth, at the Jupiter Wildlife Park, adjacent to the railway at Wood Street. It is an important educational and ecological amenity, not just for Grangemouth but also for the wider area. Development affecting statutory or non-statutory sites will be subject to Policy EQ 24.
- 11.14 Within the urban area of Grangemouth opportunities for the enhancement of biodiversity relate mainly to areas of public open space. Management practices that enhance biodiversity as well as achieve the functional requirements will be explored by the Council. Three water courses, River Carron, Grange Burn and River Avon flow within or adjacent to Grangemouth and are part of the Grangemouth Assessment of Flood Risk Study. However, the conclusions may also raise the possibility of management practices that increase the wildlife corridor potential of these watercourses.

## Air Quality

11.15 In 2005, an Air Quality Management Area (AQMA) was designated in Grangemouth around the petrochemical and chemical complex due to a likely breach of the sulphur dioxide 15 minute mean objective, as specified in the Air Quality (Scotland) Regulations 2000. An action plan, aimed at achieving a reduction in sulphur dioxide levels within the designated area, is being developed. Development proposals falling within the AQMA may require an Air Quality Assessment, and this may influence the scale and layout of the development.

## 11.16 Environmental Enhancement - Proposals and Opportunities

11.16.1	<b>EN.GRA01</b>	<b>Grangemouth Town Centre</b>
	<b>Proposal:</b>	Town Centre Enhancement
	<b>Agency:</b>	Falkirk Council
	<b>Comments:</b>	Public realm enhancement works as part of the northwards expansion of the Town Centre and associated traffic management measures.
11.16.2	<b>EN.GRA02</b>	<b>Carron, Avon and Grange Burn</b>
	<b>Proposal:</b>	Grangemouth Assessment of Flood Risk Study
	<b>Agency:</b>	Falkirk Council
	<b>Comments:</b>	Consultants have been commissioned to look at flood risk reduction measures. Opportunity should be taken to co-ordinate any management proposals with measures to enhance the river corridors.

## SUSTAINING COMMUNITIES

### Housing

#### Housing Land Requirement

11.17 The population of Grangemouth has seen a gradual decline over the last 30 years or so both in absolute terms and relative to the population of the Council area as a whole. This decline can be explained by the restricted opportunities for expansion of the town, compounded by various planning constraints.

11.18 The Structure Plan requirement will be met as follows:

<b>Requirement 2001-2015 (including 10% flexibility)</b>	<b>323</b>
Completions 2001-2009	94
Commitments (2009/2010 HLA + other committed sites)	201
Windfall/small sites allowance (2009-2015)(4 p.a.)	24
<b>Shortfall to 2015</b>	<b>4</b>
<b>New Allocations</b>	<b>27</b>

11.19 Grangemouth has had a high windfall rate over recent years because of the age of the previous Local Plan. It is anticipated that there will continue to be a limited amount of windfall which, together with commitments and limited new allocations, which cover the Structure Plan requirement to 2015.

11.20 Given health and safety factors and other constraints, it is not proposed to identify further sites to meet the Structure Plan requirement to 2020. The scale of additional housing required beyond 2015 is limited, and it is expected that windfall sites will continue to make a contribution to housing land supply in the area.

#### 11.21 Housing - Proposals and Opportunities - Housing Land Audit Sites

11.21.1	<b>H.GRA01</b>	<b>Tinto Drive</b>
	<b>Site Area:</b>	1.9 hectares
	<b>Capacity:</b>	Approx 50
	<b>Developer:</b>	Falkirk Council/Private
	<b>Status:</b>	Proposal
	<b>Comments:</b>	Opportunity for residential development in conjunction with the replacement of Grangemouth High School through the Schools Replacement Project.

11.21.2	<b>H.GRA02</b>	<b>Wood Street 4</b>
	<b>Site Area:</b>	1.0 hectares
	<b>Capacity:</b>	30
	<b>Developer:</b>	Carronvale Homes
	<b>Status:</b>	Proposal
	<b>Comments:</b>	HSE issues will have to be taken into account in developing this site.

