

following a public consultation process. The framework addresses an area of approximately 170 hectares covering Leith docks, in Forth Ports' ownership, and the surrounding area, including part of the historic core of Leith.

3.53 The overarching objective of the vision for this area is as follows:

“To provide an extension of Leith and the city which integrates the old and new areas in a mixed, balanced and inclusive waterfront community while responding to contemporary aspirations, concerns and ideas regarding urban planning”

Community Planning Strategy

3.54 There are two main aims of Community Planning, which can be described as:

- Making sure people and communities are genuinely engaged in the decisions made on public services which affect them; allied with
- A commitment from organisations to work together, not apart, in providing better public services.

3.55 The first Community Plan for Edinburgh was published at the start of 2000. This has been refreshed with the publication of ‘A Community Plan for Edinburgh – The Key Challenges 2004 - 2010’.⁴² This provides an assessment of the big issues that face the city, presents key challenges including the need for better services and quality of life, and provides partner agencies with a framework by which to tackle these. A key focus within the plan is on sustainable development. To this end the plan calls for widespread production of green travel plans. In relation to transport the objectives of the plan are at a general level; “To improve transport” is one of the ten key challenges identified, with implementation of the Tram specifically mentioned as a milestone within this challenge.

Edinburgh Community Safety Partnership Strategy 2005 – 2008

3.56 The vision for the Community Safety Partnership is to ensure that Edinburgh is a safe place to live, work and visit.⁴³ A key aim is that community safety is written in to the service plans of all public services across the city by 2008. Prevention of accidents and reducing the fear of crime are aspects of the city transport system directly referred to in the community safety strategy. Under the appraisal heading ‘safety’ they should form key considerations regarding how well the tram would perform regarding safety.

Joint Health Improvement Plan

3.57 The requirement to produce a Joint Health Improvement Plan (JHIP) came from the Scottish Executive in 2002 as part of a national drive to develop and co-ordinate

⁴² A Community Plan for Edinburgh, City of Edinburgh Council, 2004:
http://download.edinburgh.gov.uk/CommunityPlanning/Edinburgh_community_plan_2004_2010_.pdf

⁴³ Community Safety Partnership Strategy, City of Edinburgh Council, 2005:
<http://www.saferedinburgh.org.uk/admin/pubs/Strategy%20Plan.pdf>

health improvement capacity and activities in each local authority area. The ‘Working for a Healthier Edinburgh: Edinburgh Joint Health Improvement Plan (JHIP) 2003-2006’⁴⁴ expresses the important role of the main Community Planning partners in making Edinburgh a healthier city. It is an integral part of both the City Community Plan (produced by the Edinburgh Partnership) and the Lothian Local Health Plan (produced by the Lothian NHS Board).

3.58 The overall objectives for Joint Health improvement planning are;

- To engage all sectors and communities in the city in joint action to improve the health and wellbeing of Edinburgh residents;
- To engage all sectors and communities in tackling health inequalities in the city; and
- To prioritise joint actions which make a positive impact on improving health and wellbeing and on reducing health inequalities.

West Edinburgh Local Community Plan (Draft)

3.59 The West Edinburgh Community Planning Partnership is in the process of updating the West Edinburgh Local Community Plan⁴⁵ which was released in draft form in April 2006. The plan outlines a vision for West Edinburgh by 2012 to be a place where:

- There is a vibrant community and a wide range of opportunities for people to take part in public life;
- People are valued, healthy, and feel in control;
- People are given a wide range of learning and training opportunities;
- Local services and amenities are of an excellent standard and responsive to people’s needs;
- The environment is safe, clean and well maintained and housing meets the Edinburgh standard; and
- People can fully enjoy the benefits of Edinburgh’s economic growth.

3.60 In order to achieve this vision the Planning Partnership has outlined six priorities:

- Supporting children, young people and families;
- Improving health and well being;
- Building community capacity;
- Making neighbourhoods safer, cleaner and more attractive;
- Promoting economic prosperity; and
- Providing learning opportunities.

⁴⁴ Working for a Healthier Edinburgh, City of Edinburgh Council, 2003:
<http://www.nhslothian.scot.nhs.uk/publications>

⁴⁵ The West Edinburgh Local Community Plan (Draft), West Edinburgh Community Planning Partnership, 2006:
<http://www.wecpp.myed.org/?page=6073>

- 3.61 The document also outlines a desired outcome to be improvement of the availability of public transport in West Edinburgh.

Developing Transport Planning Objectives

- 3.62 Transport planning objectives define what the “planner” or promoter wishes to achieve in terms of the problems to be addressed and the outcomes to be achieved. The process of developing these objectives has been informed principally by the identification of specific opportunities, problems and constraints:
- The potential for future growth of the Edinburgh economy, which is dependent on access to labour and to suitable development sites, allied to the need to adopt a denser form of urban development in order to reduce the need to travel
 - Forecast growth in traffic congestion and lengthening journey times on key corridors in the city, especially along and close to the key development corridors
 - The need to achieve and sustain higher levels of mode switch from car to public transport especially in development corridors
 - The potential for relatively dense residential and commercial development in the waterfront and for further commercial development between the city centre and the airport
 - Constraints imposed on development at the waterfront by the land use planners because of the inability of a bus based transit system to handle the volumes of demand which would arise between the waterfront and the city centre-airport corridor if the waterfront were developed to its full potential
 - The strong desirability of retaining as much new development within this corridor, in order to maximise the economic benefits of dense development, to minimise the need to travel by retaining residential developments within the city and especially within the corridor and to avoid use of less environmentally suitable land use options outside the city for residential developments.
 - Issues of social inclusion affecting disadvantaged communities located close to the new waterfront development areas which would benefit from access to employment opportunities generated by both residential and commercial developments.
- 3.63 To enable an integrated and holistic approach to generating and testing options it is essential that these issues together with the above policies are all considered in preparation of the transport planning objectives for the corridor. These objectives are expressed as strategic objectives; under these are more specific operational objectives which are also used as the basis of evaluation (see Chapter 10). The transport planning objectives are shown below.
- **To support the local economy by improving accessibility** – To achieve an integrated, efficient, accessible and quality public transport system that promotes economic growth to the local community, improving its performance and competitiveness. This is fundamental to achieving both the social inclusion and economic development elements of the transport vision, through:
 - Improved access to the public transport network; and
 - Improved access to employment opportunities.
 - **To promote sustainability and reduce environmental damage caused by traffic** – To encourage more sustainable travel and comply with the targets set by

the Air Quality Amendment Regulations. This is fundamental to achieving the environmental, sustainability, health and fitness and traffic aspirations, through:

- Increasing proportion of journeys made by public transport, cycling and walking; and
- Reducing local and global emissions (improving air quality and reducing contribution to greenhouse gases).
- **To reduce traffic congestion** – To enable cars to be used efficiently, reducing congestion and delays on key routes. This is fundamental to the achievement of economic development and environmental aims of the vision, through:
 - Reducing number of trips by car; and
 - Reducing traffic volume on key routes.
- **To make the transport system safer and more secure** – To aim at less deaths by road traffic accident, by reducing vehicle volumes, speeds and making roads safer for both users and non-users. This is fundamental to the achievement of the safety elements of the vision, through:
 - Reducing traffic accidents.
- **To promote social benefits** – To take the new system as an opportunity to promote social and community benefits, which are fundamental to the respective elements of the vision, through:
 - Improving liveability of streets, maximising their role as the focal point of local communities; and
 - Reducing social exclusion, by improving the ability of people with low incomes, no access to car, the elderly or those with mobility impairments to use the transport system.

