



• EDINBURGH •
THE CITY OF EDINBURGH COUNCIL

EDINBURGH TRAM DESIGN MANUAL



APPROVED 1 DECEMBER 2005 (AMENDED 12 JANUARY 2006)

愛丁堡電車設計手冊

এডিনবরা ট্রাম পরিকল্পনা সম্বন্ধে লিখিত বর্ণনা

ایڈنبرا کیلئے ٹریم کے ڈیزائن کا ہدایت نامہ

دلیل استخدام تصامیم فریق اینجیر

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LTS	Local Transport Strategy 2004-2007 as approved by the City Council in March 2004		



Part 1

Strategic Overview

- 1 Introducing the Tram Design Manual
- 2 Delivery
- 3 Strategic Aspirations
- 4 Strategic Design Principles
 - (a) Tram System
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SECTION 1 – INTRODUCING THE TRAM DESIGN MANUAL

INTRODUCTION

- 1.1 The introduction of a major infrastructure project, such as a tram system, into an established urban context of the highest quality will, by its very nature, create significant change. The new system must be designed to make a positive contribution to the city. The principal means of ensuring this is through good design- ensuring the tram fits within the context of the city, is integrated into the townscape and reflects the identity of Edinburgh. All this requires great attention to detail.
- 1.2 Furthermore, good design requires a holistic process that addresses the nature of the city, responding equally to the inherited townscape, accessibility for all, traffic circulation and management, operational efficiency, sound engineering and economic prosperity. A holistically designed system, where all aspects of the tram are well resolved and integrated with context will provide an elegant and accessible resource and be a catalyst to future development.
- 1.3 The role of the Design Manual is to set out the context and requirements and mechanisms for achieving quality design for the Edinburgh Tram Project and to play a key part in the process of procuring a high quality design product.

EDINBURGH TRAM MAP

- PHASE 1A - AIRPORT TO LEITH WATERFRONT
- PHASE 1B - HAYMARKET TO GRANTON
- PHASE 2 - GRANTON TO LEITH WATERFRONT
- PHASE 3 - AIRPORT TO NEWBRIDGE



STATUS, SCOPE, ROLE AND INTERPRETATION OF DESIGN MANUAL

STATUS

- 1.4 The Design Manual was approved as supplementary planning guidance by the Planning Committee on 1 December 2005 and amended 12 January 2006. It has been developed and refined in consultation with key stakeholders, and was placed on public consultation from the 8th July 2005 to the 9th September 2005.
- 1.5 The Design Manual acts as a reference point against which all submissions to the City of Edinburgh Council as 'Planning Authority' will be assessed, and will be incorporated into the contracts for the design and subsequent construction of the tram system.
- 1.6 The Design Manual was noted in its approved form by the Executive of the Council on the 20th December 2005.

SCOPE

- 1.7 The Design Manual outlines the aspirations for the entire tram system and sets out the guidelines for the fixed infrastructure.
- 1.8 The tram system is important to act as a catalyst for promoting quality design within the public realm and its integration into the townscape and existing structure of the city is key to its success. While the tram system will only be responsible for the sections of the public realm that fall within the Tramway Path, CEC recognises that an important opportunity arises to improve the quality of streets and public spaces, within Edinburgh, to a level commensurate with the quality of the city's built heritage. A wider Public Realm Strategy, therefore, is being undertaken to complement the tram system and must be developed along side it.



GRENOBLE



NOTTINGHAM



ROLE

1.9 The Design Manual will:

- Clearly set out the quality of design required and guide the preparation of procurement specification.
- Ensure an open and robust decision-making process, by providing criteria against which decisions concerning the tram system can be evaluated.
- Encourage an open decision-making process, which involves key parties, to help facilitate an efficient delivery process.
- Regulate the decision-making process by allowing consistent approach/response by those involved.

1.10 It has three key roles:

- To outline aspirations and set the design objectives to influence the design process in delivering the system as a whole.
- To constitute an important tool to check that the detailed design and implementation meet the standard required to deliver a quality tram system.
- To act as a form of supplementary planning guidance – the key document, to be used by the Planning Authority, in assessing design details at the prior approvals stage.



INTERPRETATION

- 1.11 The Manual is a holistic document and should be read as such. However, the three key roles outlined above are broadly reflected in the document as follows:-
- Part 1 of the document sets out the ‘Strategic Overview’ which provides the context, strategic aspirations and strategic principles that will influence the design process as well as outlining how the design programme will be delivered. To ensure the fit of the system with the city’s townscape and provide the link with the detailed design requirements, a series of assessments will be prepared that consider all spaces and sections of the tram route.
 - Part 2 of the document covers ‘Detailed Design Requirements’ which will form the basis of design information that will be used in assessing design, planning and procurement.
 - The document as a whole will be a consideration in the determination of any prior approvals or other approvals to be obtained from the Planning Authority. It should be noted that not all of the elements of the tram infrastructure will require consent from the Planning Authority. The extent of control that the Planning Authority will have will be determined by the Tram legislation. Appendix 2 outlines what is likely to be controllable by the Planning Authority (further advice on this issue is provided in the following section ‘The Role of the Council’).
- 1.12 The requirements of the Design Manual apply not only to applications under planning legislation but also to other consents that will be required, such as Traffic Regulation Orders, Building Warrants and Scheduled Monument Consent.

THE ROLE OF THE COUNCIL

- 1.13 The Council has two specific roles in delivering a tram system. The Council has a role as the project promoter and as the Planning Authority. It is important that these roles are specified as they relate to how the aspirations and principals of this document will be delivered.

THE COUNCIL AS PROMOTER

- 1.14 The Council is committed to ultimately delivering a tram system for Edinburgh. The Council is working with tie to promote Bills for Tram Lines 1 and 2 through the Scottish Parliament. In its role as promoter the Council will have to put in place all the elements required to allow the tram system to be implemented. With regard to the design of the system the Council through the Tram Project Board will have to take decisions on strategic issues relating to the project. Examples of such decisions include whether the system will be wire-free or whether advertising will be allowed on the exterior of trams.

THE COUNCIL AS THE PLANNING AUTHORITY

- 1.15 The provisions of the Tram Bills (once enacted) will give the authorised undertaker the power to construct the tram system. However, it is likely that submissions to the City of Edinburgh Council, as Planning Authority, for prior approvals under (Class 29) Part 11 of Schedule 1 to The Town and Country Planning (General Permitted Development) (Scotland) Order 1992 will be required. ‘Prior approval’ is not quite the same as planning permission. *“Approval may only be refused or given conditionally if the development ought to be and could reasonably be carried out elsewhere on the land designated (i.e., within limits of deviation), or the design or external appearance of any building or bridge etc would injure the amenity of the neighbourhood and is reasonably capable of modification to avoid such injury”.*
- 1.16 Appendix 2 sets out different elements of tram infrastructure and the consent that will most likely be required under planning legislation for these works. Appendix 3 sets out the prior approval process that will be used for processing planning applications.

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遠設計手冊解說要在愛丁堡電車計劃中遠致優質設計所需要具備的內容、要求及結構。愛丁堡市議會作為「規劃當局」在評估建議書時，會以此為參照，同時，設計手冊在採購過程中是重要的部份。欲查詢本文件的翻譯資料，請致電愛丁堡市議會傳譯及翻譯服務部(ITS)，電話0131 242 8181並說明檔案編號06060。

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شرح دليل استخدام التصاميم السياقي والمتطلبات والاليات لتحقيق التصاميم ذات التنوعية لجيدة لمشروع فريق إدنبور، وسيكون نقطة مرجع تقييم على أساسه الطلبات التي يتم رفعها لمجلس بلدية مدينة إدنبور باعتبارها "سنة التخطيط" كما سينصب دورا مهما في عملية الحصول على المشوريات. للمعلومات حول ترجمة هذه الوثيقة إلى لغة جانتك الرجاء الاتصال مكتب خدمة الترجمة الفورية والتحريرية على رقم الهاتف 0131 242 8181 وذكر الإشارة رقم 06060

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- 2.1 The Edinburgh Tram Project is a major transportation project for the city but its delivery has wider implications than just impact on transport opportunities. The delivery of the tram system must be accompanied by the development of wider public realm improvements along the route.

AN INTEGRATED APPROACH TO WORKING

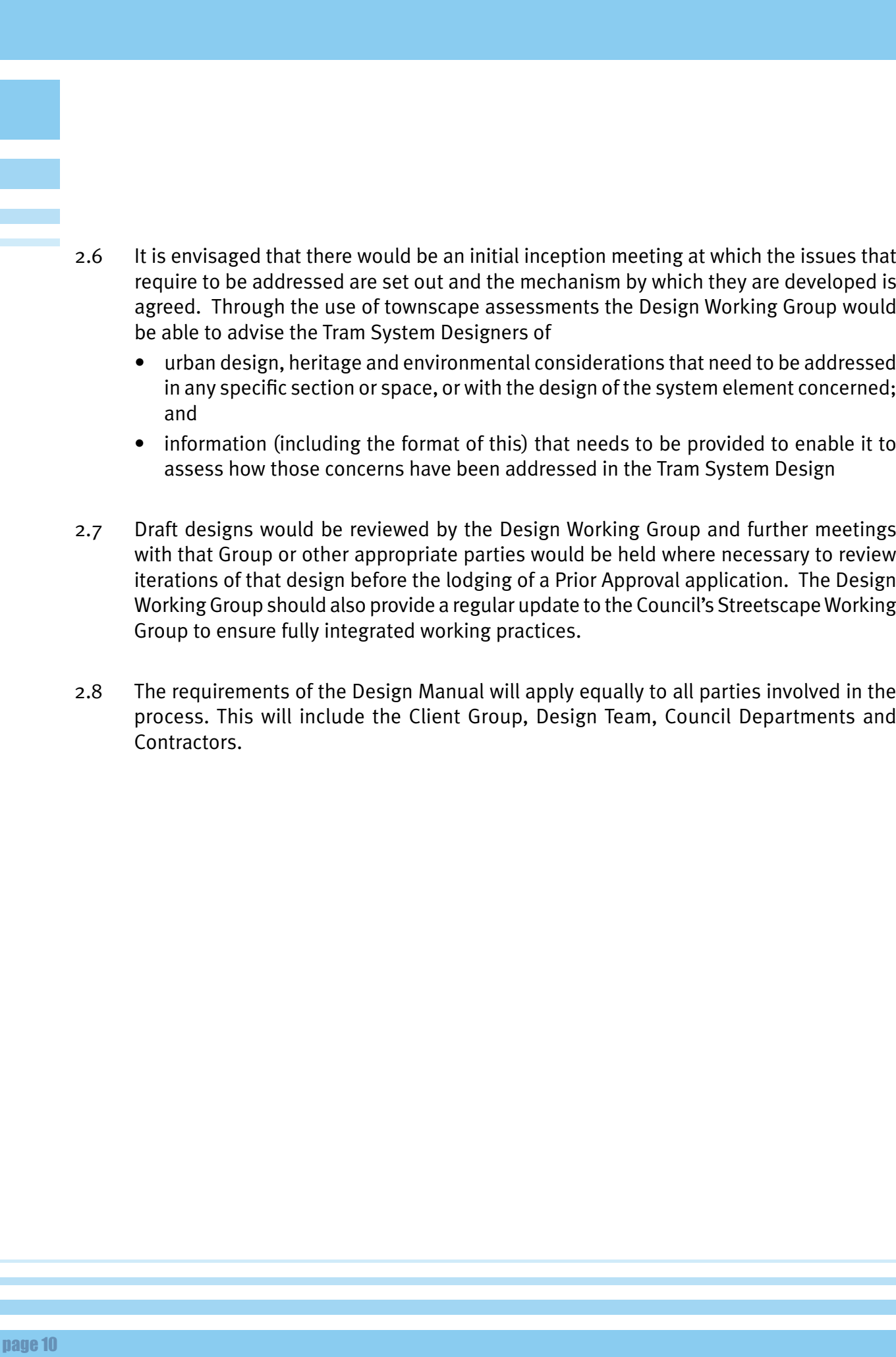
- 2.2 In the case of any major new scheme that touches on all aspects of public life in the City, good design can only be brought about by an effective working partnership. An partnership approach is required throughout the entire design process, running from conception to completion and aftercare. This is to be achieved by the creation of a Design Working Group.
- 2.3 The Design Working Group will include representatives from the City Development Department - both Planning & Strategy and Transport Planning Sections, Historic Scotland, and the Tram System Designers and may include other bodies such as the Edinburgh World Heritage and Architecture and Design Scotland. The precise working arrangements are the subject of an agreed protocol.
- 2.4 The Design Working Group will give advice with regard to proposed Prior Approval applications, including the supporting information that needs to be provided with these, especially design and environmental impact. It will also ensure that the detailed development of the tram system allows for the concurrent or subsequent development of a wider public realm.
- 2.5 In terms of developing the Tram System Design, there are some elements that will need to be dealt with on system-wide basis (e.g. overhead line equipment) and other elements which can be carried out in geographical sections.