## 11.22 Housing - Proposals and Opportunities - New Allocations

11.22.1	<b>H.GRA03</b>	<b>Chisholm Place</b>
	<b>Site Area:</b>	0.3 hectares
	<b>Capacity:</b>	Approx. 7
	<b>Developer:</b>	Private
	<b>Status:</b>	Proposal
	<b>Comments:</b>	Redevelopment on the site of Council flats. HSE issues will have to be taken into account in developing this site. Site has been identified as being at medium to high risk of flooding. A flood risk assessment will be required. This assessment may influence the scale, layout and form of development.

11.22.2	<b>H.GRA04</b>	<b>Oxgang Road</b>
	<b>Site Area:</b>	1.0 hectares
	<b>Capacity:</b>	20
	<b>Developer:</b>	Falkirk Council/Private
	<b>Status:</b>	Proposal
	<b>Comments:</b>	Part of school grounds comprising open space/general sports area. The loss of the general sports area requires to be addressed either by replacing it with a new one, or upgrading an existing one, all in line with national planning policy guidance. A bus turning area should be provided and the design of the housing should respect the surrounding residential properties. Site has been identified as being at medium to high risk of flooding. A flood risk assessment will be required. This assessment may influence the scale, layout and form of development.

## Recreation and Community Facilities

11.23 Grangemouth has a total amount of public open space in excess of the Council's overall standards. This resource will be protected under the terms of Policy SC12. The emphasis now must be on improving the quality and level of facilities within each of the areas of public open space. Zetland Park is identified within the Culture and Leisure Strategy as the "core park" and will be a priority for improvements.

11.24 Grangemouth also has a number of recreational facilities that serve not just the town but the wider Council area such as the Sports Complex and Stadium. These community uses are covered by Policy SC10.

## 11.25 Recreation and Community Facilities - Proposals and Opportunities

11.25.1	<b>RC.GRA01</b>	<b>Zetland Park</b>
	<b>Proposal:</b>	Development of Core Park
	<b>Agency:</b>	Falkirk Council
	<b>Comments:</b>	Identified as core park for Grangemouth in the Culture and Leisure Strategy. Key development priorities to be established through park development plan.

## ECONOMIC PROSPERITY

### Town Centre

- 11.26 Grangemouth Town Centre is a District Centre in the hierarchy of shopping centres within the Council area. It is the second largest centre after Falkirk and performs an important convenience and to a lesser extent comparison role. 82% of households in Grangemouth do their main food shopping in Grangemouth Town Centre. It is the strategy of the Council in its Structure Plan and Town Centres Strategy to reduce the reliance on shopping trips to Falkirk.
- 11.27 The provision of a town centre by pass and environmental improvements to ensure a strong pedestrian linkage between the existing shopping precinct and the expanded town centre to the north are being promoted.
- 11.28 In support of the improvement of Grangemouth Town Centre, Policy GRA1 sets out the Council's policy for new development and changes of use within the Town Centre. In order to maintain the area's vitality and interest it defines the town centre within which a mix of commercial, retail and community uses will be appropriate.

11.29

#### **GRA1 GRANGEMOUTH TOWN CENTRE**

- (1) The Council will promote the role of Grangemouth Town Centre as a District Centre;
- (2) Within the core area, the Council will promote a balance of Class 1 retail, leisure, food and drink and Class 2 business uses. Changes of use will be permitted provided this balance is maintained, an active frontage is provided, and the proposal is satisfactory in amenity terms. Within upper storeys, the reuse of vacant floorspace for residential use will be supported; and
- (3) Within the secondary area, commercial, residential, or community uses will be supported. Redevelopment designed to improve and reinforce the link between the existing shopping precinct and the new food store will particularly be encouraged.

### Local Centres

- 11.30 In addition to Grangemouth Town Centre there is also Charlotte Dundas Shopping Centre which functions as a local centre serving the nearby residential neighbourhoods. Charlotte Dundas provides an important function to local communities, and the Local Plan will aim to maintain the range of shops and services within them, consistent with their role in the hierarchy, and to improve their environment and accessibility.

11.31

#### **GRA2 CHARLOTTE DUNDAS SHOPPING CENTRE**

The Council will seek to promote the role of Charlotte Dundas as a Local Centre. Changes of use which would reduce the range of shops and services available will not be permitted unless it can be clearly demonstrated that there is no demand for such uses.