4. SCHEME HISTORY: OPTION GENERATION, OPTION SIFTING AND STAG APPRAISAL

The purpose of this Chapter is to set out the process from the setting of the transport planning objectives through option generation and sifting to the development of proposals for a tram scheme for Edinburgh.

Introduction

- 4.1 The concept of a network of tram lines in Edinburgh was first outlined within the Integrated Transport Initiative (ITI) developed by CEC to achieve the aims set out in the Local Transport Strategy. Development work on the ITI initially began in the late-1990s, with Scottish Executive ‘Approval in Principle’ being achieved in 2002.
- 4.2 During this period, Waterfront Edinburgh Limited (a joint venture between CEC and Scottish Enterprise Edinburgh and Lothian) commissioned the Feasibility Study for a North Edinburgh Rapid Transit Solution⁴⁶. This study examined the technical and economic case for a high capacity transit system serving north Edinburgh. At this time the rationale for such a system was the predicted inability of a conventional bus-based system to carry the expected volume of public transport movements between the major development area of North Edinburgh and major employment areas.

North Edinburgh route – Line 1

Development and sifting

- 4.3 The above mentioned feasibility study was undertaken for Waterfront Edinburgh Limited and was led by a Steering Group that involved the City Council. This study was charged with the task of considering options for public transport to link the Waterfront development sites in North Edinburgh (at Granton and Leith) with the City Centre.
- 4.4 The objectives of the study were:
- To develop and to establish the economics of a comprehensive public transport solution connecting the Waterfront project site with the City Centre, considering all practicable modes of transport and combinations of modes;
 - To recommend a solution and an appropriate procurement route; and
 - To develop and outline business case supporting the recommendations
- 4.5 The study and report were developed in accordance with The Scottish Executive’s Guidance for Public Transport Fund bids and the draft STAG. In that context, the study:

⁴⁶ Feasibility for a North Edinburgh Rapid Transit Solution, Andersen, Steer Davies Gleave and Mott MacDonald, 2001

- Reviewed the transport and land use policies, aims and objectives for Edinburgh and the wider environs;
- Set out existing problems in North Edinburgh;
- Developed a set of options to address the objectives and problems and undertook outline appraisal of each;
- Consulted with stakeholders (including CEC, local community groups and businesses);
- Define a Preferred option, with more detailed appraisal; and
- Considered the financial, procurement and risk transfer options.

4.6 The feasibility study considered a range of issues, including:

- Technology options – bus based systems, guided bus and rail based rapid transit;
- Alignment and route options – Granton – Haymarket, Granton – St. Andrews Square, the full Northern Loop; and
- Potential demand and revenue – demand and revenue forecasts were made for each of the three route options and for guided bus and light rail transit technologies.

4.7 While only the first draft of STAG was available at this time and was not in official use, the approach adopted complied with STAG’s objectives based planning approach, working from problems through to objectives and the development of possible options to achieve these objectives.

4.8 The development and sifting of the options was made in the context of technical, operational, patronage, cost and integration issues and in the ability of the options to satisfy the planning objectives. The study confirmed that a conventional bus based public transport network would not be a feasible medium term option as a way of linking the waterfront development areas to the city and to major employment sites. This finding reflected the forecast level of working age population growth in the area, potential public transport patronage and the impact on current bus operations of a significant increase in bus use on key corridors in central Edinburgh arising from demand for public transport on the part of the concentration of population in the waterfront area.

4.9 The option assessment indicated that a tram solution offered better outcomes than a guided bus system. This was due to a range of factors including tram being able to deliver a step change improvement along its whole route (whereas guided bus would operate as a normal bus for much of its length), institutional difficulties of establishing guided bus concessions and issues surrounding attractiveness to the private sector. Further appraisal indicated that in general, a full loop option offered the highest potential for solving the identified problems, take advantage of the opportunities and address the transport planning objectives.

4.10 This option sifting process resulted in a Preferred Option being identified: it should be noted that in contrast to common current practice, STAG 1 was not used to sift options: this reflects the then status of STAG.

4.11 The Preferred Option was the full Northern Loop using LRT technology. Following

this, a preliminary STAG appraisal of the preferred option was presented as part of the feasibility study. It should be noted that the draft STAG guidance was issued in July 2001, contemporaneously with the feasibility study report. The appraisal contained within the feasibility study was therefore undertaken in accordance with STAG; however, strictly speaking it is not a STAG1 appraisal.

- 4.12 This appraisal is set out in Appendix A (note that the structure and layout follows the draft STAG guidance and may differ from the full guidance issued in September 2003). The appraisal was accepted by CEC and the Scottish Executive, from whom funding was made available further to develop the scheme.

Subsequent development and consultation

- 4.13 The preferred option of a tram network was explored further in the “Edinburgh LRT Masterplan Study” commissioned by CEC and undertaken by Arup. This study indicated that a larger tram network could be feasible, within which the priority would be to develop the Northern Loop, which could be followed by lines to the west and the south-east of the city centre.
- 4.14 This option development process was revisited during 2002 as part of the development of Line 1 to STAG2 level and this broadly confirmed the Preferred Option, subject to potential alignment variants at George Street/Princes Street and Telford Road/former railway solum.
- 4.15 These options were taken forward to public consultation in order to ensure robust and inclusive decision-making, whilst simultaneously undertaking more detailed technical analysis to inform the more detailed variant level development and sifting process. Following the consultation and further analysis, the Preferred Options were identified as Princes Street and the former railway solum respectively, and a single preferred route alignment was therefore identified. This single option was then carried forward to a detailed STAG2 appraisal; the resultant AST is set out in Appendix A.

West of city route - Line 2

- 4.16 As with the Northern scheme, which became Line 1, the original concept of a second mass transit route running westward from the city centre was the ITI developed by the CEC. Having established a tram scheme as the Preferred Option to address the needs of the waterfront development area, and with a desire to make public transport use as seamless as possible, it was logical to consider a linked tram scheme to serve the westward route. As discussed below, the option of a bus based scheme was also assessed.
- 4.17 The refining of a preferred tram network was further undertaken through the LRT Masterplan study undertaken by Arup. This study identified a route that would serve the Corstorphine / Murrayfield and South Gyle / Stenhouse to city centre movements as well as providing other links to the city centre and within West Edinburgh. The study demonstrated that the West Edinburgh corridor should be a priority for investment. It also revisited the available technologies and, like the Line 1 feasibility study, concluded that LRT (or Tram) was the appropriate choice for a city of Edinburgh’s size. The Part 1 Appraisal Summary Table (AST) arising from this work

is reproduced in Appendix B.