STRASBOURG



MONTPELLIER

- 
- 2.6 It is envisaged that there would be an initial inception meeting at which the issues that require to be addressed are set out and the mechanism by which they are developed is agreed. Through the use of townscape assessments the Design Working Group would be able to advise the Tram System Designers of
- urban design, heritage and environmental considerations that need to be addressed in any specific section or space, or with the design of the system element concerned; and
 - information (including the format of this) that needs to be provided to enable it to assess how those concerns have been addressed in the Tram System Design
- 2.7 Draft designs would be reviewed by the Design Working Group and further meetings with that Group or other appropriate parties would be held where necessary to review iterations of that design before the lodging of a Prior Approval application. The Design Working Group should also provide a regular update to the Council's Streetscape Working Group to ensure fully integrated working practices.
- 2.8 The requirements of the Design Manual will apply equally to all parties involved in the process. This will include the Client Group, Design Team, Council Departments and Contractors.

A COMMENSURATE QUALITY OF TOWNSCAPE AND PUBLIC REALM DESIGN

- 2.9 The proposed tram system is important not only as a new public transport project but also, as a strategic piece of new development, to act as an important catalyst and promote quality design within the townscape and public realm of the city.
- 2.10 Partnership working will be needed to ensure that an appropriate strategy for Edinburgh's wider public realm can be put in place to complement works undertaken as part of the tram project. Fitting the tram route and its alignment into the townscape is the first stage of the design process. An understanding of the urban design issues that apply to a section of the tram route or a specific space along the route are required in order to achieve quality of design. This wider townscape assessment is essential in order for the tram to fit comfortably within a wider public realm and to realise the opportunity to improve the quality of streets and public spaces to a level commensurate with the quality of the city's built heritage.
- 2.11 In order to ensure that a piecemeal approach is avoided, a joint programme of public realm works must be drawn up by the Council with input from key stakeholders, in tandem with the proposed tram implementation programme. This is essential to minimise disruption on site and to minimise abortive works.



ORLÉANS



DESIGN WORK PROGRAMME

- 2.12 The design work will be carried out for tie under a contract, known as System Design Services (SDS). The detailed design will be carried out against a pre-determined sequence of priority. The project will be broken down into stage builds and, within these, sectors for design and construction purposes. The stage builds are large portions of each line, based on being suitable parts of the project to be independently energised and commissioned.

- 2.13 The sequence will be developed based on several criteria. There are some sections that are needed early in the construction programme (such as the depot) and there are sections that are anticipated to take longer in the design and consultation/approval process due to their nature (e.g. through the World Heritage Site). Further, there might be trials required of construction technique before actual construction commences. As noted above, there are also certain system wide elements that need to be designed early for application throughout. A more detailed programme will now be developed as the SDS provider has been appointed.

- 2.14 It is the aim to carry out as much design as possible and take the approvals process as far as possible based on the priority identified, before the infrastructure contractor is appointed. This will minimise the further design work to be carried out under the Infrastructure Contract and allow construction work to proceed as rapidly as possible. Formal approvals can only be made once Royal Assent is given to the bills in the Scottish Parliament.

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SECTION 3 – STRATEGIC ASPIRATIONS

EDINBURGH'S CONTEXT

- 3.1 It is vital that those involved in the design and implementation of the proposed tram system understand the townscape, heritage and environmental context of the city. To be successful, the tram must be seamlessly integrated into the urban fabric. This chapter examines Edinburgh's distinctive context.



NEW TOWN: PRINCES STREET



PORT OF LEITH



GRANTON



GREENBELT, GOGAR



RAILWAY CORRIDOR, STENHOUSE



BALBIRNIE



EDINBURGH AIRPORT



EDINBURGH PARK



GOGAR CHURCH




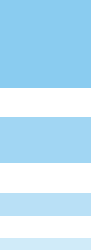

HERITAGE AND TOWNSCAPE

- 3.2 Edinburgh enjoys an international reputation as one of Europe's most attractive cities. The townscape of the city centre has long been recognised as a work of art in its own right and one of the UK's principal heritage assets. It is a UNESCO designated World Heritage Site, renowned for its unique architectural heritage.
- 3.3 The Georgian New Town “constitutes the most extensive example of a Romantic Classical city in the world. The juxtaposition of the Old and New Towns across a landscaped divide creates a capital city of world renown”.
- 3.4 The value of the city's heritage is reflected in the fact that one third of the city has conservation area status. This is reinforced by the presence of numerous listed buildings, scheduled ancient monuments and designed landscapes.
- 3.5 The proposed tram routes pass through diverse elements of Edinburgh's heritage and townscape, from the medieval street pattern of the Old Town, the structured urban design of the Georgian New Town, both also displayed in the townscape of Leith, the Victorian and Edwardian residential expansions which ring the city centre, and the 20th -century suburban and peripheral developments to the emerging waterfront developments at Newhaven and Granton. The proposed route also encompasses significant areas of rural landscape. This essential character is described in the Conservation Area Character Appraisals, with more specific references presented in the World Heritage Site Management Plan.
- 3.6 The sensitivity and quality of Edinburgh's townscape will therefore present challenges for tram system design.

POLICY CONTEXT

- 3.7 These contextual factors as well as those relating to the demographic, cultural and economic context of the city are recognised in various Council policies. Of particular relevance are policies contained within the Development Plan and the Local Transport Strategy.
- 3.8 The current Structure Plan, for instance (Structure Plan for Edinburgh and the Lothians 2015) contains a vision for Edinburgh referring to “the attractive environment of Edinburgh and the Lothians and the landscape setting of the capital city will be retained and enhanced. The unique blend of a world class city, a growing city region and an outstanding natural and built environment will characterise Edinburgh and the Lothians in the 21st Century.” The Plan is founded on strategic aims seeking
- To maintain and enhance economic competitiveness
 - To promote a more inclusive society
 - To protect and enhance the natural and built environment
 - To integrate land use and transport
- 3.9 All within an overarching aim “to provide in full for the development needs of Edinburgh and the Lothians in accordance with the principle of sustainable development, whilst maintaining and enhancing the environmental heritage that underpins the area’s quality of life.”
- 3.10 Trams are a key component of the strategy for public transport investment in Edinburgh and this is recognised within the Structure Plan.
- 3.11 The other element of the Development Plan – local plans – also include numerous policies relating to protection of the environment, the need for quality design, and commitment to delivery of high quality public transport and streetscape. The route of the tram runs through various local plan areas – Central Edinburgh, East Edinburgh, West Edinburgh, North West Edinburgh and Rural West Edinburgh. The up-to-date position regarding local plans can be viewed on the Council’s web site at:
<http://www.edinburgh.gov.uk> (on Planning and Building Control page).
- 3.12 On the 26th May 2005 Planning Committee approved General Planning Provisions for New Development on or Near Safeguarded Tram Routes. This is contained in Appendix 4.

- 
- 3.13 In addition to the statutory development plans there is a raft of supplementary planning guidance. This ranges from citywide guidance outlined in the “Edinburgh Standards for urban Design” and the emerging Edinburgh Standards for Streets”, geographically specific guidance – such as the Leith Docks Development Framework (approved in December 2004) to issue specific guidance contained in the Development Quality Handbook. These guidelines aim to raise the quality of design in the built environment. (see Appendix 6)
- 3.14 The Council is keen to ensure that the proposed tram will enhance the image of the city and demonstrate the city’s commitment to high quality modern design and engineering that emphasises creativity and innovation and avoids prescription and pastiche. The “Edinburgh Standards for Urban Design” set out the Council’s aspirations for a creative and innovative approach to new development which draws on and interprets the city’s past. The principles set out in that document are intended to:
- Maintain and improve the visual image and identity of Edinburgh as a European capital by raising awareness of the city’s structure and the importance of its key structural components
 - Ensure that strong pressures for development are directed to achieve better design quality in both the assemblage of buildings and their setting. An appropriate and durable fit of new development in its setting is sought
 - Ensure high quality urban design is sought for new development across the whole city
 - Foster greater interest in the contribution of new development to improving the public realm and commitment to the making of places for people to appreciate and enjoy”
- 3.15 The Standards describe Edinburgh’s character as stemming “from the relationship between its natural and built form, the configuration of buildings and city structure, the composition of historic buildings and tenement setting and the contrast between planned and organic, enclosure and openness”.



3.16 The emerging “Edinburgh Standards for Streets” will be a key reference document with regard to ongoing tram design work. This is currently at a draft stage and subject to a city wide consultation. The final document is expected in 2006.

- 3.17 The key ‘principles’ set out in the Edinburgh Standards for Streets are:
1. Preservation of the historic fabric and grain of the City, particularly the World Heritage Site
 2. Respecting and enhancing local character
 3. Facilitating the process of placemaking
 4. New Streets to contribute to formation of a recognisable urban grain
 5. Experimentation- a willingness to see what works
 6. Achieving an aesthetic quality
 - reduction of clutter
 - high quality materials
 - minimum palette of materials
 - simple, clean designs
 7. Co-ordination of design and colour
 8. Inclusive access for all road users
 9. Maintaining and managing the existing and improved environment
 10. Delivery through process and protocols

The Standards bring together the city’s aspirations for the public realm of Edinburgh’s Streets.

3.18 The Management Plan for the World Heritage Site states, “ *the city must strive for the standard which reflects the Site, both in the maintenance and in the enhancement of the public realm*” and seeks “*to support actions and initiatives that mitigate the negative impacts of vehicular traffic*”.

3.19 Clear strategic objectives have also been set out in CEC’s Local Transport Strategy (LTS). These are addressed in more detail in the later part of this section relating to “Tram System Aspirational Objectives”. (See Appendix 1)

THE IMPORTANCE OF GOOD DESIGN

- 3.20 The objective is to provide a high quality tram system for Edinburgh that embraces the best practice demonstrated in other European cities, and is of a standard appropriate to the city's world-renowned status.
- 3.21 The use of a holistic approach to design will ensure that the proposed tram system reflects and integrates positively with the quality of Edinburgh's world-renowned townscape. Contextual analysis through townscape assessments will inform the alignment of the tram route as well as establish how stop and structure locations and their designs are defined.
- 3.22 It is also important to establish an ordering principle for considering the relative importance of streets and spaces throughout the tram system. A new tram system presents an opportunity for greater integration within the city, linking old and new communities, linking areas of affluence and poverty. It can help to provide access for all across the city, including visitors and tourists. It has the potential both to create a new type of urban space for Edinburgh, a type not dominated by the car, and to civilise the city.
- 3.23 Perceptions of Scotland are framed in large part by the capital city; in turn the key areas and features of the City Centre influence perceptions of the capital city. There is an important opportunity for Edinburgh's tram system to become not only an icon for the city, but one that is of national relevance. The design approach to be followed needs to take account of the following.
- ▶ **GOOD ENOUGH IS NOT ENOUGH**
 - ▶ **DESIGN TO CONTEXT**
 - ▶ **ADOPT AN ORDERING PRINCIPLE**
 - ▶ **CONSISTENT APPROACH**
 - ▶ **INSTANTLY RECOGNISABLE TRAM SYSTEM**

GOOD ENOUGH IS NOT ENOUGH

- 3.24 The tram system will be highly visible and attention to its design is essential in ensuring a visual and cultural fit into Edinburgh's townscape. Boldness, simplicity, style and elegance are fundamental characteristics of the design philosophy but should not seek to challenge the fundamental character of the city.
- 3.25 Edinburgh's World Heritage Site status dictates that a solution of the highest quality is required if the new tram system is to be successfully implemented. A quality approach to design at each stage of the design and implementation processes, including quality of decision-making, along with an appropriate timescale in which to realise such a quality approach are prerequisites of the desired solution.
- 3.26 Merely "good enough" is "not enough" and would neither allow the realisation of quality design that is commensurate with the world-renowned city of Edinburgh nor satisfy the council's aspirations set out in Guidance and Policy documents.
- 3.27 Design and the design process is key to delivering the necessary urban design and townscape solutions required.