### Grangemouth Docks

- 11.32 The Falkirk Council Structure Plan identified the extensive areas of vacant land at Grangemouth Docks as one of nine Strategic Development Opportunities within the Council area. The range of intended uses were listed as: office, industry, distribution, leisure, tourism, retail, residential, new railway station and port related activities.
- 11.33 The Local Plan splits the docks into four zones and provides a general framework for a mix of uses. These are set out under proposals ED.GRA2-ED.GRA4. The potential constraints to redevelopment include ground conditions, access, servicing, health and safety, impact on Firth of Forth SPA and marketing. Bearing these in mind the acceptable uses have been deliberately designed to be as flexible as possible whilst still ensuring the development meets wider objectives.
- 11.34 Zone 1 covers the northwards expansion of the Town Centre which has been developed as a retail superstore, petrol filling station and fast food restaurant. Zones 2, 3 and 4 are identified for port-related general industry and storage.

## Business and Industry

### Safeguarded Petrochemical Site

- 11.35 An area immediately to the east of Grangemouth at Kinneil Kerse has been a longstanding safeguarded site for petrochemical development. A planning brief setting out the important site constraints will also be prepared (see Opportunity ED.GRA 01).
- 11.36 Along with the safeguarded site a zone surrounding the site will be identified to prevent developments that may unacceptably restrict likely petrochemical and industrial uses. This is shown on the proposals map and referred to in Policy EP 20. Development will need to take account of possible impacts on the Firth of Forth SPA, SSSI and Ramsar site, having regard to Policy EQ24.

### Existing Business and Industrial Uses

- 11.37 The land to the east of Inchyra Road and north of Bo'ness Road, including Abbotsinch Industrial Estate, is an extensive area currently in general industrial use mostly for petro chemical or chemical industries. There is also an extensive area around the KemFine, Syngenta, Firmin Coates and Fujifilm complexes.
- 11.38 These areas will be safeguarded under Policy EP2 for further development or re-development for general industrial uses. However, development for plant that will involve hazardous substances and therefore require hazardous substances consent will be required to be assessed against Policy EP19.
- 11.39 Other existing industrial areas to be safeguarded under Policy EP2 will be the West Mains Industrial Estate, Wester Newlands area and the remainder of Grangemouth Docks, again for general industrial purposes. The new business park at Beancross Road will also be safeguarded for class 4 uses also under Policy EP2.
- 11.40 The remaining industrial areas will be covered by Policy EP3. Comprehensive re-development proposals will be specifically encouraged under this policy at Dalgrain Road and Dundas Street although again subject to health and safety considerations and usual development criteria. Proposals must have no adverse impact on the integrity of the Firth of Forth SPA.

### New Business and Industry

- 11.41 Apart from the Grangemouth Docks Strategic Development Opportunity, the Falkirk Council Structure Plan also identifies Grangemouth/Kinneil Kerse as a strategic opportunity for the development of the chemical and petrochemical industries. The safeguarded site has been mentioned in paragraphs 11.35 - 11.36 above. The use of existing land holdings has also been mentioned, and there are two such opportunities at KemFine. One, known as Earls Gate Park, utilises vacant land on the south site, with the additional benefit for occupants of being able to share spare power and effluent treatment capacity. Uses involving hazardous substances would have to comply with Policy EP19. The other is a site for a new biotech park at Earls Road which has been allocated to permit the development of an extension following from the successful first phase. Any development of the following phases must respect the mature trees within the grounds and address the issue of replacing any sports pitches lost, either by alternative locations or a financial contribution to ensure the improvement of existing facilities.
- 11.42 Adjustments to the Green Belt, to form a more defensible boundary, has resulted in land at Glensburgh Road being available for development which would be suitable for class 4 business, tourism related and/or car sales. In addition, a site at South Bridge Street has also been identified for general industrial uses or retail uses that are complementary to Grangemouth Town Centre. Finally, Wood Street has been identified as an opportunity for light and general industry and storage purposes. A new access from Beancross Road would be required and careful attention to the proposed layout would be required in order to ensure no unacceptable impact on nearby residential properties.