- 4.18 By the time that Arup's work was completed, the 'Fastlink' Busway scheme was committed. Accordingly Arup considered whether further investment in tram was worthwhile. They concluded that the tram would generate significant additional performance and reliability benefits and would lead to a significant further modal shift from car to public transport. While not part of this appraisal, Arup also confirmed the potential integration benefits of providing a network of tram routes. They also pointed out that the on-street bus priority measures that are a key feature of Fastlink would remain after conversion of the guideway element to tram.
- 4.19 In addition to the overall Masterplan Study, Arup prepared a document entitled "West Edinburgh Tram: Prospectus to Scottish Executive" in April 2002. This set out the arguments for building WEBS first and subsequently developing West Edinburgh Tram. This demonstrated that the benefits from tram were significantly greater than those of WEBS, but that the benefits of the latter were sufficient to cover the capital costs within 4 years. Overall Arup concluded that there was a strong case for West Edinburgh tram as the second stage of development of public transport in the corridor. The prospectus was accepted by the Scottish Executive as the basis for offering PTF funding for the further development of the tram scheme.

Detailed assessment of route variants

- 4.20 Once the case had been made in principle for Line 2, the starting point for the detailed development of Line 2 was to examine and select the Preferred Route Corridor through West Edinburgh. During this phase of the study, over thirty route options were defined and three basic corridors identified as follows:
- North – along the A8;
 - Central – a similar corridor to that used for the City of Edinburgh Rapid Transit generally following the heavy rail line from West Edinburgh to the city; and
 - South – following the A71 and Western Approach Road.
- 4.21 Initial route development identified some 30 alignment options, with a very large number of combinations being possible from these. In some stretches of the route (for example from Newbridge to Gogar Roundabout) the options were similar but on slightly different alignments. Between Gogar Roundabout and the city centre there were distinctly different choices to be made between 'corridors' (for example a northerly corridor along the A8, a second 'central' corridor generally following the Edinburgh-Glasgow railway and previously developed CERT corridor, and a third southerly one following in part the A71). It was essential to reduce the options and combinations to a manageable number for onward analysis towards a preferred route.
- 4.22 All 30 alignment options were appraised using appraisal methods consistent with STAG, with impacts scored using professional judgement. Overall, the intention was to provide a relative comparison between options; the preferred route corridor arising from this work and which was taken forward to public consultation was the central corridor, which broadly follows the alignment of CERT. Some sub-options remained and these were carried forward to public consultation:

- Princes Street/George Street;
- The Roseburn to Carrick Knowe section;
- Gogar Roundabout; and
- Near to the Airport.

4.23 Following the consultation and further analysis, a single preferred route alignment was identified and this was then carried forward to a detailed STAG2 appraisal. The resultant AST is presented in Appendix B.

5. DEVELOPMENT OF EDINBURGH TRAM DURING THE PARLIAMENTARY PROCESS

This Chapter sets out the development of Edinburgh Tram during and following the Parliamentary process for Lines 1 and 2. The key developments set out are those that relate to the proposed phased implementation, recognising current affordability constraints, and the creation of Transport Edinburgh Limited, a new company set up by CEC to oversee the integrated operations of Lothian Buses and Edinburgh Tram.

Project Phasing

- 5.1 The final STAG reports for Lines 1 and 2 were produced in September 2004 and contained relatively minor updates and revisions from the first version issued in November 2003, with the promoted schemes remaining essentially unchanged.
- 5.2 During 2005 the key funding and affordability issues were addressed in the context of a fixed SE grant of £375m, a substantial contribution from CEC and the financial risks which will have to be borne by either CEC or SE. The conclusion reached was that although Tram Line 1 only or Tram Line 2 only had a high degree of deliverability within the constraint of a fixed SE grant of £375m, a network of Lines 1 and 2, with or without the Newbridge Shuttle, was unlikely to be affordable in one phase of construction and that a phased approach to procurement and delivery would be implemented.
- 5.3 Taking a prudent view on capital cost estimates and funding sources, an examination was undertaken by a number of parties — ~~tie~~, CEC, TEL (see below), Lothian Buses, Transdev (the tram operator) — to assess optimum construction phasing. This work was validated by the SE. The parties determined through reasoned argument and professional judgement which phases within the totality of lines 1 and 2 would be the best to proceed with, assuming that Royal Assent was granted for both Bills.
- 5.4 Consideration has been given to a range of options for first phase network construction and to the pattern of construction of subsequent phases. This work indicates that the line from Newhaven to Edinburgh Airport (phase 1a), via Haymarket and Princes Street, gives the best balance of costs and benefits and presents a high probability of being financially viable when integrated with Lothian Buses services. This first phase of the tram development could be extended to include the section of Line 1 from Roseburn to Granton Square (phase 1b).
- 5.5 Phase 1a would provide the core support for the city economy and would directly link the major growth centres at the Airport/Gogarburn/West Edinburgh and Leith Waterfront with the city centre. It would provide access to the major housing and commercial developments under construction and planned and would underpin the role of these developments in sustaining the Edinburgh's role as a growing successful capital city.
- 5.6 The link to Leith will serve two thirds of the waterfront development contained in the

area that runs across the Leith waterfront between Newhaven and the eastern end of the Victoria Dock in Leith. Two thirds of the totality—approaching 20,000 houses plus shops and offices—is within that arc. The tram will serve that area extremely well. Figures have changed during the consideration of the Bill and Forth Ports has made revised proposals for Leith Docks. Under the latest proposals, a community the size of Bathgate will be built in Leith Docks.

5.7 The advantages to CEC in achieving its vision for the city and in securing transport infrastructure stemming from this proposed first phase of the tram are:

- The tram would be a world class gateway to the city for visitors arriving at the Airport, providing access to all modes of transport;
- Direct access to the major shopping destinations of the Gyle, Ocean Terminal and the city centre and to the Royal Bank of Scotland's new international headquarters at Gogarburn;
- Access for existing communities to employment, leisure, shopping and other opportunities;
- The line would link with existing transport hubs at Edinburgh Park, Haymarket and Waverley Railway Stations and at the Bus Station in St Andrew Square to give first class interchange for local and long distance trips;
- The line would serve an expanded 'Park and Ride' at Ingliston increasing the catchment area of the tram and further reducing the demand for car travel in the city;
- The Roseburn Street tram stop would serve Murrayfield and Tynecastle stadia, giving access to international and national sporting and other events;
- This first phase would provide the core infrastructure on which expansion of the network would be built and could include in the future the proposed Line 3 linking the city centre with the new Royal Infirmary and the key development areas in South Edinburgh.

5.8 The development of this core section of Lines 1 and 2, as a first phase, is fully supported by TEL and Transdev, the tram operator.

5.9 The resulting first phase (Phase 1a) represents a good "fit" with the Structure and Local Plans. This is also the case with Phase 1b, which CEC wishes to construct at the same time as Phase 1a. Here the key 'driver' is the need to link the Granton Waterfront with the rest of the network and the rest of the city-region. Granton is linked to the network at Haymarket via the Roseburn corridor, which also serves the new Telford College, the Western General Hospital, Craigleith retail park and other key destinations.