DESIGN TO CONTEXT

The proposed tram routes pass through a significant number of urban and rural areas, each with its unique and distinctive character, as explained in the previous section. The tram system should integrate with its context, or rather, contexts, as the routes proposed pass through many townscape and landscape character areas each with unique and distinctive qualities. These range from the World Heritage Site and Conservation Areas, waterfront areas (both conservation areas and major new development areas), areas of more rural character, and areas of regeneration.

ADOPT AN ORDERING PRINCIPLE

- 3.29 It is not intended that a rigidly defined hierarchy be applied to the tram routes. However it is important to establish an ordering principle for considering the relative importance of streets and spaces along the route. Through systematic reasoning the most important streets and spaces can be identified for higher levels of investment.

CONSISTENT DESIGN APPROACH

- 3.30 Despite the need to take account of context, a consistency of approach is also required in relation to design details throughout the tram's entire route. This will reinforce the principle of being recognisable where this is considered appropriate.

AN INSTANTLY RECOGNISABLE TRAM SYSTEM

- 3.31 The visual perception of the tram is extremely important and all aspects of the tram system, from engineering infrastructure to associated literature, must reflect this. The entire tram system requires a recognisable and cohesive identity.



GRENOBLE



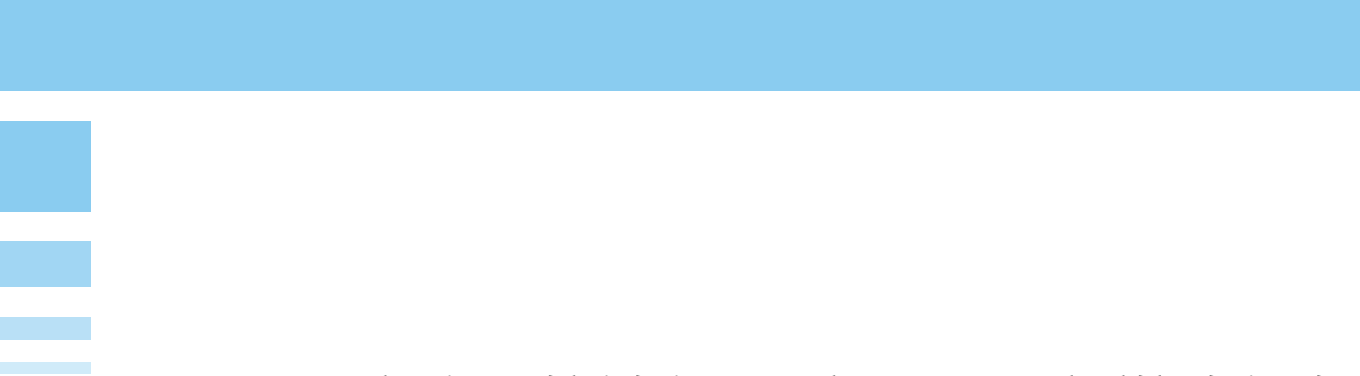
ST. ANDREW SQUARE



MONTPELLIER

STRATEGIC PRINCIPLES

- 3.32 The Council aspires to provide Edinburgh with a modern and efficient tram system, which forms the backbone of an integrated public transport system that is accessible to all and which will become a first choice mode of travel. The following strategic principles will apply to the tram system.
- 3.33 Achieving an appropriate design solution that respects the integrity of Edinburgh's townscape is of critical importance. In order to set the appropriate standards of quality, the Design Manual sets the benchmarks for the minimum quality of design that will be acceptable in Edinburgh. Furthermore, Edinburgh's World Heritage status presents a very specific set of challenges that must be addressed if the tram project is to be successfully delivered.
- 3.34 The following Strategic Principles will apply to the tram system:
1. Only a high quality tram system, in keeping with Edinburgh's outstanding cultural status and environment, shall be developed. The tram should become a symbol of the City's aspirations for its future image.
 2. The tram system must provide rapid, reliable journeys and be attractive to passengers. The success of the system will depend on the number of people who use it.
 3. The public realm along the tram corridor should be considered and, where desirable and feasible, upgraded as a whole, wall to wall, and designed to be appropriate to its context, recognising the tram acting as a catalyst for additional investment.
 4. The tram system should be designed to facilitate access by all groups living, working and visiting the City.
 5. The tram system should be designed to meet the Council's sustainability objectives, providing this does not impact on the quality of the system.
 6. While the aspiration is for a wire free system, in whole or in part, this has been demonstrated to be not currently practicable. An alternative sensitive design based on overhead wires shall therefore be pursued.
 7. The infrastructure associated with the tram and all other street furniture should be co-ordinated to minimise the impact of clutter on the street scene.

- 
8. **Tram stop locations and their design should serve travellers effectively, should complement established urban form, have cognisance of the setting of listed buildings and should act as a catalyst to regenerate areas.**
 9. **The tram system should be designed to maximise integration opportunities with other forms of public transport, in order to facilitate ease of modal interchange.**

2.35 These Strategic Principles, other Council strategies and planning guidance will apply to the tram system. The final design proposals will be evaluated against the requirements of this document. In particular, the Council's current Local Transport Strategy 2004-2007 (LTS), dated March 2004, contains objectives that will be used as the overall transportation objectives for developing the tram proposals. The current aims of the Local Transport Strategy that are considered particularly relevant to the tram system are:

- To reduce the environmental impacts of all travel
- To support the local economy
- To improve safety for all road and transport users
- To promote better health and fitness
- To reduce social exclusion
- To maximise the role of streets as the focal point of local communities, where people can meet, shop, and, in appropriate circumstances, children can play.

2.36 These aims lead to the following objectives in the LTS:

- To make it easier to live without the car, or use the car less
- To reduce the amount of car use
- To encourage and facilitate walking cycling and public transport use
- To reduce the adverse effects of travel including road accidents, environmental damage, particularly for those worst affected by these impacts
- To enhance streets as civic spaces where priority is given to people rather than cars
- To improve the ability of people with low incomes or mobility impairments to use the transport system, especially by public transport, as pedestrians or by bicycle

2.37 More detailed "Tram System Aspirational Objectives" (TSAOs) are also considered necessary and these are contained in Appendix 1.

You can get this document on tape, in Braille, large print and various computer formats if you ask us. Please contact ITS on 0131 242 8181 and quote ref 06060. ITS can also give information on community language translations. You can get more copies of this document by calling David Morgan (Customer Services Team Leader) on 0131 529 3900.

遠設計手冊解說要在愛丁堡電車計劃中遠致優質設計所需要具備的內容、要求及結構。愛丁堡市議會作為「規劃當局」在評估建議書時，會以此為參照，同時，設計手冊在採購過程中是重要的部份。欲查詢本文件的翻譯資料，請致電愛丁堡市議會傳譯及翻譯服務部(ITS)，電話0131 242 8181並說明檔案編號06060。

یہ ڈیزائن مینیل (ہدایت نامہ) ایڈ میرا کے ٹریم کے پراجیکٹ کے میڈیٹریڈ برائیں کے حصول کیلئے اس کے مضمون، مطالبات اور طریق عمل کی مجموعی پیش کرتا ہے۔ یہ ایک ریفرنس پوائنٹ کی طرح کام کرتا ہے جس کے تحت سنی آف ایڈ میرا ٹولس کو بحیثیت پائلٹ قدرتی اجازت کی کمی تجاویز کا جائزہ لیا جائے گا۔ اس کے علاوہ حصول کے طریقہ کار میں کلیہ کی کردار ادا کرتا ہے۔ اپنی کیونٹی میں ہول ہائے وائی ڈائن میں اس دستہ کے ترقی کے حلقہ معنوںات کیلئے برائے مہربانی ایئر پرائیوٹیشن ایڈز ٹرانسپیشن سروس (ITS) کو 0131 242 8181 پر ٹیلیفون کریں اور ریفرنس نمبر 06060 کا حوالہ دیں۔

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Andrew M Holmes
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• EDINBURGH •
THE CITY OF EDINBURGH COUNCIL

EDINBURGH TRAM DESIGN MANUAL



APPROVED 1 DECEMBER 2005 (AMENDED 12 JANUARY 2006)

愛丁堡電車設計手冊

এডিনবরা ট্রাম পরিকল্পনা সম্বন্ধে লিখিত বর্ণনা

ایڈنبرا کیلئے ٹریم کے ڈیزائن کا ہدایت نامہ

دلیل استخدام تصامیم فریق اینجیر

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4. STRATEGIC DESIGN PRINCIPLES

4(a) TRAM SYSTEM

- 4.1 This section of the Manual sets out the Strategic Design principles relating to the identity of the tram system. These principles are to be used in guiding design work and as planning objectives against which future detailed planning submissions will be assessed.

In order to deliver the townscape fit and public realm aspirations for the tram it is essential that the routes and spaces that the tram runs through are analysed in sufficient detail. A series of townscape assessments prepared and considered by the Design Working Group using the Design Manual will inform the design process. Draft design principles have already been established for Princes Street and Haymarket,. These principles, shown in Appendix 5 will be reviewed in the context of these townscape assessments through the Design Working Group.

A range of system components, outlined through this chapter, will all have to be integrated into the existing townscape structure. A key aspiration of the Edinburgh Standards for Streets is to ensure that the choice of materials and new street features enables Edinburgh to maintain the streets as they were designed to be, avoiding their erosion over time and ensure that new street developments form a coherent extension to existing streets.



STRASBOURG

TRAMS

- 4.4 The choice of tram vehicle should be capable of use in Edinburgh's unique environment.

KEY ISSUES

- 4.5 There will be a balance to be struck between choosing a tram vehicle which realises the aspiration of a tram identity that is unique to Edinburgh, and conveys the image sought by Scotland's capital city, but also takes account of value for money and the lower acquisition and maintenance costs of standard vehicle designs.

PRINCIPLES OF DESIGN

- 4.6 The key design principles for the Tram Vehicle are set out below, but principles set out in the "Graphics" section and in the section "Access for All" are also relevant and should be referred to.
- The Tram vehicles should be timeless, distinctive and elegant in appearance – they should have a strong and instantly recognisable identity
 - The Tram system should be safe and convenient to use for both passengers and staff
 - The Tram system should be designed to facilitate access for all
 - The choice of tram vehicles should also have regard to sustainability criteria, running costs and ease of maintenance
 - Trams should have the capability of operating comfortably in Edinburgh Streets



BORDEAUX



NOTTINGHAM

TRAM STOPS

- 4.7 The exact locations of the tram stops have not yet been finalised. Tram stops will be the focal points of the system and their location and design will greatly affect how the whole system is perceived.

KEY ISSUES

- 4.8 For technical and operational reasons, a number of elements need to be incorporated at tram stops: these will include platforms, shelters, street furniture, signs, ticket machines, lighting, CCTV and equipment cabinets. Not every tram stop will have the same requirements.
- 4.9 Design solutions for tram stops should be innovative and functional. As focal points of the system, their quality of design and finishes will greatly affect how the whole system is perceived. Attention to detail is particularly important. Given the number of different elements, detailed layout and design need to be carefully considered.
- 4.10 The key issues in delivering quality design in relation to the tram stops are:-
- Integrating stops with their context, as appropriate to on-street and off-street situations
 - Providing a secure and comfortable space for users
 - Ensuring a consistent suite of details



NANTES

PRINCIPLES OF DESIGN

4.11 When introducing a tram stop and its associated elements into an existing space, it will be vital to take cognisance of the overall form and coherence of the place affected. The key principles are

- To protect the integrity of important spaces and of important axial views
- To design tram stops to fit within the context and function of a space, being visible but avoiding visual intrusion
- Tram stop elements should complement the alignment along the street
- Unnecessary clutter should be avoided by providing only those facilities which are necessary to meet users' needs
- Develop the tram system identity through a consistent suite of details for all stop elements. The suite of details should comprise
 - a co-ordinated family of elements, and
 - a lightweight, transparent system of components that are capable of providing a solid and robust design.
- Apply a consistent suite of details at each stop using a limited palette of materials to allow identity to be maintained whilst permitting change from tram stop to tram stop as necessary to reflect the specific context
- The comfort and safety of users shall be addressed and the design should
 - meet all safety criteria,
 - ensure ease of access for all users,
 - maximise the sense of security through appropriate visibility and natural surveillance.