### Major Hazards

- 11.43 The presence of the established chemical and petrochemical industries in Grangemouth gives rise to a number of major hazard consultation zones, the outer envelope of which is shown on the Proposals Map. Development proposals within these areas will be subject to assessment of their health and safety implications and Policy EP18 will be applied.

## 11.44 Economic Development - Proposals and Opportunities

## 11.44.1 ED.GRA01 Grangemouth/Kinneil Kerse

**Opportunity:** Safeguarded Site

**Site Area:** 64.0 hectares

**Agency:** Private

**Comments:** Site to be safeguarded for petrochemical development. Potential adverse effects on Firth of Forth SPA identified by Local Plan appropriate assessment. These would have to be explored in detail through a detailed, project based appropriate assessment in relation to any masterplan which comes forward for the site. The Habitats Regulations will apply to any detailed proposal (see tests in Policy EQ24 (1)). Site has been identified as being at medium to high risk of flooding. A flood risk assessment and drainage impact assessment will be required. These assessments may influence the scale, layout and form of development.

## 11.44.2 ED.GRA02 Grangemouth Docks - Zone 2

**Opportunity:** Port-related General Industrial/Storage

**Site Area:** 3.2 hectares

**Agency:** Forth Ports

**Comments:** Land identified for port related development. A transport assessment would be required, and off-site contributions to upgrading of motorway junctions may be required. Proposals must have no adverse impact on the integrity of the adjacent Firth of Forth SPA. The Habitats Regulations will apply to any detailed proposal (see tests in Policy EQ24 (1)). Site has been identified as being at medium to high risk of flooding. A flood risk assessment and drainage impact assessment will be required. These assessments may influence the scale, layout and form of development.

## 11.44.3 ED.GRA03 Grangemouth Docks - Zone 3

**Opportunity:** Port-related General Industrial/Storage

**Site Area:** 8.9 hectares

**Agency:** Forth Ports

**Comments:** Land identified for port related development. The retention and setting of the old Docks should be taken into account in the development of the area. A transport assessment would be required, and off-site contributions to upgrading of motorway junctions may be required. Proposals must have no adverse impact on the integrity of the adjacent Firth of Forth SPA. The Habitats Regulations will apply to any detailed proposal (see tests in Policy EQ24(1)). Site has been identified as being at medium to high risk of flooding. A flood risk assessment and drainage impact assessment will be required. These assessments may influence the scale, layout and form of development.

## 11.44.4 ED.GRA04 Grangemouth Docks - Zone 4

**Opportunity:** Port Related General Industrial/Storage

**Site Area:** 25.1 hectares

**Agency:** Forth Ports

**Comments:** Land identified for port related development. A transport assessment would be required, and off-site contributions to upgrading of motorway junctions may be required. Proposals must have no adverse impact on the integrity of the adjacent Firth of Forth SPA. Project based appropriate assessment may be required for discrete projects once more detail on uses is available. The Habitats Regulations will apply to any detailed proposal (see tests in Policy EQ24(1)). Site has been identified as being at medium to high risk of flooding. A flood risk assessment and drainage impact assessment will be required. These assessments may influence the scale, layout and form of development.