Transport Edinburgh Limited

5.10 It has always been a critical element of the planning for the tram system that the operations of bus and tram (and other modes) should be as fully integrated as possible. Edinburgh is in an almost unique position, in that the main bus operator in the city is majority owned by the public sector. Recognising the unique opportunity this presented, CEC decided to establish Transport Edinburgh Limited ("TEL"), to take on the responsibility for coordinating the services of Lothian Buses and the tram.

- 5.11 TEL is the single economic entity within which both the tram and Lothian Buses will operate. As a result of the common ownership of both Lothian Buses and the Edinburgh Tram, TEL will ensure complete integration of bus and tram services in a single network, avoiding unnecessary duplication and at the same time maximising passenger benefits through a fully integrated ticketing regime and marketing of the integrated network. TEL will take full advantage of the continuing engagement of Transdev, the tram operator, whose experience of tram and other public transport operation complements the expertise available in Lothian Buses.
- 5.12 TEL has played a leading role in the work carried out to date in assessing the economic and financial viability of the Phase 1a tram integrated with bus services and is assisting the Joint Revenue Committee contractor to define the parameters and inputs to the patronage and revenue modelling process to inform the optimal tram and bus network. TEL has also been engaging in consultation with third party bus operators.
- 5.13 TEL is committed to the implementation of integrated ticketing between the tram and Lothian Buses with fare parity between the two systems.

6. CONSULTATION

Participation and consultation is central to the ethos of STAG. A well planned and well executed participation and consultation strategy will lead to better proposals and greater support for their implementation.

Extensive consultation was undertaken during the development of Lines 1 and 2 and this is summarised below. This continued through the Parliamentary process, notably the management of and negotiation with objectors to the Bill. A separate strand during this time and subsequently has been the creation of Community Liaison Groups to inform further development of the scheme.

Objectives and consultation process

- 6.1 Extensive consultation has been undertaken in respect of the Edinburgh Tram network. **tie** appointed a specialist advisor, Weber Shandwick, to develop and implement an overall strategy for public relations and communications, for both Lines 1 and 2.
- 6.2 The main objectives of the consultations were to inform stakeholders about the proposals, and to allow stakeholders to express their views on the proposals and therefore contribute to the assessment and preparation of final route designs. The consultation process also aimed to raise awareness and understanding of, and interest in, the proposals amongst stakeholders, and to build support where possible. In addition, the consultation process was intended to enable misconceptions and negative perceptions amongst stakeholders and the wider public to be addressed.
- 6.3 The consultation process involved three main groups and many methods of consultation. This is summarised in Table 6.1.

TABLE 6.1 CONSULTATION TO DATE

Groups	Methods	Who involved?
Clients	Steering group meetings	tie
	Monthly progress meetings	CEC Transport and Planning division
	Small meetings	Scottish Executive
Stakeholder	Letters	Environmental (e.g. Murrayfield Flood Defence)
	Telephone conversations	Statutory
	Meetings	Heritage (e.g. Historic Scotland)
		Transport (e.g. Network Rail)
		Community (e.g. Scottish Rugby Union)
		Business (e.g. Royal Bank of Scotland)
		Public Utility (e.g. British Telecom)
		Emergency services
		Disability
Public		Technical (e.g. Traffic Interface Group)
	Media launch	General public
	Leaflets	
	Website	
	Freefone number	
	Consultation with Political Representatives & Community Organisations	
	Exhibitions	
	Public meetings	

Results of the consultation for Line 1

- 6.4 The main findings were that 84% supported the concept of the tram in Edinburgh. The key points raised by the Line 1 consultation are summarised below.

Route-alignment concerns:

- Princes Street/George Street – Princes Street was supported by 66% of respondents.
- Telford Road/Former railway solum – Responses from the public within the zone of influence of the route options favoured the former railway solum along the Roseburn corridor. When taking into account all parties, the picture switched in favour of Telford Road, particularly because of cycle groups, who were concerned that there might be an adverse effect on the cycleway if the former railway solum were used for the tram route.
- With regard to proposed stops on Line 1, 83% of the respondents considered them to be well placed and convenient.
- There was concern about existing traffic problems and the plan for road realignment for Lower Granton Road. A desire was expressed to relocate the tram from this section.
- Trinity Crescent and Starbank Road also emerged as sections causing concern about width of carriageway, conflict with traffic and loss of parking.
- On Leith Walk and Constitution Street concerns were expressed about impact of

the tram on bus services and about traffic management generally.

- The use of the Roseburn to Crewe Toll railway corridor was noted as impacting on wildlife, conflicting with cycling, having safety risks (of cyclists beside trams), and impacting on adjoining housing.

Environment-related concerns:

6.5 The following concerns were expressed:

- Noise levels during the day, depending on road traffic flows, and noise from depots.
- Air Quality Management Area (AQMA) could be designated in the city centre due to predicted future exceedences of nitrogen dioxide levels.
- The need for measures to contain contaminated run-off during construction and operation was identified; Sustainable Urban Drainage Systems (SUDS) measures should be considered.
- The presence of a SSSI at Wardie Shaw was noted.
- Appropriate assessment of potential works to seawall at Trinity Crescent required by SNH due to impacts on Firth of Forth SSSI/SPA.
- Roseburn corridor is an important habitat for animals (protected species and scheme impacts are significant).
- Potentially contaminated areas of land identified along the route corridor.
- Greater archaeological sensitivity in the coastal and Forth port areas. Important archaeological areas east of Constitution Street.

Other concerns:

- There was a need to ensure that tram operation will not adversely affect servicing and deliveries to businesses.
- Integrated ticketing should be available for bus and tram travel. Tickets should also be available through shops.
- It was observed that the west side of the loop, Roseburn to Granton would provide a welcome new public transport link which is not available at present;

Results of the consultation for Line 2

6.6 The key points raised by the Line 2 consultation are summarised below.

- 86% supported the **route** of Edinburgh Tram Line Two, while 14% did not support the route.
 - The main reasons given for supporting the Edinburgh Tram Line Two route were: it would provide a vital link to the Airport; Links with existing public transport; it would alleviate congestion in West Edinburgh; it would provide a good link to Gyle Centre, business parks, RBS and Royal Highland Showground; and would benefit the tourist industry.
 - The main objections to the Edinburgh Tram Line Two route were; proximity to residential properties; requirement for Compulsory Purchase Orders (CPOs) in some areas; there was seen to be no need to extend to tram to Newbridge (perception there would be few users in this area). The route does not cover some heavily populated areas where likely tram users reside, for

example Gorgie, Dalry and Corstorphine.

- 86% supported the **proposed stops** on Edinburgh Tram Line Two, whereas 14% had some objections to the stop locations.
 - The main reasons given for supporting the Edinburgh Tram Line Two stops were: they are thought to be well placed; and good balance between accessibility and speed.
 - The main objections to the Edinburgh Tram Line Two stops were: too few stops; and concern over increased parking at stops.