TRACKSIDE EQUIPMENT

- 4.12 Trackside equipment refers to all the ancillary elements required for operation and maintenance of the tram system located close to the tram lines. Although many of these are small individual elements, cumulatively their siting can have a major impact within a space.

KEY ISSUES

- 4.13 Trackside equipment includes such elements as:
- Substations
 - Equipment cabinets
 - Signalling
 - Lighting (to be in conformity with Council Strategy on lighting)
 - CCTV (to be linked with Council CCTV scheme and policy)
 - Signing (see separate section on this topic)
 - Access covers and cable ducts
- 4.14 The provision of trackside equipment is required for the safe and effective operation and maintenance of the tram system. It should be designed to achieve a balance between efficient operational use and reducing the impact on the setting of buildings and the open character of spaces, particularly well-used or sensitive places.



TRACKSIDE DUBLIN



SUBSTATION NOTTINGHAM

PRINCIPLES OF DESIGN

4.15 The key principles are

- To avoid clutter wherever possible, through rationalising and sharing of facilities
- In all parts of the city visual impact and clutter should be minimised by concealing or integrating equipment within new buildings wherever possible
- Within the World Heritage Site, underground locations, locations within buildings or shared use of existing facilities are strongly preferred
- Where proposed, equipment will be designed to be unobtrusive
- Colour controlled



EQUIPMENT CABINET, MONTPELLIER



UNDERGROUND EQUIPMENT, LYON

MAJOR STRUCTURES

- 4.16 A number of major new structures will be required as well as works to existing bridges. These works will have a major visual impact in prominent locations in different parts of the city.

KEY ISSUES

- 4.17 The structures which will be necessary for the tram lines are new grade-separated road junctions, new bridges, extension/widening of existing bridges, and creation of elevated pedestrian walkways. These include
- crossing under the A8 near Gogar Roundabout
 - New bridges over the railway at Edinburgh Park and Stenhouse
 - Murrayfield Viaduct
 - Starbank Walkway
 - Extensions to existing bridges/viaducts at Balgreen, Roseburn, Coltbridge and Craigleith
- 4.18 Many of these are in prominent locations either in terms of height and impact on the setting of the city, or by virtue of their location on major routes into and out of the city. Others may impact on open spaces such as the seafront or greenspaces and hence their design will have local prominence as well as possible impacts on wildlife. Separate statements have been provided for each of these and are contained in Appendices 7 and 8. Other statements will be produced if additional structures are required.



ROSEBURN TERRACE



COLTBRIDGE



COLTBRIDGE

PRINCIPLES OF DESIGN

4.19 The key principles are

- Consider the visual intrusion of introducing a new structure or new components of an existing structure and their associated elements into an existing volume of space, taking cognisance of the overall form and coherence of the environments affected.
- Give particular consideration to the impacts associated with listed structures or structures situated within sensitive environments such as conservation areas.
- Consider the integrity of important spaces and axial views.
- Design structures to fit within the context of the surrounding townscape and ensure a safe and pleasant environment is created
- Choose materials and finishes carefully.
- Take particular account of the provisions contained in the relevant Environmental Statement, including mitigation measures.
- Extensions to existing bridges must respect the visual integrity and character of the original structure.
- The overhead line equipment design and the design of any relevant system requirements must take into account the need to respect the character of the structure and location, for example, the rhythm of poles should respect viaduct piers.



DUBLIN



NOTTINGHAM



ORLÉANS

TRAM DEPOTS



- 4.20 Tram depots are required as a base for operations and maintenance of the fleet of trams and infrastructure. At present a potential site is being considered for each of the first two lines.

KEY ISSUES

- 4.21 The depot sites need to accommodate all the necessary facilities and equipment to maintain and stable each tram fleet and to maintain and operate the entire infrastructure. It is likely that facilities for the network management (including security, customer information systems etc.), staff support and administration will also be incorporated within the depot buildings. The layout and scale of buildings required for the depots will, due to their function, require extensive site areas with large (or a series of interrelated) built structures. The challenge is to design these creatively as positive statements of functionality, and to use landscaping both to screen and to enhance controlled views into and through the sites.

PRINCIPLES OF DESIGN

- 4.22 The key principles are

- Depots should be designed to fit within the existing or emerging townscape and or landscape structure. In particular they should
- Be designed as a single entity rather than a series of separate components and to ensure that this will be the case, work will not be permitted to begin until the full depot design has been given approval
- Where close to residential or other noise and light sensitive uses, be designed to minimise these impacts
- Be visually screened as appropriate
- Seek to design in visual or physical permeability consistent with security considerations



DUBLIN DEPOTS



GRAPHIC IDENTITY

- 4.23 The aspiration is for the Edinburgh Tram to be instantly recognisable and for its appearance to be appropriate to Scotland's capital city. Public perception of the tram will be heavily influenced by the graphic identity of the tram system, including system identity, vehicle livery and signage. It is vital that a sensitive and creative design approach be adopted.

KEY ISSUES

- 4.24 Edinburgh's tram will become an important new feature for the city and the quality of its graphic identity must reflect this. Potential users must perceive the tram as a high-quality, modern, transport system, and all elements should be recognisable as part of a family. Design detailing and graphic design must build upon the engineering criteria and reinforce the image of a user-friendly, reliable and efficient system that is pleasant, clean and safe. A clear, distinctive graphic identity or branding strategy must be developed and applied consistently to all elements of the tram system.
- 4.25 The key issue is how to create a system that is contemporary, distinctive and readily identifiable as an Edinburgh tram.



VEHICLE LIVERY SHOULD BE DISTINCTIVE YET APPROPRIATE TO ITS CONTEXT, LIKE THIS EXAMPLE IN MONTPELLIER

PRINCIPLES OF DESIGN

- 4.26
- A strong visual Edinburgh based identity is required for the tram system.
 - This identity must be instantly recognisable by residents of and visitors to Edinburgh.
 - Graphic continuity must be maintained throughout the tram system.
 - Timeless elegant design solution.
 - The character of the graphic identity must also be appropriate to Edinburgh aesthetically.
 - Ensure commercial advertising does not detract from visual identity of the tram system and, if external, the amenity of the area.
 - Keep on-street signage to a minimum to avoid clutter.
 - Creative use of new technology for information provision and any permitted commercial advertising is encouraged.
 - The concept should be prepared by an appropriately experienced specialist, who should also oversee the application design to the relevant aspects of the project.



CORPORATE IDENTITY CAN BE REINFORCED THROUGH A WIDE RANGE OF PRODUCTS

4(b) TRAM ALIGNMENT AND INTEGRATION

- 4.27 This section of the Manual sets out the Strategic Design principles relating to the alignment of the tram infrastructure. These principles are to be used in guiding design work and as planning objectives against which future detailed planning submissions will be assessed.

ALIGNMENT

- 4.28 The alignment of the track is particularly important because it directly influences the speed of the trams and associated elements of the tram infrastructure, such as platforms, shelters and poles to support the overhead line equipment.

KEY ISSUES

- 4.29 Edinburgh's variety of Conservation Areas with their distinctive character is renowned. Of particular importance is the planned 18th and 19th century townscape along with its medieval counterpart in the Old Town within the World Heritage Site. It is imperative that the introduction of the system respects the city's distinctive spatial pattern and structure. The alignment, therefore, needs to reflect the particular grain and street layout of the city. The key issue for the alignment of the tram is how to achieve the best urban "fit" yet at the same time conform to the most appropriate engineering principles to ensure delivery of the best quality tram system.



EDINBURGH'S NEW TOWN

- 4.30 Alignments can be influenced by the treatment of power supply systems (e.g. track centre lines will be spaced further apart where required to accommodate centre poles), and these may, in turn, be driven by urban design issues. An alignment that avoids tight curves and is as straight as possible will provide fast journeys, which is a Strategic Principle of the scheme. It should be recognised that such an alignment would also minimise the number of overhead line poles or other fixings required to carry OLE and could, therefore, be deemed to be the best in terms of contribution to the urban environment.

PRINCIPLES OF DESIGN

4.31 The essential principles of design are

- Minimise the visual impact of tram alignment and tram lines in an existing space.
- Contributing to a comprehensive approach to the public realm
- Protect the integrity of important spaces and axial views.
- Design curves to minimise any additional visual intrusions and to relate well to existing buildings and enhance affected spaces.
- Maximise opportunities for development or regeneration through an integrated design approach.
- Ensure a good relationship of the tram system with other modes of transport, including pedestrians, cyclists, buses, taxis and private vehicles.
- Safety shall be designed in rather than mitigated against.
- Maximise accessibility for all users.
- There is a need to take account of the desire to achieve minimum journey time and optimum ride quality.



MONTPELLIER



GRENOBLE



NOTTINGHAM



OVERHEAD LINE EQUIPMENT

- 4.32 Overhead line equipment (OLE), required to distribute power to the tram system, must be carefully designed to minimise visual intrusion. Decisions on technical issues such as electrical supply will have implications for the appearance of the system and must be addressed as part of the holistic design process.

KEY ISSUES

- 4.33 The Townscape and Visual Impact Assessment within the Environmental Statement has identified the magnitude of physical change emanating from OLE. Of particular importance is the potential change to the World Heritage Site, Conservation Areas, but even in minor streets and industrial estates the visual impact of the OLE is deemed significant.
- 4.34 Electrical supply is taken from the substations via underground ducts to the OLE system, where it is fed through columns to the suspended contact wire. The overhead wires will be supported either by free-standing poles or by fixings mounted onto existing buildings, or combinations of these.
- 4.35 While the aspiration is for a wire free system, in whole or in part, this has been demonstrated to be not currently practicable. An alternative sensitive design based on overhead wires shall therefore be pursued.

PRINCIPLES OF DESIGN

- 4.36
- A 'wire free' operational system is preferred within the World Heritage Site and other sensitive locations. However, this is not currently practicable.
 - OLE will therefore be considered, and the design must respect the quality and sensitivity of Edinburgh's townscape.
 - Where poles are required the opportunity to rationalise through shared use with other street utilities such as street lighting and road signs should be considered.
 - The visual impact must be assessed both at a strategic level (entire volume of space within a street or other public area) and a detailed level (individual buildings).
 - New support structures must be positioned and styled to relate positively to key views, landmarks and historic buildings.
 - The colour of poles must be carefully considered



BRUSSELS



DRESDEN



GRENOBLE



ORLÉANS

SURFACING

(TRACK, TRAMWAY PATH, AFFECTED ROADS AND FOOTPATHS)

- 4.37 The successful visual integration of the proposed tram system into Edinburgh's streetscape is of paramount importance.

KEY ISSUES

- 4.38 The overarching issue associated with surfacing in relation to the proposed tram system is the relationship between the Tramway Path and the wider public realm. In addition, the following are important considerations

- Response to Context
- Extent of Resurfaced Areas
- Technical Requirements
- Safety
- Noise
- Definition of Tramway Path
- Maintenance



EDINBURGH



EDINBURGH

PRINCIPLES OF DESIGN

4.39 The essential principles are

- **Response to Context:** The tramway surfacing will be influenced by its environment/ context. The final palette of materials selected must be capable of satisfying equally aesthetic and technical requirements and conform with the “Edinburgh Standards for Streets”.
- **Technical Requirements:** Material changes/interfaces that should be addressed by simple and robust design.
- **Safety:** Where certain types of materials or changes in levels (such as those designed to deter cars and pedestrians) are required the design and choice of materials should be appropriate to the location.
- **Noise:** Consideration must be given to the potential noise generated by road vehicles when they cross tram tracks and so it may be necessary to use different surface materials for the tram route at such locations. However, the number of such material differences should be kept to a minimum.
- **Definition of Tramway Path:** The Tramway path of the tram system requires some form of delineation. The design of this feature and choice of materials must take account of the specific location context. The opportunity to rationalise with other features, e.g. curbing and road markings shall be regarded as paramount.
- **Maintenance:** The materials chosen must be consistent with the Council’s standards for this purpose.



DRESDEN



ORLÉANS

ACCESS FOR ALL

- 4.40 Edinburgh's tram should become the transportation system of choice because it is convenient to use, safe, reliable and efficient. The system must, therefore, be accessible to all irrespective of age or physical ability.

KEY ISSUES

- 4.41 To meet this aspiration, the requirement of each user type needs to be addressed as an inclusive part of the design. This approach must be applied to all elements of the system that have a public interface. This is not simply a design aspiration; it is also a legal requirement.
- 4.42 The key issues are how to ensure that ease of access is an intrinsic part of the overall design and also how to avoid segregation of different user groups.