11.44.5	<b>ED.GRA05</b>	<b>South Bridge Street</b>
	<b>Opportunity:</b>	General Industrial/Storage/Retail
	<b>Site Area:</b>	2.9 hectares
	<b>Agency:</b>	Falkirk Council/Private
	<b>Comments:</b>	Important for any development to recognise the prominence of the site as an entrance to the town centre and docks. Site has been identified as being at medium to high risk of flooding. A flood risk assessment and drainage impact assessment will be required. These assessments may influence the scale, layout and form of development.
11.44.6	<b>ED.GRA06</b>	<b>Glensburgh Road</b>
	<b>Opportunity:</b>	Class 4 Business/Tourism/Motor Retail
	<b>Site Area:</b>	4.5 hectares
	<b>Agency:</b>	Falkirk Council/Private
	<b>Comments:</b>	Proposal must address access and likely ground condition problems. Reservation must be made for any land requirements associated with Glensburgh Road junction improvement. Site has been identified as being at medium to high risk of flooding. A flood risk assessment and drainage impact assessment will be required. These assessments may influence the scale, layout and form of development.
11.44.7	<b>ED.GRA07</b>	<b>Earls Gate Park</b>
	<b>Opportunity:</b>	Business/Industry/Motor Retail
	<b>Site Area:</b>	14.1 hectares
	<b>Agency:</b>	KemFine UK Ltd.
	<b>Comments:</b>	Site would be particularly suitable for general industrial uses with an opportunity to share spare capacity in power and effluent treatment. Any proposals for hazardous substance consent will require to be assessed under Policy EP 19. Site has been identified as being at medium to high risk of flooding. A flood risk assessment will be required. This assessment may influence the scale, layout and form of development.
11.44.8	<b>ED.GRA08</b>	<b>Earls Gate Park Phase 2</b>
	<b>Opportunity:</b>	Business/Industry
	<b>Site Area:</b>	14.0 hectares
	<b>Agency:</b>	KemFine UK Ltd./SE
	<b>Comments:</b>	Site would be suitable for use classes 4, 5, and 6, with an opportunity to share spare capacity in power and effluent treatment. Development of the site should retain the woodland area and important trees. The loss of sports facilities requires to be addressed either by replacing them with new ones, or upgrading existing ones, all in line with national planning policy guidance. Other matters which potentially have to be addressed include flooding, access, and European protected species. Any proposals for hazardous substances consent will require to be assessed under Policy EP19.
11.44.9	<b>ED.GRA09</b>	<b>Wood Street</b>
	<b>Opportunity:</b>	Business/Industrial Development
	<b>Site Area:</b>	7.0 hectares
	<b>Agency:</b>	Private
	<b>Comments:</b>	Any proposal must address the need for a new access and the relationship between the proposed use and adjoining residential properties. Proximity to major hazards will require HSE issues to be taken into account in developing this site.

## SUSTAINABLE TRANSPORT & INFRASTRUCTURE

### Road Network

- 11.45 A crucial element of the northwards expansion of the town centre is that a bypass is provided. This will enable Bo'ness Road to be traffic calmed and, combined with appropriate environmental improvements, permit a good linkage between the existing shopping precinct and new store.
- 11.46 The above scheme would have to be developer funded and subject to detailed assessment to make sure the implications for the wider road network are acceptable.
- 11.47 A further opportunity exists to improve the junction of Glensburgh Road with the M9 motorway slip road and Dalgrain Road. Options will be considered following detailed traffic modelling and feasibility work.

### Public Transport

- 11.48 As one of four potential new rail stations in the Falkirk Council area, a site will continue to be safeguarded at Union Road in Grangemouth. This project is subject to adequate funding and agreement with the rail operators. In addition the pedestrianisation of Bo'ness Road would be an opportunity to improve bus waiting facilities, in the event that the Town centre bypass is constructed.

### Freight

- 11.49 In accordance with Policy TRANS.4 of the Falkirk Council Structure Plan, proposals for rail freight and freight handling facilities will be encouraged in Zone 4 of Grangemouth Docks and the established industrial area at Wester Newlands where there is already a rail freight terminal.

### Walking and Cycling

- 11.50 Owing to the built up nature of Grangemouth, there are limited opportunities for new pedestrian routes within the town. The key challenge will be to increase access to the countryside from within the town, the main barrier being the M9 motorway. A strategic pedestrian/cycle link to Bo'ness is an aspiration and will require detailed feasibility work to examine route options (see Opportunity TR.BNS04). This could form part of the Forth Coastal Path. Additionally, feasibility work is required to find a safe route from the River Avon Heritage Trail to link into the Coastal Path. An important local opportunity has been identified along the River Carron linking Dalgrain Road to Glensburgh Road.
- 11.51 There is already an initiative in Grangemouth to encourage cycling called the "cycle friendly town". This is designed to increase safe cycle networks and further phases will be implemented as resources allow.

### Flooding and Coastal Defences

- 11.52 Grangemouth is vulnerable to both coastal and river flooding. It is situated on low lying ground, under 5m AOD and has three water courses which flow through or adjacent to it. With global warming and likely rise in sea level Grangemouth is at an increased risk of flood events.
- 11.53 There are already defence and flood relief measures in place in Grangemouth. Falkirk Council has commissioned a study from consultants to review the adequacy of these measures. Preliminary results have demonstrated the difficulties in modelling the full implications of a coastal and flooding event. Further research and more detailed survey work will be necessary before any conclusions can be drawn. The results of any further study may indicate new measures or new policies for the control of development.