6.7 There were specific points mentioned by stakeholders, which were reported in more detail:

- Network Rail generally approved of the principle of the tram, although it had a few concerns: e.g. the Haymarket depot - access will be restricted from Russell Road and Roseburn Street and affects diesel tanks at Roseburn St.
- Her Majesty's Royal Inspectorate's main concerns included:
 - Bridge construction – at Russell Road and Balgreen Road. Requirement to improve vertical clearances.
 - Gogar Depot – feasibility of locating the main line depot adjacent to the Airport (issues over electromagnetic compatibility, lighting, OHLE and buildings interface with safety flight envelope, ensuring no “credible” risk of collision between aircraft and depot).
 - Tram/road/pedestrian interface – issues over management of vehicle and pedestrian movements, sight lines, safe clearances;
- Historic Scotland/ Edinburgh World Heritage: main concerns were regarding the tram scheme fitting into the streetscape with minimum impact, especially the impact of overhead power infrastructure, cables, fixings and supports. This fed into the development of the Design Manual for the development of the tram.

6.8 In specific areas (Murrayfield, Gogarburn, the Airport Area and Newbridge), locally specific stakeholders were consulted. The results of this are summarised in Table 6.2 below:

TABLE 6.2 STAKEHOLDER CONSULTATION RESULTS FOR LINE 2

Murrayfield	Main points raised
Scottish Rugby Union (SRU)	Tram movements will have impact on crowds during major events at the Murrayfield Stadium, but only about a quarter of an hour before kick off and half an hour after the match. There are 14 major events a year. If the SRU back pitches are required for the Edinburgh Tram Line Two route, any losses in land area would need to be recovered elsewhere. The pitches are liable to flooding. The SRU indicated that flood protection walls would be required if the back pitches were to be used for tram stabling.
CEC Murrayfield Flood Defence	The north option would run over a flood retention area of approximately 300m in length. The tram route would need to be designed to ensure that flood capacity of this retention area is not reduced.
Edinburgh Park Limited / New Edinburgh	Positive view of tram. Feel it is desirable for the tram to run as close to the adjacent road as possible to allow for landscaping to be provided between the tram and Edinburgh Park buildings. The stop location in the middle of Edinburgh Park would be required to be of a high quality architecturally and in keeping with the surroundings.

Murrayfield		Main points raised
Limited		
Scottish Equitable		Positive view of tram. About 50% of their staff currently use public transport to get to work. Scottish Equitable mentioned that their only concern regarding the introduction of a tram system is the physical visual impact.
British Telecom (BT)		Positive view of tram. The main concerns from BT were over the depth of construction and thus the likely impact on buried services, plus the visual impact of the tram on Edinburgh Park.
The Gyle Centre		<p>Very positive views were expressed as the tram stop at the Gyle Centre would facilitate access for both staff and customers. The option which crosses South Gyle Broadway and passes through the Gyle Centre would have an impact on the Gyle car park, as the trams are currently proposed to run across the car park area.</p> <p>The GMC pointed out that the Gyle Centre area is already very congested, and it may be preferable to reconfigure bus movements instead of trying to bring the tram to the current bus interchange.</p>
Gogar Burn		
Royal Bank of Scotland (RBS)		RBS were concerned about some broad-brush route alignment issues and specific issues in relation to the bridge over A8. Further discussions were suggested on a high level between the Board Chair and top bank officials.
Airport Area		
New Ingliston Ltd		Positive view of tram.
BAA - Edinburgh Airport		<p>Approved of tram in principle, but some specific concerns.</p> <p>The proposed tram route running to and from Newbridge via the Airport raises a general concern over the interface between two-way tram movements, pedestrian movement between the Airport and trams and buses.</p> <p>BAA indicated that any tram proposals should be consistent with, and not constrain, their future expansion plans</p>
Royal Highland Showground (RHASS)		The Showground receives 1.2 million visitors each year and the RHASS are keen to see the introduction of the tram scheme to help offset the loss of land and parking facilities (that are required for events) by transporting customers to and from the city centre.
Newbridge		
Edinburgh Gate (development site)		A representative from Edinburgh Gate expressed positive support for the introduction of trams. It was felt that the route via Ratho station could serve the Edinburgh Gate development. It was also suggested that due to space restrictions in certain locations and the fact that the tram would have to run shared on street, a one-way system for the Newbridge loop could be considered.
Impacted Property Report		Residents and businesses that may be affected in some way by the preferred corridor were contacted or visited about the tram route. This research found that resident groups in Baird Drive and Whitson Road registered opposition as the tram would closely affect their properties.

- 6.9 There was additional ‘focused’ consultation with the public on areas of the route which had not been fully defined or where additional alignment options or queries had arisen (Russell Road overbridge; Baird Drive; Depot; Gogarburn; and Newbridge). These areas were subsequently subjected to a further round of consultation and engineering scrutiny to ensure that the route taken forward complied with the scheme requirements and objectives.

6.10 The consultation did result in changes to the then proposed routes. The highlights of these are listed below:

- At Ingliston, proposals now terminate the main tram route at the Airport Terminal building, with any service to Newbridge being provided by a shuttle service from Ingliston.
- At Gogar, Option B, which avoids Gogar roundabout and is the most popular option, has been recommended as the final proposal.
- For Roseburn/Carrick Knowe, **tie** is proposing Option B (north of the railway line), in line with the response to the public consultation.
- For the Airport alignment, the preferred route is a principal service terminating at the airport, connecting at Ingliston Park & Ride with a shuttle service to Newbridge.

6.11 There was further technical work undertaken which, together with the consultation outcomes, influenced the Final Route proposals.

Parliamentary Process

Edinburgh Tram (Line 1) Bill (introduced by City of Edinburgh Council)

6.12 The Edinburgh Tram (Line 1) Bill was promoted in the Parliament on 29 January 2004 by CEC. Following its introduction, there was a 60 day period for objections, which ended on 29 March 2004. This resulted in 206 admissible objections.

6.13 The Edinburgh Tram (Line 1) Bill Committee was established and met for the first time on 30 June 2004. The Committee published its Preliminary Stage Report on 16 February 2005, which was debated by the Parliament on 2 March 2005. At the debate of 2 March 2005, Parliament agreed the general principles of the Bill, and that the Bill should proceed as a Private Bill⁴⁷. On 3 March 2005 the Parliament passed a financial resolution on the Bill.

6.14 The Committee then commenced the Consideration Stage of the Bill. This stage involved the consideration of objections and the detail of the Bill⁴⁸. At the start of Consideration Stage, the Committee grouped those objections which, in its opinion, were the same or similar. The result of this process was that of the 192 outstanding objections that remained following the conclusion of Preliminary Stage, 47 groups were subsequently agreed by the Committee.