PRINCIPLES OF DESIGN

- 4.43
- The choice of tram and design of infrastructure must ensure maximum access and ease of use by all sectors of the population, including persons with young children, the elderly and those with sensory or physical disabilities.
 - Ensure an inclusive approach that strives to fulfil the needs of each user group as closely as possible. If compromise is necessary, no single group should be discriminated against.
 - Use the tram as a catalyst to improve and expand public access throughout the city.
 - Address safety requirements for all user groups.



LYON

PEDESTRIANS AND CYCLISTS

4.44 The tram system should seek to maximise integration with pedestrians and cyclists.

KEY ISSUES

4.45 Current Council policy aims to address traffic congestion problems by reducing the need to travel by private car, by prioritising an integrated public transport system, by introducing trams, and encouraging walking and cycling.

4.46 The key issues are:

- How to ensure desired freedom of movement by minimising restrictions on pedestrians and cyclists and maximising integration with the tram system
- How to create interesting spaces which encourage appropriate integration of the different user groups
- How to reduce potential conflicts between pedestrians, cyclists and tram



STRASBOURG

PRINCIPLES OF DESIGN

4.47 The objective is to increase and improve the quality of the public realm by reassessing the distribution of space between the different user groups, including vehicles, public transport, pedestrians and cyclists. The following principles should help to achieve this.

- **Respect existing routes and desire lines**
- **Improve and extend pedestrian and cycle routes and, wherever practicable, give greater priority of space to pedestrians**
- **Maximise integration of pedestrians and cyclists with the tram system**
- **Provide appropriate cycle parking facilities at tram stops**
- **Increase and improve the quality of the public realm by reassessing the distribution of space between different user groups and create a public realm that people wish to inhabit.**



GRENOBLE

DESIGN ELEMENTS OF ENVIRONMENTAL MITIGATION

- 4.48 The impact of the proposed tram system is assessed fully within the relevant Environmental Statement. It will be important to achieve well-designed and long-lasting environmental mitigation measures

KEY ISSUES

- 4.49 The proposed tram route passes through a diverse range of character areas, including World Heritage Site, various Conservation Areas, seafront areas, semi-rural and rural urban fringe locations including areas within the Green Belt.



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- 4.50 The key issues in relation to the design of environmental mitigation measures are

- Appropriateness to context.
- How best to meet Council requirements, including sustainability requirements
- How to pay particular regard to maintenance issues in terms of longevity of measures, cost-effectiveness and detailed maintenance arrangements.

PRINCIPLES OF DESIGN



STOCKHOLM

- 4.51 The principles to be followed in detailed design of mitigation measures are as follows.

- To be appropriate to the particular context in terms of historical and landscape character
- To satisfy the full range of Council requirements – in terms of environmental health, protecting visual and residential amenity, fulfilling sustainability and biodiversity criteria
- Measures should not in themselves create a detrimental visual impact.
- To achieve robustness of design, minimising difficult or expensive maintenance arrangements.



ORLÉANS

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遠設計手冊解說要在愛丁堡電車計劃中遠致優質設計所需要具備的內容、要求及結構。愛丁堡市議會作為「規劃當局」在評估建議書時，會以此為參照，同時，設計手冊在採購過程中是重要的部份。欲查詢本文件的翻譯資料，請致電愛丁堡市議會傳譯及翻譯服務部(ITS)，電話0131 242 8181並說明檔案編號06060。

یہ ڈیزائن مینیل (ہدایت نامہ) ایڈ میرا کے ٹریم کے پراجیکٹ کے میڈیٹریڈ برائیں کے حصول کیلئے اس کے مضمون، مطالبات اور طریق عمل کی مجموعی پیش کرتا ہے۔ یہ ایک ریفرنس پوائنٹ کی طرح کام کرتا ہے جس کے تحت سنی آف ایڈ میرا ٹولس کو بحیثیت پائلٹ قدرتی اجازت کی کمی تجاویز کا جائزہ لیا جائے گا۔ اس کے علاوہ حصول کے طریقہ کار میں کلیہ کی کردار ادا کرتا ہے۔ اپنی کیونٹی میں ہول ہائے وائی ڈائن میں اس دستہ کے ترقی کے حلقہ معنوںات کیلئے برائے مہربانی ایئر پرائیوٹیشن ایڈز ٹرانسپیشن سروس (ITS) کو 0131 242 8181 پر ٹیلیفون کریں اور ریفرنس نمبر 06060 کا حوالہ دیں۔

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Andrew M Holmes
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• EDINBURGH •
THE CITY OF EDINBURGH COUNCIL

EDINBURGH TRAM DESIGN MANUAL



APPROVED 1 DECEMBER 2005 (AMENDED 12 JANUARY 2006)

愛丁堡電車設計手冊

এডিনবরা ট্রাম পরিকল্পনা সম্বন্ধে লিখিত বর্ণনা

ایڈنبرا کیلئے ٹریم کے ڈیزائن کا ہدایت نامہ

دلیل استخدام تصامیم فریق اینبرہ

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CCTV	Closed Circuit Television	NPV	Net Present Value - the value of an investment based on an analysis of all life cycle costs and revenues adjusted to reflect present day prices. A positive net present value demonstrates that the investment will be profitable and the higher the figure, the more profitable it will be.
CEC	City of Edinburgh Council	OLE	Overhead Line Equipment ie wires and insulators, support poles and fixings to buildings to support wires.
DDA	Disability Discrimination Act	S75 Agreement	A legal agreement under s75 of the Town and Country Planning (Scotland) Act 1997 between a land/property owner and the Planning Authority to restrict the use of land/property or make a contribution of some kind.
LOD	Limit of Deviation – Area within which the tram project may be constructed – as defined in the Parliamentary Plans lodged with the Tram Bills	tie	Transport Initiatives Edinburgh Limited
LLAU	Limit of Land to be Acquired or Used- Area which can be used temporarily or permanently for specified purposes connected with the tram project (eg temporary construction compounds) but not for the tram tracks – as defined in the Parliamentary Plans lodged with the Bills.	TSAO	Tram System Aspirational Objectives - these are the Council's aspirations for the type of tram system that will be delivered
LTS	Local Transport Strategy 2004-2007 as approved by the City Council in March 2004		




Part 2

Detailed Design Requirements

5(a) Tram Identity

5(b) Tramway Alignment and Integration

5(a). TRAM IDENTITY

- 
- 5.1 This chapter sets out Detailed Design Requirements for the Tram system. The requirements are framed as guidance and as a detailed checklist and these will be used primarily in the design and procurement process. Elements within the design of the tram system, such as tram stops, depots and structures will require a greater level of site specific consideration. Statements have been prepared for all of the major structures. These conclude with a series of objectives to be considered in developing the design proposal. A further level of review will be required through the Design Working Group to establish more site specific design statements. These design statements will also be considered for other elements of the tram system.

TRAMS

GUIDANCE

- 5.2 It is expected that the trams bought to operate the Edinburgh Tram System will be variants of existing manufacturer's designs. It is desirable that a proven design is used to maximise reliability and value for money. There are a number of areas of the tram design that may nevertheless be customised to the particular requirements of the Edinburgh Tram System and allow a distinctive tram to be produced. This will be vital to ensure that the tram chosen meets the aspiration of being instantly recognisable as the Edinburgh Tram, and is of a quality appropriate for Scotland's capital city.
- 5.3 The range of customisation available will vary between manufacturers, and part of the procurement process will be to identify the specific elements of the design that may be customised and the potential range of choice that may be available. Once the contract has been let, there will be a clear programme within which the decisions must be made in order to allow manufacture to progress to the requirements of the project.
- 5.4 Selection of the tram to be supplied should also take account of issues of quality in construction, finishing and detailing as parts of the evaluation criteria.

Other Relevant Documents

The design of trams should be consistent with the following guidance:

- Development Quality Guideline on Access to the Built Environment
- HMRI Railway Safety Principles and Guidance Part 2, Section G, Tramways (Revised 2005)
- Rail Vehicle Accessibility Regulations 2000

DESIGN GUIDANCE CHECKLIST

- 5.5
- General form and appearance to reflect system identity - timeless, distinctive and elegant.
 - Conceal equipment mounted on the roof when viewed from the front and side
 - Window area to be maximised
 - Clear view through interior including the rear wall of the drivers cabs
 - Passenger information displays (exterior and interior) to make best use of contemporary technology to assist both regular travellers and visitors, and minimise intrusion
 - Livery and internal colour scheme should comply with Graphic Identity Checklist
 - Interior fittings and detailing to use high-quality materials, easy to clean and resistant to wear and vandalism and conceal fixings where possible
 - Display of advertisements should comply with Graphic Identity Checklist
 - Details of entry/egress and circulation should comply with Access for All Checklist



TRAM STOPS

GUIDANCE

- 5.5 Fundamental to the success of the tram stops will be their ability to be instantly recognisable as part of the tram system without becoming visually obtrusive, and to enhance rather than detract from Edinburgh's public realm.
- 5.6 The detailed siting of tram stops should relate well to locations of high trip generators and interchanges with other transport modes. Where possible, walking distances should be minimised to entrances of large generators of potential users.
- 5.7 Treating all the elements required at a tram stop as a single design exercise will result in a more coherent and visually composed design solution.
- 5.8 Consideration is given to the following aspects below
 - Fit to Context
 - Platforms
 - Shelters and Canopies
 - Lighting
 - Security
 - Information
 - Ancillary Elements

Other Relevant Documents

The design of tram stops should be consistent with the emerging guidance on “Edinburgh Standards for Streets”.

Other relevant Council guidance is contained in the Development Quality Guidelines on:

- Access to the Built Environment
- Advertisements and Sponsorship
- Setting of Listed Buildings

The guidance and requirements of the following are applicable:

- HMRI RSPG, Part 2, Section G, Tramways
- The Department for Transport Inclusive Mobility Guide to Best Practice on Access to Pedestrian and Transport Infrastructure

It is also useful to take note of the Strategic Rail Authority document: Train and Station Services for Disabled Passengers, A Code of Practice (March 2005), although this is not directly applicable to tramways.

Consideration should also be given to:

- Conservation Area Character Appraisals
- The World Heritage Trust Management Plan
- The Memorandum of Guidance for Listed Buildings and Conservation Areas

TRAM STOPS (CONT.)

DESIGN GUIDANCE AND CHECKLIST

Fit to Context

5.9 Tram stop locations need to be planned with due consideration of the following:



- existing views
- destinations
- key buildings (i.e. listed buildings)
- pedestrian and traffic patterns
- accessibility

5.10 In some instances, where there are important vistas, groups of buildings or street layouts such as crescents within the World Heritage Site, the precise location of the proposed tram stop will be critical and priority will have to be given to heritage issues. In other locations, economic or environmental issues may be more important.

- The siting of proposed tram stops must fit within Edinburgh's streetscape.
- Tram stops must relate positively to their existing and planned context.
- Tram stops should be located conveniently for users and be clearly visible.
- Tram stops must not detract from key public spaces or impede pedestrian circulation.
- Key views or vistas must not be interrupted.
- All tram stops must seek to integrate with other transport modes.
- All components required at the tram stop should be designed to be visually coherent.
- A modular design solution of consistent detailing should be adopted.

Platforms

5.11 The tram platforms are raised to allow level access to the tram. Good quality design detailing is required to ensure that the platform becomes a positive feature within the public realm. In general terms, the dimensions of the tram platforms will be determined by the choice of the tram vehicle, the particular location and the level of pedestrian activity.



5.12 Tram platforms should be designed as unobtrusive extensions of the footway, wherever possible. Platforms should be designed so that handrails are not required.

5.13 Access to platforms should be as easy as possible for all users. Careful consideration should be given to materials and how these are used.