## 11.54 Sustainable Transport & Infrastructure - Proposals and Opportunities

11.54.1	<b>TR.GRA01</b>	<b>Grangemouth Docks</b>	<p><b>Opportunity:</b> Town Centre Bypass</p> <p><b>Agency:</b> Private</p> <p><b>Comments:</b> Northern by-pass of Town Centre to be constructed. Construction of retail foodstore includes road construction which would form part of the Town Centre By-pass.</p>
11.54.2	<b>TR.GRA02</b>	<b>Union Road</b>	<p><b>Opportunity:</b> Rail Station Safeguarding</p> <p><b>Agency:</b> Unknown</p> <p><b>Comments:</b> Proposal is subject to funding but in the meantime is safeguarded for a new railway station.</p>
11.54.3	<b>TR.GRA03</b>	<b>A905 Glensburgh – Inchyra Road</b>	<p><b>Opportunity:</b> Strategic Pedestrian/Cycle Route</p> <p><b>Agency:</b> Falkirk Council</p> <p><b>Comments:</b> Opportunity to promote remote cycleway along Glensburgh and Beancross Roads, linking into proposed cycleway route to the north (see TR.RUR10). Part of cycleway under construction at Beancross Road in association with development at Earls Gate Park (ED.GRA07).</p>
11.54.4	<b>TR.GRA04</b>	<b>Dalgrain Road – Glensburgh Road</b>	<p><b>Opportunity:</b> Path Upgrading</p> <p><b>Agency:</b> Falkirk Council</p> <p><b>Comments:</b> Opportunity for upgrading of popular route along the River Carron, and linking across Kerse Bridge to path on the north side of the river. Possible impacts on European Protected Species, and consequent implications of Habitats Regulations, to be considered.</p>
11.54.5	<b>TR.GRA05</b>	<b>M9 Junction 6/Glensburgh Road</b>	<p><b>Opportunity:</b> Junction Improvement</p> <p><b>Agency:</b> Falkirk Council/Transport Scotland</p> <p><b>Comments:</b> Junction identified as requiring upgrade to cope with projected traffic growth. Appraisal has identified specific mitigation measures which would resolve capacity issues over the term of this Local Plan. Signalisation likely to control staggered junction at Glensburgh. Signals and road widening at Earls Gate roundabout. Developer contributions required from major developments contributing to growth in the vicinity. All contributions will be raised in accordance with national planning policy guidance. Longer term solutions will be pursued through STPR and the National Development mechanism set out in NPF2.</p>
11.54.6	<b>TR.GRA06</b>	<b>River Carron</b>	<p><b>Opportunity:</b> Navigational Improvements</p> <p><b>Agency:</b> British Waterways</p> <p><b>Comments:</b> Entry to the Forth &amp; Clyde Canal via the River Carron is currently restricted by combination of tides and low bridges. Options for improving navigability have been examined by British Waterways and a preferred option of canalising a part of the river is being further explored as part of the Helix project. Proposals would require project based appropriate assessment in terms of potential impacts on the adjacent Firth of Forth SPA once scope of project is determined. The Habitats Regulations will apply to any detailed proposal (see tests in Policy EQ24 (1)).</p>

## 11.54.7 TR.GRA07 M9 Junction 5

**Opportunity:** Junction Improvement

**Agency:** Falkirk Council/Transport Scotland

**Comments:** Junction identified as requiring upgrade to cope with projected traffic growth. Appraisal has identified specific mitigation measures which would resolve capacity issues over the term of this Local Plan. Signalisation and road widening likely on entry arms with possible dedicated left turning lane connecting M9 and A9. Developer contributions required from major developments contributing to growth in the vicinity. All contributions will be raised in accordance with national planning policy guidance. Junction 5 operates largely in tandem with Junction 6 and specific measures for Junction 5 to deal with longer term traffic growth will be identified consequential to the STPR and the National Development related work referred to in Opportunity TR.GRA05.