⁴⁷ Private Bill Process Flowchart: <http://www.scottish.parliament.uk/business/committees/tram-one-tram-two/papers-04/tram-line-guidance.pdf>

⁴⁸ Consideration Stage initially a 10 stage process. 1. Objections Grouped; 2. Lead Objectors Identified; 3. Promoter and Lead Objectors submit a list of topics, a witness list, a witness summary and details of any amendments; 4. Committee selects witnesses; 5. Timetable for Evidence Set; 6. Promotor and Lead Objector submit Witness Statement; 7. Witness statements passed to other parties; 8. Revised Witness Statements submitted; 9. Committee Consideration commences; 10. Committee reports

- 6.15 Following informal discussions between the clerks and objectors, the Committee also agreed the ‘lead objectors’ for each group, to have responsibility for coordinating that group’s provision of evidence. Where an objection was not or could not be grouped, the original objector automatically became the lead objector for that “group”. The Committee had to arbitrate between the interests of the promoter and the interests of each of the remaining objectors and report on each outstanding objection⁴⁹.
- 6.16 The Consideration Stage Report was published on 1 March 2006, and in this report, the Committee gave its decision as to whether to uphold or dismiss each objection. Several objections were withdrawn before and during this first phase of Consideration Stage, as a result of negotiations between the promoter and objectors.
- 6.17 After the Committee had commenced Consideration Stage, it received a request from the promoter for it to consider a proposal to change the alignment of the tram route at two points – in the Haymarket Yards area and the Ocean Terminal area – which would take it outwith the limits of deviation. The Committee agreed that both these proposals merited consideration, meaning that it had to be made aware of any relevant arguments and objections in relation to each altered route. The promoter advertised the proposed route changes, notified affected parties and produced revised and supplementary accompanying documents explaining what the proposed amendments would involve. A new objection period was established and 5 objections were received.
- 6.18 During the course of the Consideration Stage, these objections were withdrawn and accordingly the Committee agreed in its Consideration Stage Report published on 1 March 2006 that these proposed route changes should be made to the Bill
- 6.19 At Final Phase, there was a final consideration of the Private Bill and a decision whether to pass or reject it was taken at a meeting of the whole Parliament. The Bill was passed following the Final Phase debate held on 29 March 2006.
- 6.20 The Bill received Royal Assent on 8th May 2006.

Edinburgh Tram (Line Two) Bill (introduced by City of Edinburgh Council)

- 6.21 The Edinburgh Tram (Line Two) Bill was promoted in the Parliament on 29 January 2004 by CEC. Following its introduction, there was a 60 day period for objections ended on 29 March 2004. This resulted in 85 admissible objections.
- 6.22 The Edinburgh Tram (Line 2) Bill Committee was established and met for the first time on 29 June 2004. The Committee published its Preliminary Stage Report on 9 February 2005, which was debated by the Parliament on 23 February 2005. At this debate of the 23 February 2005, Parliament agreed the general principles of the Bill,

⁴⁹ The Committee held meetings in the Scottish Parliament on 21 and 27 June, 5, 13, 19, 27, 28 September, 3 and 25 October, 7, 8, 14 and 29 November and 5 December 2005, at which it took oral evidence from the promoter, objectors and their witnesses. The Committee also took oral evidence at joint meetings with the Edinburgh Tram (Line 2) Bill Committee on 14 June and 1 November 2005. These meetings were limited to consideration of objections identical to both Bills

and that the Bill should proceed as a Private Bill.

- 6.23 The Committee then commenced the Consideration Stage of the Bill. At the start of Consideration Stage, the Committee grouped those objections which, in its opinion, were the same or similar. The result of this process was that of the 77 outstanding objections that remained following the conclusion of Preliminary Stage, 57 groups were subsequently formed by the Committee. The Committee also agreed “lead objectors” for each group, to have responsibility for coordinating that group’s provision of evidence.
- 6.24 Several objections were withdrawn before and during this first phase of Consideration Stage, as a result of negotiations between the promoter and objectors.
- 6.25 After the Committee had commenced Consideration Stage, it received a request from the promoter for it to consider a proposal to change the alignment of the tram route at two points - in the Haymarket Yards area and the Gyle area - which would take it outwith the limits of deviation. Such changes, if agreed by the Committee, would necessitate amendments to the Bill.
- 6.26 A new objection period was established and seven objections were received. The Committee subsequently agreed that the notification carried out by the promoter and the revised documents it produced were adequate, and that all the new objections should progress to Consideration Stage.
- 6.27 All of the objections in respect of the amendment at the Gyle were subsequently withdrawn and although not all of the objections in relation to the route change at Haymarket were withdrawn, the Committee agreed in its Consideration Stage Report published on 21 December 2005 that the route be amended as sought.
- 6.28 The Committee noticed that the essence of many objections to Line 2 related to the compulsory acquisition of the objectors’ land and rights in land, and the adverse local environmental impacts that objectors consider they will suffer. Having regard to all of the evidence, the Committee was satisfied that the benefits of the scheme outweighed the disbenefits and that an appropriate balance has been struck between the rights of those adversely affected by the scheme and its benefits to the wider community.
- 6.29 On 3 March 2005 the Parliament passed a financial resolution on the Bill. The Consideration Stage Report was published on 21 December 2005 and the Bill was passed following the Final Phase debate held on 22 March 2006.
- 6.30 The Bill received Royal Assent on 27 April 2006.

Objection Management

- 6.31 Not all objections were resolved during the parliamentary process. **tie** made extensive efforts to negotiate with objectors to try and reach agreement. As a result of these negotiations many objections were withdrawn. **tie** sent the objector a letter in comfort giving assurances to that individual/business that what had been agreed in the negotiation process would be put in place. Where negotiation was unsuccessful and **tie** and the objector reached a point where there was no further discussion, **tie** issued a

letter of closure, to indicate that everything possible had been done to negotiate with the objector and that no agreement was able to be reached. Where negotiations had come to a standstill **tie** issued a position statement, informing the objector what had been done so far, and inviting them to continue negotiations. A summary of this is set out in Table 6.3.

TABLE 6.3 OBJECTION MANAGEMENT

	Number of objections	Objections withdrawn	Agreement made	Letters of Comfort	Letters of Closure
Line 1	192	33	21	5	3
Line 2	77	49	36	5	11

- 6.32 For those whose objections were not resolved by agreement, or withdrawn, there is ongoing stakeholder consultation. Essentially the consultation exercise provides these remaining residents and businesses that still have issues with the opportunity to attend meetings and have input into the various stages of the design process.

Side Agreements

- 6.33 As a result of the objection management process, side agreements have been put in place with a number of objectors. These are managed by **tie**'s land and property team.

Update on consultation – recent developments

- 6.34 In late 2003, as the Private Bills for Tram Lines 1 and 2 were prepared for introduction to Parliament, a number of Community Liaison Groups (CLGs) were set up in key areas along the proposed routes⁵⁰.
- 6.35 **tie** and CEC recognise the importance of effective community liaison during the design process, and through to implementation of the tram network. As such, **tie** and partners are working with residents, businesses and others along the route to develop the best possible opportunities for consultation, discussion and explanation. In November 2005, a questionnaire was sent out to all those who attended the existing CLG meetings, asking for detailed feedback on the meetings, and asking for ideas on how meetings could be arranged in the future.
- 6.36 This feedback lead to a change in approach, following Royal Assent. This new approach has been put in place to ensure that those frontagers directly impacted by trams are dealt with on an individual basis so their specific thoughts and concerns can be fed into the design process. The wider public will also be consulted through larger meetings and exhibitions.
- 6.37 A Business Liaison Group has been set up for traders on Leith Walk and Constitution

⁵⁰ The CLG areas are Ratho Station, Baird Drive, West End, Leith Walk/Constitution Street, Trinity/Starbank, Lower Granton Road and Craighleith.

Street.