- Minimum dimensions will be influenced by the final specification of the tram vehicle.
 - Platforms should be of an appropriate area to accommodate the expected patronage.
 - The platform height must be set to ensure level access into the tram but be as low as possible.
 - Ramps up to platform levels must be designed as an integral part of the streetscape, avoiding trip hazards.
 - Consideration should be given to lowering the track through tram stops to avoid raising the footway height for platforms where this could conflict with adjacent threshold levels or with the visual identity of the street.
 - Platforms must be accessible by all users of the tram system.
 - Abrupt changes in level, steps and railings should be avoided.
 - Access to tram stops should be direct, avoiding lengthy detours.
 - At grade access across tram lines should be provided at strategic points relating to tram stop locations.
 - Platform surface and edging should comply with the “Edinburgh Standards for Streets” document.
 - Materials used should be in accordance with the provisions of the “Edinburgh Standards for Streets”.
 - A high standard of detailing is required to ensure that all parts of the platform fit together visually and that joints and changes of material line through.
 - Tactile and visual contrast materials should be used in accordance with HMRI and DDA requirements and DfT Guidance but be implemented in such a way that they do not create unsubtle contrasts or visual confusion.
 - Changes in colour or coursing should be used to delineate boundaries, edges or highlight features.
 - Where access covers are integrated into the platform surface they should be orientated parallel to the front edge of platform, with recessed covers and paving infill, laid out to maintain the overall pattern of the platform surface.
-
-
-
-

TRAM STOPS (CONT.)

- The module size /scale of proposed paving must reflect its context.
- Street furniture, tactile paving, crossings, covers etc. should be orientated to avoid awkward junctions and cuts.
- Consideration should be given to incorporating as an edge coping a monolithic block the full height of the platform such that there is no horizontal joint visible in the front face of the platform.
- Platform edges in the World Heritage Site and conservation areas must be of natural stone unless specifically agreed otherwise by the planning authority.
- Need for railings should be kept to a minimum.
- If handrails are required, consideration must be given to their integration with seats and other equipment, reducing visual and physical clutter.
- Handrails should be rounded/curved with no sharp edges.
- Design should emphasise transparency and reduce visual impact.
- All railings (including guardrails at pedestrian crossings, where required) must be of high design quality, robust, vandal-resistant and be fully co-ordinated with the tram system 'kit of parts'.

Shelters and Canopies

- 5.14 The tram shelters will be the most visible part of the tram stops and an important focal point. Consequently their design, detailing and subsequent maintenance will influence more strongly than any other single element how the tram system is perceived.
- 5.15 Each location must be assessed individually in terms of its suitability as a site for a shelter or a canopy. The architectural setting of important buildings, the urban quality of building groupings and existing vistas through the townscape should not be compromised.
- 5.16 Shelters should accommodate a wide variety of functions, such as:
- Ticket machines
 - Seating
 - Litterbins
 - Passenger information
 - Equipment cabinets
 - Signing / Advertising
 - Lighting
 - PA System



5.17 It is not anticipated that a multi-functional shelter incorporating all the above features will be appropriate at every location. The final siting and design of a shelter will be dictated by balancing a number of criteria including availability of space, hierarchy of location, engineering and economic factors.



- A shelter or canopy should be provided on each platform of every stop.
- Shelters must be carefully located to address fully their urban context.
- A family of designs for shelters and canopies should be agreed, with design variations for different character zones and amount of space available.
- Shelters and canopies should be sufficiently transparent to allow visibility in and out, should incorporate appropriate lighting, and should seek to enhance the streetscene.
- Shelter dimensions should be kept to a minimum to provide a light and elegant structure, but still sufficient to reduce the impact of wind and driven rain and to protect the anticipated number of waiting passengers.
- Stop nameplates should be considered as an integral part of the shelter design.
- Provision must be made for the blind and partially sighted.
- Commercial advertising may be appropriate in certain locations (see Graphic Identity and Signage sections).
- Particular attention should be paid to the design of the roof, panels and fittings to ensure adaptability of design and robustness.
- The approaching tram vehicle should be clearly visible from both seated and standing positions within the shelter or canopy.
- Lower edges should follow platform gradient with consistent gap.
- All surfaces must be easily cleanable. All fixings are to be concealed and vandal-proof but accessible for maintenance.
- All clear panels should be of toughened glass and any glazed panel adjacent to a road should incorporate a horizontal rail (to protect people from falling through gap when glazing is broken or missing).
- Water run-off system should not be vulnerable to blockage and rainwater discharge should be remote from the access openings.
- Seating should incorporate provisions for prams and wheelchair users, but should not dominate the length of the shelter.

TRAM STOPS (CONT.)

- Seats should not be located so as to impede the circulation of passengers/ pedestrians.
- Seats should be convenient for all ambulant users, including some with backrests and some with armrests.
- Seating surfaces should be of a material comfortable to use in winter, and unable to collect or retain liquid.
- Seats should be easily cleanable, robust and fireproof.
- In the design of every tram stop shelter consideration should be given to the incorporation of appropriate passenger information systems comprising display panels, Real Time Information and public address system.
- A Public Address (PA) system is required at all tram stops.
- The PA system should be mounted discreetly out of sight.
- The PA system should be clearly audible and intelligible to all passengers (except those with hearing difficulties) in shelters and on platforms under all weather conditions.
- Sufficient speaker points should be installed for the volume at the loudest point to be comfortable to passengers at that point and such that, in residential areas, the volume is low enough not to cause a nuisance, especially at night.
- At stops other than Park and Ride sites, the PA system should only be used for emergency, security and severe disruption announcements. General public announcements and advertising are not permitted.

Lighting

- 5.18 The lighting of shelters and their immediate surroundings will be crucial in making passengers feel safe whilst enhancing their ability to read transport information panels.
- 5.19 It is important that an ambient illumination of the shelter and stop area is achieved, which may incorporate light sources at several heights, including ground level, intermediate, and lighting from structures overhead. The use of multiple spotlights should be avoided due to the visual clutter they create and the added maintenance of numerous lighting fixtures.



5.20 Lighting can be incorporated into the overall design of the shelter, such as:

- lighting situated within perforated columns and beams (ease of maintenance should always be considered);
- lighting attached to the roof structure or surrounding street furniture;
- low lighting incorporated in bollards and railings; and
- recessed lighting used to denote the stop perimeters, or structural /design features of the shelter.

5.21 Lighting should be provided to all waiting areas and access routes, to the front edges of platforms, to passenger information systems and to any identifiable hazard points, sufficient to provide safety, comfort and practicality for passengers.

- Lighting levels should be provided during all hours of poor light, including when the service is not operational. The use of motion sensors could allow increased lighting levels when movement is sensed.
- Lighting provision should typically be independent of other light sources in the vicinity (street lighting, shop fronts, etc.). However, other sources can contribute and can be considered as an opportunity to reduce clutter providing that such alternative sources can be suitably controlled and maintained.
- The lighting colour must enable good colour rendition.
- Glare must be avoided for passengers, tram drivers and road vehicle users.
- Legibility of display panels should not be impaired by reflected light.
- Nuisance light spillage for local residents and night-sky pollution must be avoided.
- All equipment must be vandal-resistant, robust and easily cleaned and maintained.

TRAM STOPS (CONT.)

Security

- 5.22 A safe environment is a necessary condition for the system to be successful and to be an enjoyable travel experience. All parts of the tram stop have to be unobscured. It must be obvious that security is provided.
- 5.23 Security aspects addressed are CCTV, Emergency Call Point, and Visibility, as follows.
- Security should be provided in a manner such that it is obvious but integral with the 'kit of parts'. The security equipment must not detract from the aesthetic integrity of the overall station design. For example, dome-type CCTV cameras are preferred, as these are identifiable but reasonably discreet.
 - All crossing points, platforms (including within shelters) and any other areas where passengers might reasonably be considered vulnerable must be visible from the control centre by CCTV link.
 - Camera numbers and locations should be such that all areas are visible even when newly planted trees have matured. For example, dome-type CCTV cameras are preferred, as these are identifiable but reasonably discreet.
 - Each platform must have an emergency call point for direct communication with the control centre.
 - Emergency call points must be positioned in a consistent location.
 - The location of at least the nearest emergency call point must be visible from anywhere on the platform.
 - Shelters with front panels must have more than one entrance (an escape route).
 - Passengers approaching a shelter entrance must be visible to those inside the shelter.



Information

5.24 Information panels and advertising if appropriate should not dominate the design of the shelters or impinge upon the light and elegant design ethos. Care must be taken to ensure that large panels do not block views, posing a security threat. For more information on advertising, refer to section on Graphic Identity.

- Advertising should not block views.
- Advertising and logos should be restricted in accordance with current planning guidance.

Ancillary Elements

5.25 The number of ancillary elements such as seating and litterbins, and their disposition should seek to avoid overprovision and clutter. (Cabinets and equipment are considered in the section on Trackside Equipment.)

- All tram stop components should be kept to a minimum in both size and number, minimising both visual and physical clutter from the street scene.
- Stops and their associated elements should be designed as multi-functional modules. For example, the shelter or canopy can provide not only shelter and seating space but also house ancillary elements such as litterbins, lighting, information and space for advertising. Bollards may also provide secondary seating and incorporate lighting to further reduce clutter.
- Litterbins must be of a high quality design, consistent with the other elements of the stop. They could be fixed to the shelter posts or lighting columns or integrated with either seating or handrails to alleviate clutter at the stop.
- Litterbins are to be vermin-proof when closed, have a closed top unsuitable for standing objects on top, and to have easily cleanable surfaces inside and out.
- Kiosks and ancillary functions are only appropriate where there are high pedestrian flows and sufficient space, reinforcing the hierarchy of stops.

TRACKSIDE EQUIPMENT

GUIDANCE

- 5.26 It is important to understand the range of trackside equipment which is required for the Tram system. This section seeks to give a clear idea of the range of equipment which will be necessary, and how the cumulative impact of the equipment can be kept to a minimum. The avoidance of clutter through the sharing of facilities for equipment must be fully considered in all cases and in all parts of the city. Where proposed, equipment will be designed to be unobtrusive – modern and elegant design of these small elements will assist greatly in engendering a positive image of the Tram.

Other Relevant Documents



The design of trackside equipment should be consistent with the emerging guidance on “Edinburgh Standards for Streets”.

Consideration should also be given to:

- Conservation Area Character Appraisals
- The World Heritage Trust Management Plan
- The Memorandum of Guidance for Listed Buildings and Conservation Areas

DESIGN GUIDANCE AND CHECKLIST - SUBSTATIONS

- 5.27 Substations - primarily for the supply of traction power to the system - are required at intervals of around 2-3km along the route. Locations have been identified on the plans submitted at part of the Bills for each Line. Depending on the final traction power system design it may not be necessary for all the identified sites to be used in practice.

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- 5.28 Each substation is a fully-enclosed, usually rectangular building. All cabling to and from the building will be ducted underground. Suitable vehicular access is required to the building for installation and subsequent, albeit rare, replacement of heavy equipment. Related parking for maintenance staff is required close to the building. Doorways to the building are required for personnel access, usually separately for staff of the tramway maintainer and the DNO, and for (infrequent) exchange of heavy equipment. The security of maintenance staff entering and leaving the building at all hours must be protected.
- 5.29 The general dimensions of the building are likely to be similar for all the substations, with the exception of that within a depot site which is likely to be larger as additional equipment is required at this location.
- 5.30 Due to internal heat generation, it is necessary to provide for ventilation of the building interior. Depending on the size of the building relative to the equipment contained within, it may be necessary to provide mechanical ventilation equipment with suitable louvered apertures to permit airflow.
- 5.31 It is possible to place substations underground although this is expensive in first cost, and also potentially, for maintenance. The plan area required is likely to be larger than for a building on the surface. It is also possible to place a substation within an existing or new building in a suitable location. In both cases, suitable equivalent access and ventilation requirements must be provided.
- Wherever reasonably practicable substations should be designed into an existing or proposed building.
 - Within the World Heritage Site, greater priority must be given to the sympathetic siting of the structure. Where reasonably practicable, partial or total submergence of the substation should be pursued.
 - If a new building is required, it should be sited to reflect and integrate with the surrounding townscape or landscape
 - Substation buildings should be as small as safety requirements dictate but large enough to accommodate all equipment
 - Security fences or other enclosures will not normally be permitted.
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TRACKSIDE EQUIPMENT (CONT.)

DESIGN GUIDANCE AND CHECKLIST - TRACKSIDE CABINETS:

- 5.32 In summary, essential trackside cabinets not associated with tramstops will be situated on top of an access chamber in the chain of cable ducts and will be placed on a plinth which can be made flush with the ground, if it is level locally. Cabinets often have doors both front and back and space must therefore be left or created to allow safe maintenance access with the doors opened.
- 5.33 In principle, equipment can be placed underground in suitable enclosures, although these are not available as standard and a special factory-made unit would be essential in this application. Capital and maintenance costs would increase and access arrangements (including the location) would have to allow safe maintenance to be carried out at any time.