- 6.38 The Frontager Survey originally completed by Mott MacDonald in early 2005, which covered Leith Walk and Constitution Street, has been repeated and validated by Halcrow. Halcrow have undertaken a route wide frontager survey of all businesses and residents around the proposed route, excluding Princes Street and St Andrew's Square, which will be the subject of a separate consultation.
- 6.39 The Systems Design Services (SDS) consultants (Parsons Brinkerhoff) provide a team which provides stakeholder support by way of a stakeholder relationship manager and design manager responsible for stakeholder relations who have worked with **tie** to formulate a design specific consultation programme.
- 6.40 The aim of these design consultations is to enable direct, face-to-face discussion between the design team and affected individuals and **tie** to ensure that those affected by the tram have the opportunity for individual input. Other aims are to increase understanding of the decision-making process and the means by which individuals can influence the design, to increase knowledge and awareness, to encourage those affected by the tram to focus on practical issues and options, to collect detailed records of issues, concerns, ideas and preferences and to use these to inform the design, to maintain a dialogue throughout the design process in which each decision can be explained with reference to the documented concerns of the individuals who have contributed and finally to foster a direct, open and constructive relationship between **tie** and individuals around the route.
- 6.41 Meetings have been organised at 3 key stages in the design process:
- To feed information into the preliminary design (April-June 2006)
 - To present and explain the preliminary design and collect further feedback (August-September 2006)
 - To present and explain the final design and take comments on any aspects which may still be modified (November-December 2006)
- 6.42 Meetings have been organised for every section of the route, and invitations sent to all individual frontagers abutting the LOD, both residential and business. Separate, additional consultation events for the wider community to be organised at stage 2 (preliminary design), as mentioned below.
- 6.43 After a presentation by SDS and general question-and-answer session, attendees are invited to talk through and document their own issues, concerns and ideas on the consultation forms provided. These are transmitted directly to the individual designers working on each section, and provide an unambiguous record of the meeting.
- 6.44 The initial design consultation started on 24th April, and for the purposes of consultation, phases 1a and 1b of the route were divided into 14 sectors⁵¹. The

⁵¹ The 14 sectors are: Foot of the Walk - Constitution Street; Constitution Street – Leith Waterfront; MacDonald Road – Foot of the Walk; Picardy Place – MacDonald Road; Haymarket – Shandwick Place; Balbirnie Place; Roseburn Maltings; Craighleith – Crewe Toll; Roseburn – Craighleith; Granton; Murrayfield – Balgreen Road;

preliminary design review started in July 2006 and will finish by the end of 2006. Feedback from businesses and residents from the design review will feed into the final design, and final design meetings will be held in late 2006.

- 6.45 In addition separate consultation is taking place with the residents of Baird Drive based on **tie**'s obligations according to the Edinburgh Tram Line 2 Act 2006, in particular regarding plans for the construction of the network in that area.
- 6.46 Completed questionnaires which had been submitted to designers will be available for reference so that frontagers can see where their comments had been taken into account for the next stage of design, or if they had not they will be provided with an explanation.
- 6.47 Alongside the frontager meetings, the SDS stakeholder team have visited individual frontagers who had specific issues in order to discuss on a one to one basis.
- 6.48 At the moment, the next step is to receive comment from the frontagers on preliminary design.
- 6.49 At the same time as the second set of design consultation meetings in Sept – Nov 2006, there will be 6 further public consultations⁵². These will be exhibitions staffed by members of **tie** and the design team, who will provide project information and give members of the public on the background on why Edinburgh needs a tram network and the benefits it will bring. There is also the opportunity to look at the detail of the preliminary design and talk one to one with designers.
- 6.50 Further consultation groups have been convened for other stakeholders.
- 6.51 The Disability Access consultation group was set up in December 2005 and is held once every two months. **tie** has convened its own forum for the purposes of disability consultation by making contact with various disability interest groups.
- 6.52 The Cycling consultation group has also been ongoing since December 2005, and is made up from representatives from the Cyclists' Touring Club (the UK's national cyclists' organisation), SPOKES (a local cyclists' group also referred to as the Lothian Cycle Campaign) and Sustrans (a UK wide charity for the promotion of sustainable transport).
- 6.53 All of the objections in respect of the amendment at the Gyle were subsequently withdrawn and although not all of the objections in relation to the route change at Haymarket were withdrawn, the Committee agreed in its Consideration Stage Report published on 21 December 2005 that the route be amended as sought.
- 6.54 The Emergency Services Consultation, ongoing since the beginning of 2006, is made

Haymarket – Murrayfield; St Andrew Square – York Place; Shandwick Place – Princes Street East and Princes Street East – St Andrew Square.

⁵² These 6 consultations will cover the areas of Leith, Roseburn, New Town, Airport, Granton, Edinburgh Park (Western Approach).

up from representatives from Fire and Rescue, Lothian and Borders Police, the Coastguard, The Ambulance Service and CEC Emergency Planning Office.



7. DESCRIPTION OF PROPOSED SCHEME

This Chapter sets out a high level description of the proposed scheme for a number of areas, providing the basis for the appraisal set out in the next Chapter:

- Route alignment - noting stop locations, elements of major infrastructure and integration with the road network;
- Infrastructure – detailing key elements of infrastructure associated with the tramway;
- Tram vehicle specification;
- Tram operations;
- Capital and operating costs; and
- Bus network integration – setting out the proposals for the integration of Lothian Buses with Edinburgh tram.

Introduction

- 7.1 The proposed scheme now comprises a combination of elements of the former Line 1 and Line 2 proposals. These are described below.

Route Alignment

Phase 1a

Newhaven to Constitution Street

- 7.2 From Newhaven Stop on Lindsay Road to Ocean Terminal the tram will run segregated parallel to the street then on-street for a short section. A new retaining wall structure, approximately on the line of the existing pedestrian ramp, will provide access from the Lindsay Road to Dock Road. The alignment runs parallel to the existing road, segregated running to the tramstop at Ocean Terminal, where a turnback facility is provided.
- 7.3 From Ocean Terminal, the tramline runs on-street along Ocean Drive, over the existing bridge at the Victoria Dock entrance and the existing Tower Place bridge, both of which will be modified to accommodate the tramway. A tramstop will be provided off-street on Ocean Drive near the new casino and proposed residential developments, from where the alignment runs off-street as far as Tower Street.
- 7.4 From Tower Street to Foot of the Walk, the tramway runs on-street, a mixture of segregated and non-segregated. Platform stops are provided between Bernard and Queen Charlotte Streets.

Foot of The Walk to York Place

- 7.5 The tramlines will run on-street (centre running) for the length of Leith Walk from Foot of The Walk to Picardy Place.
- 7.6 Platform stops, located centrally between tram lanes, are proposed at Foot of The Walk, Balfour Street, and McDonald Road.

7.7 The London Road and Picardy Place junctions will be modified as necessary, possibly retaining roundabouts, and there will be a platform tramstop at Picardy Place, within the general area of the existing car park fronting the Holiday Inn Hotel.

7.8 The tram will cross the junction of Broughton Street, and will be centre running along York Place, to the northeast corner of St Andrew Square

City Centre

7.9 The layout of the tramline through St Andrew Square will consist of either a single track around a loop consisting of St Andrew Sq West (South and North St David Street), Queen St, St Andrew Sq East (North and South St Andrew Street), and Princes Street, or a twin track running along the east side of the square in St Andrew Street. Under the former arrangement, there will be two stops one serving eastbound and one west bound passengers; under the latter, there will be a bi-directional stop close to the Bus Station. (These options are under development with CEC, with finalisation and identification of the preferred option expected in Q1 2007.)

7.10 From the junction of South St David Street and Princes Street the tram will continue along Princes Street, as double track, on a specially developed public transport route closed to general traffic. There will be a single stop located between Hanover Street and Frederick Street. The alignment will continue to the west of Princes Street across the junctions with South St.Charlotte Street and Lothian Road. From the West End the route will continue on a central alignment along Shandwick Place, with an island stop located between Atholl Crescent and Coates Crescent. Continuing towards Haymarket along West Maitland Street the tram will be centre running reaching Haymarket Junction, where there will be a revised roundabout configuration. The roads around the junction, such as Morrison Street and Dalry Road will also be re-configured. A stop is proposed on a viaduct structure which will carry the tram off street parallel to Haymarket Terrace. The stop will provide an interchange with the Haymarket heavy rail station.

7.11 West of this stop the alignment will make its way between Rosebery and Elgin House to run parallel to the heavy rail track alongside Balbirnie Place.

Roseburn to Carrick Knowe

7.12 The alignment continues parallel to the railway line to bridge over Russell Road. From here the tramline skirts around the northern boundary of the ScotRail depot. The tram alignment will be supported by a retaining wall to the rear of the business properties fronting onto Roseburn Street. An elevated stop is proposed immediately opposite the Murrayfield turnstiles, which will service the stadium and the surrounding area.

7.13 The tram will cross Roseburn Street on a viaduct and then continues to the south of the rugby stadium on a retaining wall, which will extend the existing rail embankment. The tram route continues to the south of the training pitches where the increased space allows for a steep grassed embankment in preference to a vertical wall. A new bridge will be provided over the Water of Leith, and to the west the tram continues on a grassed embankment. The residents of the adjacent properties in Baird Drive will be screened from the operation of the tram by planting at the foot of the embankment and

noise barriers at the top. The tram will cross Balgreen Road on a bridge at the same level as the railway. A tramstop to the west will be accessed by a ramp from Balgreen Road. The tram will continue along the south of Carrick Knowe Golf Course in the area reserved for a dedicated transport corridor, and then rises to cross to the south of the railway on a new bridge at the west end of the golf course.

Carrick Knowe to Edinburgh Park

- 7.14 Between Carrick Knowe and South Gyle Access the tram will follow the alignment of and will replace the guided busway, which currently runs parallel to the railway. Two existing bridges over Saughton Road and Broomhouse Drive will be converted for use by the tram. Stops will be provided adjacent to Saughton Road and South Gyle Access.
- 7.15 The tram will cross South Gyle Access on a new bridge and then run in the verge beside Bankhead Drive and the railway. A stop will be provided at Edinburgh Park Station to allow for interchange for passengers between light and heavy rail.
- 7.16 The tram alignment will then rise onto a viaduct and turn north to recross the railway and enter the Edinburgh Park development area. The tram will run in a reserved public-transport corridor, which has been included in the business park masterplan, and a stop will be provided at the centre of the park.

Gogar Junction

- 7.17 The alignment crosses Lochside Avenue and South Gyle Broadway at signalised junctions and a stop will provide access to the Gyle shopping centre. The Tram will pass underneath the A8 and the roundabout slip roads in a new tunnel structure.

Depot

- 7.18 A depot site has been identified between the Fife Rail Line and Gogar Roundabout. This utilises a small triangle of waste ground and some agricultural land at the edge of the greenbelt. The depot site is bounded to the north by the line of the proposed Edinburgh Airport Rail Link. The depot will be constructed at a low level in order to minimise visual impact and to avoid disruption to the airport runway flight path, hence a significant amount of excavation will be required to lower the existing ground level by approximately 7metres.
- 7.19 A depot building will house staff accommodation and control room for the system, together with maintenance facilities and storage. Stabling will be provided for the tram fleet, with an allowance for future fleet expansion.

Gogarburn

- 7.20 The alignment continues west parallel to the A8 to a new stop at Gogarburn, which will serve the Royal Bank of Scotland's World Headquarters. The alignment around Gogar Church has been selected to minimise impact on expected archaeological remains, the setting of listed buildings and a scheduled ancient monument, along with the ecological issues along the Gogar Burn, which will be crossed on a new bridge.

Ingliston and Airport

- 7.21 The alignment will run west through farmland to Ingliston, crossing the proposed EARL line on a bridge. The existing Park and Ride facilities at Ingliston will be extended to serve a tramstop. To the north the tram will run alongside the Gogar Burn, through the rear of the airport hotel car park and cross the airport service road. The terminus stop will be on the site of Burnside Road and will allow for future inclusion within a transport interchange hub including access to the heavy rail link, the tram, buses and taxis. A covered walkway, constructed by Edinburgh Airport, will provide access to the airport terminal building.

Phase 1b

Granton Square to Ferry Road

- 7.22 The tram will run through the Granton Waterfront development area from Granton Square to the junction of West Granton Access and West Granton Road, at the northern edge of Pilton. This area is currently undergoing comprehensive redevelopment and as such the tram alignment has been determined primarily through the development master-planning process. The tram alignment continues along West Granton Access and through the junction at Ferry Road. Stops are planned at Granton Square, Waterfront Avenue, West Granton Access, Caroline Park and Ferry Road (Crewe Toll).
- 7.23 The planned stop at Granton Square has a potential positive effect on the townscape by reinforcing what is currently a rather neglected nodal point in the urban fabric. From Granton Square to the junction between West Harbour Road and the new spine road, the tram will run on a segregated alignment along the north side of West Harbour Road.
- 7.24 Through much of the Granton development area, the tram will form part of a transport boulevard along the new spine road. The design for this area will be developed in conjunction with the planners and developers so that the tram forms an integral part of the development. In particular the materials used will reflect the design intentions of the masterplan. Midway along Waterfront Avenue there will be a tramstop (Granton Waterfront) and also a stop at Caroline Park near the junction with Waterfront Broadway. Both stops will be designed to fit with the surrounding landscape, with platforms slightly raised and blending with the surrounding pavements.
- 7.25 The redevelopment of the Granton Waterfront area is so extensive that its character is primarily one of change, so it is only slightly sensitive to further change. The introduction of the tram system has already been designed in the masterplan.
- 7.26 The tram route through Pilton is along a reserved corridor on the west verge of the newly constructed West Granton Access from West Granton Road to Ferry Road, with a stop positioned approximately mid-way along West Granton Access.
- 7.27 The tram will be constructed along the broad grass verge to the new road, temporary infill opened up under part of the span of the bridge carrying Crewe Road Gardens over West Granton Access.
- 7.28 To improve what is currently a fairly bleak townscape it is envisaged that the track-bed will be in-filled with grass and the route will be landscaped with any vegetation