Traffic Signalled Junctions

- 5.34 By far the largest number of cabinets will be those related to traffic signal controlled junctions. There will normally be one cabinet for the actual controller for each junction that will replace the existing cabinet (where present), and be to the same roads design requirements. There will also be one cabinet for communications equipment related to the tram location and priority demands into the traffic controller. Different maintenance responsibilities favour a separate cabinet, as well as the standard nature of the traffic signal controller cabinets. It is highly desirable for safety reasons that the cabinets are in a position where maintenance staff can directly observe the operations of the signals controlled. A typical size for the communications cabinet is 1200mm high x 1000mm wide x 400mm deep.



OLE Isolators

- 5.35 The OLE is divided into electrical sections that can be individually switched on and off. This allows part of the network to be shut down due to an emergency or for planned work. Such sectioning locations are related to the track layout, in particular near junctions and emergency crossovers (reference should be made to the Network Diagram, when it becomes available). Where a substation is located near a sectioning point, the associated switchgear will be located within the substation building. Otherwise a trackside cabinet is required to contain the switchgear. There are particular requirements for these cabinets due to the higher voltage found within. The size depends on the number of switches required and a modular design is usually used. A typical trackside isolator cabinet is 1800mm high x 2000mm wide x 800mm deep.

Point Control

- 5.36 At each location where there are points that are motorised or are fitted with indicators (reference should be made to the Network Diagram, when it becomes available), a cabinet is required for the control. The principal locations on street are at Haymarket (possibly), York Place, North St Andrew Street (possibly) and Ocean Terminal. Points at a single location should be able to be controlled from a single cabinet. There may however be a requirement for an additional cabinet for an auxiliary power supply. However, alternative packaging arrangements are likely to be possible, changing the shape of the resulting cabinet. Where the points are motorised, the cabinet must be placed such that, during maintenance, there is clear view of the points from the cabinet, in the interests of safety. A typical points' control cabinet is 1500mm high x 800mm wide x 600mm deep.

Point Heating

- 5.37 At each location where there are points that are fitted with heating (reference should be made to the Network Diagram, when it becomes available) to prevent freezing in cold conditions, a cabinet is required for the control of the heaters. All the heaters at a particular location will be controlled from the single cabinet. A further cabinet may be required to provide the auxiliary power supply to the heaters. It should be possible to integrate these cabinets into one, A typical size for a double junction is 1200mm high x 1800mm wide x 400mm deep. However, alternative packaging arrangements are likely to be possible, changing the shape of the resulting cabinet.

TRACKSIDE EQUIPMENT (CONT.)

Tram Signalling Controls

- 5.38 At a few locations, additional tramway-only signalling may be required, with associated control cabinets. The most likely locations are at the junctions on the main line providing access to the depot(s). At present, there are no other locations positively identified. These would probably be similar to traffic signal controller cabinets and would be additional to the point control/indication and heating cabinets at the same locations. It is possible that they could be located inside the depot perimeter fencing, although this would depend on the local layout and the distance between the junction and the depot perimeter.
- 5.39 There might also be isolated requirements for trackside cabinets for additional auxiliary power supplies or for communications equipment. These would however be very much the exception, if required at all.
- 5.40 The Checklist for assessing the design of all trackside cabinets is as follows.
- Consideration should be given to incorporating trackside cabinets into an existing or proposed building.
 - The possibility of enclosing a cabinet within a building will need to be negotiated by the Planning Authority when determining planning applications and may need to be secured by a legal agreement (such as a s75 agreement).
 - Within the World Heritage Site the preference is for all cabinets to be located underground or otherwise concealed, unless technical or safety requirements dictate otherwise.
 - If acceptable on-street, cabinet dimensions should be as small as safety requirements permit and large enough to contain all equipment.
 - Design and colour of cabinets will be consistent with the requirement of the “Edinburgh Standards for Streets”.



**DESIGN GUIDANCE AND CHECKLIST -
DUCTS, TROUGHING AND ACCESS CHAMBERS IN OFF-STREET LOCATIONS:**

- 5.41 In order to run cabling throughout the tramway route, either buried ducting or surface troughing is required. Equivalent provisions are required on structures along the route. Access is required along the routes by the provision of chambers with surface mounted covers at intervals. These will coincide with trackside cabinet locations and intermediately, at intervals appropriate to the type of cabling. Certain types of cabling may be direct-buried but this is not the preferred solution and access chambers are still generally required.
- 5.42 Such cabling is required for a variety of functions. These include traction power supply strengthening, control and monitoring of the traction power supply and other functions, communications with tramstops and trackside equipment, and local auxiliary power supply distribution.
- 5.43 Surface-mounted troughing is not preferred from a security and maintenance viewpoint, but has a lower cost than ducting. However, making the lids of surface mounted troughing secure is likely to lessen the difference in cost. Access chambers will also be simpler with surface mounted troughing.
- 5.44 Troughing could be mounted on posts, as alongside railways, but this is unlikely. Troughing may also be either surface-mounted or inset flush with the ground. The approach would be dependant on the location.
- 5.45 The amount of trackside cabling may be lessened by adoption of wireless technology for communications and this is currently under investigation. At this stage, however, it is very unlikely that all cabling requirements can be eliminated.
- The detailed design and treatment of these elements must minimise any protrusion above ground, and be incorporated fully into hard or soft landscape treatments.
 - Detailed design must also ensure that no hazard to safety or pedestrian or cycle circulation is likely to result.

TRACKSIDE EQUIPMENT (CONT.)

DESIGN GUIDANCE AND CHECKLIST - TRAM SIGNALS

- 5.46 Trams have their own signalling with trackside signals mounted on poles. The casing of the signal head is essentially the same as one of the three as one of the three lamps forming a standard traffic light, but with the format being a set of white lights forming a bar or other-shaped aspect. Where co-located with a set of traffic lights, they can be placed to the side or above the standard signal head, similar to a filter arrow traffic signal. A single aspect will be placed with each traffic signal on the relevant approach to any traffic-signalled junction. This would include any signalled pedestrian crossings, for instance. Certain locations may require an additional aspect for visibility, as with traffic signals. All existing traffic signalled junctions along the line of route are likely to be retained and probably some more added, depending on the safety and other considerations at particular locations. These may include locations where the segregated tramway crosses a road (NB this is treated as a traffic-signalled junction and not as a railway-type level crossing).
- 5.47 Additional signal heads are required on the approach to any facing points showing the safe position of the point mechanisms.
- 5.48 It is possible that there may be other signals required at junction locations away from the street.
- 5.49 The precise location of all signals relative to the point mechanism or the stop line at traffic signalled junctions is very important.
- Signals should only be provided where necessary
 - Clutter should be avoided by sharing signal poles wherever possible
 - There is a preference for simple vertical poles
 - Gantry signals should be avoided
 - Design and positioning of signals will be consistent with provisions to be contained in the Edinburgh Standards for Streets

MAJOR STRUCTURES

GUIDANCE

5.50 Major new structures are likely to include

- A8 crossing point under the Gogar Roundabout
- Line 2 depot access road bridge
- New bridges over railway at Edinburgh Park and Stenhouse
- Murrayfield viaduct
- Haymarket viaduct
- Starbank walkway
- Lindsay Road retaining wall and grade structure
- Lower Granton Road retaining wall to maintain access to Granton Harbour eastern breakwater
- Crewe Toll retaining wall and grade structure
- Coltbridge retaining wall

5.51 Major extensions to structures are likely to include

- Extension of bridges at Roseburn, Balgreen, Craigleith Drive, St George's School and Groathill Road South
- Coltbridge retaining wall
- Extension of Coltbridge viaduct
- Balbirnie Place underpass
- Balbirnie Place embankment

Initial planning statements have been provided for each of these and are contained in Appendices 7 and 8. Other statements will be produced if additional structures are required.

Other Relevant Documents

The design of structures should be consistent with the emerging guidance on “Edinburgh Standards for Streets”.

Reference should be made to the Council’s Development Quality Guideline on Community Safety.

Reference should also be made to the relevant Environmental Statement.

Consideration should also be given to:

Conservation Area Character Appraisals

The World Heritage Trust Management Plan

The Memorandum of Guidance for Listed Buildings and Conservation Areas

DESIGN GUIDANCE CHECKLIST

- The design of major new structures and extensions to existing major structures needs to take account of the structure-specific statements and be accompanied by design statements to demonstrate this.
- All design statements should be agreed by the Planning Authority and other interested parties (such as land owners) prior to the commencement of detailed design work.
- The design of overhead line equipment and trackside equipment needs to take into account and reflect the structure specific requirements (for example the position of poles will need to reflect the overall structure design).
- These statements will take account of the physical context, the planning policy context and the nature of the structure proposed.
- Structures should be designed without dark recesses.
- Materials should be robust, vandal-proof and corrosion-resistant.
- Appropriate lighting should be included within the design.

DEPOTS

GUIDANCE

- 5.53 The choice of depot location has been driven by a number of factors including the size, accessibility, planning status and environmental suitability of potential sites. Following assessment, a preferred site has been identified for each line. The proposed sites are currently a plot within Leith for Line 1 and immediately to the north of Gogar Roundabout for Line 2. If only 1 depot is required, Gogar is the preferred location for reasons relating to townscape and regeneration in the Leith Docks area.
- 5.54 The aim is through a creative and imaginative architectural response to a very specific set of criteria, to design structures that are assets to the city. Appropriate design will reduce the need for screening and other mitigation measures. In addition, where site conditions allow, visual impact may be mitigated by appropriate use of levels in the site relative to its surroundings, and the introduction of landscape screening. To achieve a high-quality design that fulfils the functional requirements and respects its surroundings, the following points should be considered:

Site Layout

- 5.55 Factors affecting site layout include:
- the size of structures,
 - the requirements for efficient tram movement,
 - The level relative to and the links with the tram route,
 - the orientation of site and structures,
 - the relative proportions of the site,
 - the accommodation of all operational facilities, and
 - access for pedestrians and vehicles, and security issues.

Functionality

- 5.56 All depot activities should be facilitated through:
- efficient layout offering minimal impact;
 - compliance with statutory regulations (e.g. building regulations, disabled access etc); and
 - connection with the wider tram network.

DEPOTS (CONT.)

Visual Impact

5.57 Factors affecting visual impact include:

- the building footprint and height;
- massing of elements; materials and finishes (which should be chosen to complement the tram network and context);
- skyline impact;
- external storage areas
- views into and out of each site; and
- landscaping and physical or visual permeability.

Environmental Impact

5.58 Factors affecting environmental impact include:

- noise;
- treatment of lighting;
- softening of hard landscaping; and
- creation of habitat within the constraints of the locality e.g. requirements of the BAA.

Other Relevant Documents

The design of depots should be consistent with the emerging guidance on “Edinburgh Standards for Streets” and “Edinburgh Standards for Sustainable Buildings”.

Reference should also be made to the relevant Environmental Statement.

The Guidance set out in HMRI RSPG Part 2, Section G, Tramways and where applicable Section A Infrastructure (1996) also applies.

DESIGN GUIDANCE CHECKLIST

- 5.59
- Each depot site should provide secure stabling for the fleet.
 - The depot must be accessible by road and in close proximity to public transport links
 - Road access should be provided for the delivery of trams, and for routine access by heavy goods vehicles making deliveries. Road vehicle access must avoid blocking adjacent roads
 - Site layout should relate to surrounding activities and noise-generators as well as functionality and efficiency of use.
 - Depot elements should be orientated to group noise-generating activities as well as functionality and efficiency of use.
 - The depot should be designed as a single entity, bearing in mind all the elements.
 - Depot buildings should be designed as architectural statements.
 - Acceptable boundary noise level is to be agreed with the Council's Department of Environmental and Consumer Services.

Line 1 Considerations

- The site layout suggests grouping building(s) close to existing industrial buildings where possible, for example, near the timber yard building along the southern boundary.
- The depot building(s) should be architecturally sensitive to the surrounding context, particularly to the Constitution Street facade and the gate piers to the port.
- Existing pedestrian links /routes around the port should be enhanced but for safety and security reasons public access through the depot site will not be possible.

Line 2 Considerations

- Planting must be incorporated along the southern and western boundary edges consistent with BAA guidance to prevent birdstrike difficulties – native deciduous species are to be used where possible
- Peripheral screen mounding, in order to reduce landscape and visual impacts should be the preferred design option. This will be sympathetically graded out to tie into surrounding flat agricultural land and should be augmented by native scrub planting.
- Depot buildings are to be constructed to sit as low as possible within the site in order to mitigate adverse landscape and visual impacts and minimise the height of screening required.

SIGNAGE

GUIDANCE

- 5.60 Signs are an important visual component of the tram system. They can be used to reinforce the legibility of the tram system whilst complementing existing signs within Edinburgh. Signs are also important in image-building (see also Graphic Identity Sections) for the tram system and should be both distinctive and instantly recognisable. Signs should be integrated with other elements associated with the tram, minimising clutter.
- 5.61 The legibility of signs can be maximised through the appropriate use of contrasting colour between the lettering and background. Pictograms should be used as part of the signage strategy, increasing accessibility for tourists with limited English, children and those with literacy disadvantages. Pictograms employed by Edinburgh’s Tourist Board and meeting the criteria of the International Standards Organisation (ISO) for standardisation will be useful motifs in creating signs that are easily recognised and understood. However graphic modifications may be desirable to create the tram’s distinctive identity or to respect a particular site context.
- 5.62 The Council is committed to a reduction of street clutter and this applies particularly to signs. An array of oddly sized and shaped signs not only gives confusing messages for drivers, it reduces the quality of a street scene. Studies of individual streets show that in most streets it is possible to considerably reduce street clutter.
- 5.63 For instance, many traffic signs are not mandatory and may be used at the discretion of the Council. The avoidance of a proliferation of signs and hence street clutter and visual confusion is a positive act to improve road safety. As a result the minimum number and size of signs, consistent with the regulations, should be installed.

Other Relevant Documents


The approach to be taken with regard to signage should be consistent with that taken in the emerging guidance on “Edinburgh Standards for Streets”.

Reference should also be made to the Council’s Development Quality Guideline:

- Advertisements and Sponsorship

DESIGN GUIDANCE CHECKLIST

- Signs should be designed as an integral part of the tram system, and instantly recognisable.
- Only the minimum number of signs will be permitted and, if justified, signs should be combined with other elements of the tram system.
- Signage should be considered as a whole, including identity, passenger information systems, directional signs and mandatory street signs.
- A generic family of signs should be developed that are clearly part of the tram infrastructure but are also sympathetic to their context.
- Typical signing at a stop may comprise stop names, perhaps illuminated, usually two per platform; direction signs and local map information, real time information displays, destination signs; timetable information and a braille information panel; and the Edinburgh Tram Logo. There may be a disabled boarding point sign although this may not be necessary.
- Signing associated with the tram must not create unnecessary street clutter with preference being given to integral mounting, and should be sited without impeding circulation on paths.
- Signs relating to the tram must be visible by all, in all weather and lighting conditions.
- The scale of signs should relate to their context and content.
- Where the posts of signs are painted a colour other than grey the backs of signs should also be that colour.
- Where signs are fixed back to back, they should ideally be the same size.
- Consideration should be given to fixing signs to walls and railings, especially in residential areas.
- The graphic design of signs should achieve continuity, be legible, and reinforce the timeless design solution being sought throughout the tram system.
- Lettering should have little contrast between horizontal and vertical line weights.
- Recessed/raised light-coloured typefaces on dark backgrounds are preferred to be legible by both sighted and visually impaired people.
- Where bespoke characters are introduced, they should be easily understood and used consistently throughout the tram route.

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- Primary information is to be clearly lit in a style and at a level that coordinates with the 'kit of parts'.
 - As a general rule display panels should not have internal moving parts.
 - Panels should not be located to pose obstruction to visually impaired passengers.
 - Passenger Information Systems should be considered in relation to all signage proposed for the tram, including the mandatory signs.
 - At least one (double-sided) real-time display must be provided at each shelter or platform, positioned to be visible from the main waiting areas.
 - If displays are integral with the shelter they must be legible from furthest point within the shelter and from all seating positions in the shelter.
 - The real time display should be mounted horizontally and be capable of displaying scrolling and static information simultaneously. Upper and lower case lettering must be used (to maximise legibility).
 - The real time display must incorporate the correct time.
 - The display must be legible under all lighting and weather conditions.
 - No advertising will be permitted on real-time display facilities, but public information could be incorporated within the display itself.

GRAPHIC IDENTITY

GUIDANCE

- 5.64 The graphic component of the system design is concerned with typography, the selection of colours and the application of motifs, logos and artwork. How these elements are applied also extends to how the branding is expressed through both the interior fit-out of the trams and the elements that comprise the stops. The creation of a recognisable graphic strategy is crucial in creating a perceived association between tram elements and quality and efficiency.
- 5.65 To achieve a recognisable graphic identity particular consideration should be given to:
- System/Corporate Identity
 - Tram Livery
 - Tram Interiors
 - Ticketing and Stationery
 - Other Information
 - Signing
 - Advertising
 - Uniforms

System/Corporate Identity

- 5.66 Corporate identity should be reinforced visually by the use of a specific logo, distinctive typeface or use of a particular colour. Consideration must be given to existing publications and branding associated with the city before considering a complementary or deliberately contrasting approach/style. Design solutions should be adaptable to varying scales and forms so that corporate identity can be reinforced throughout a wide range of elements from Tram livery and signs through to interior fit-outs and tickets. A timeless and high-quality solution to the graphic design is advocated.

Tram Vehicle Livery

- 5.67 The distinctive branding must be applied to the tram itself so that each tram vehicle is instantly recognisable. A colour palette that respects the indigenous colours of Edinburgh's cityscape is recommended and graphics should reinforce the image of movement in a simple, clear and coherent style. Careful consideration will be given to whether advertising on the exterior of the tram is appropriate.

GRAPHIC IDENTITY (CONT.)

GUIDANCE

Tram Vehicle Interiors

- 5.68 An easily accessible, open, bright and clean interior is paramount to creating a welcoming and safe environment. Interiors need to cater for the city's diverse range of users. Materials must be hardwearing and easily maintainable. Colours used internally should reflect the system identity adopted externally. Consideration should be given to floor coverings, seats, poles and racks, window frames, ceilings and internal lighting. A limited amount of discreet advertising may be considered.

Ticketing and Stationery

- 5.69 Tickets, passes, route plans/maps, timetables and other items should all be instantly recognisable as part of the tram system's associated material. Information should be displayed clearly. Good communication is imperative to the success of the tram. Whilst people will become familiar with the routes of the tram system because of the presence of wires and rails, knowledge of the system's routes and stops needs to be imparted to the users simply, quickly and in an easily understandable way if maximum usage is to be attained.

Advertising

- 5.70 Throughout the tram system, advertising must be very carefully controlled and an advertising strategy should be applied consistently along the tram routes. It should not be seen in a negative light, and consideration should be given to using new technologies in creative advertisement facilities. Commercial advertising should be combined with public information. All external advertising must comply with Council policy guidance.

The preparation of a signage and advertising strategy is recommended to consider the extent of advertising sought.

Refer also to the section on Tram Stops and Signage

Uniforms

- 5.71 The clear, distinctive and discreet colour branding of the system must also extend to the uniforms of tram staff. They should be easily identified by all users.

Other Relevant Documents

Graphic identity design should be consistent with the emerging guidance on “Edinburgh Standards for Streets”.

Refer also to the Council’s Development Quality Guidelines on:

- Art in Public Places
- Advertisement and Sponsorship

DESIGN GUIDANCE CHECKLIST

Overall System/Corporate Identity

- 5.72
- The system identity should be appropriate to Edinburgh’s character.
 - The graphic identity should be clear and instantly recognisable.
 - The graphic identity should create a perceived association with safety and efficiency.
 - System identity should be reinforced visually.
 - Design solutions need to be adaptable to fit a variety of tram system elements.
 - The solution should be of a high quality and timeless in design.
 - Pictograms should be consistent with those used by the ISO and Edinburgh’s tourist board.

Tram Vehicle Livery...

- 5.73
- Graphic design should be incorporated effectively on the tram vehicles.
 - A discreet colour palette should be established.
 - The colour palette should complement materials such as glass, stainless steel and anodised aluminium.
 - Graphic identity/elements should be prominent yet not dominate the surrounding context.



Tram Interiors

- 5.74
- Interiors should be easily accessible, clean, open, and sufficiently illuminated.
 - All potential user groups need to be catered for with clear signage with regard to storage of luggage, cycles, wheelchairs, and prams.
 - Materials used must be robust, hard-wearing and easily maintained to a high level.
 - Colours incorporated should stem from the chosen tram colour palette, reflecting corporate identity.

Tickets and Stationery

- 5.75
- Tickets, route plans/maps and other associated tram stationery must be instantly recognisable.
 - Information on such elements should be clear and accessible by all.

Advertising (See also the section on Signage)

- 5.76
- Advertising throughout the tram route should be restricted and comply with Council policy and guidelines.
 - Advertising should be discreet.
 - Advertising may be incorporated within trams.
 - Adverts used on or close to tram shelters or platforms should not impair visibility.
 - Adverts should not create street clutter, being instead incorporated into existing tram streetscape elements.
 - Adverts on litterbins, multiple shelter panels, and seating should be avoided.
 - Careful consideration will be given to whether adverts on the exterior of the tram will be acceptable.

Uniforms

- 5.77
- Uniforms should be easily recognisable as part of the tram system.
 - A suitable design of uniform should be selected to reinforce the tram identity.

You can get this document on tape, in Braille, large print and various computer formats if you ask us. Please contact ITS on 0131 242 8181 and quote ref 06060. ITS can also give information on community language translations. You can get more copies of this document by calling David Morgan (Customer Services Team Leader) on 0131 529 3900.

遠設計手冊解說要在愛丁堡電車計劃中遠致優質設計所需要具備的內容、要求及結構。愛丁堡市議會作為「規劃當局」在評估建議書時，會以此為參照，同時，設計手冊在採購過程中是重要的部份。欲查詢本文件的翻譯資料，請致電愛丁堡市議會傳譯及翻譯服務部(ITS)，電話0131 242 8181並說明檔案編號06060。

یہ ڈیزائن مینیل (ہدایت نامہ) ایڈ میرا کے ٹریم کے پراجیکٹ کے میڈیٹریڈ برائیں کے حصول کیلئے اس کے مضمون، مطالبات اور طریق عمل کی مجموعی پیش کرتا ہے۔ یہ ایک ریفرنس پوائنٹ کی طرح کام کرتا ہے جس کے تحت سنی آف ایڈ میرا ٹولس کو بحیثیت پائلٹ قدرتی اجازت کی کمی تجاویز کا جائزہ لیا جائے گا۔ اس کے علاوہ حصول کے طریقہ کار میں کلیہ کی کردار ادا کرتا ہے۔ اپنی کیونٹی میں ہول ہائے وائی ڈائن میں اس دستہ کے ترقی کے حلقہ معنوںات کیلئے برائے مہربانی ایئر پرائیوٹیشن ایڈز ٹرانسپیشن سروس (ITS) کو 0131 242 8181 پر ٹیلیفون کریں اور ریفرنس نمبر 06060 کا حوالہ دیں۔

شرح دلیل استخدام التصاميم السياقي والمتطلبات والاليات لتحقيق التصاميم ذات التنوعية لجيدة لمشروع فريق إدنبورج، وسيكون نقطة مرجع تقييم على أساسه الطلبات التي يتم رفعها لمجلس بلدية مدينة إدنبورج باعتبارها "سنة التخطيط" كما سينصب دورا مهما في عملية الحصول على المشوريات. للمعلومات حول ترجمة هذه الوثيقة إلى لغة جابتك الرجاء الاتصال مكتب خدمة الترجمة الفورية والتحريرية على رقم الهاتف 0131 242 8181 وذكر الإشارة رقم 06060

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Andrew M Holmes
Director of City Development
The City of Edinburgh Council
1 Cockburn Street
Edinburgh EH1 1ZJ



• EDINBURGH •
THE CITY OF EDINBURGH COUNCIL

EDINBURGH TRAM DESIGN MANUAL



APPROVED 1 DECEMBER 2005 (AMENDED 12 JANUARY 2006)

愛丁堡電車設計手冊

এডিনবরা ট্রাম পরিকল্পনা সম্বন্ধে লিখিত বর্ণনা

ایڈنبرا کیلئے ٹریم کے ڈیزائن کا ہدایت نامہ

دلیل استخدام تصامیم فریق اینجیر

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CCTV Closed Circuit Television

CEC City of Edinburgh Council

DDA Disability Discrimination Act

LOD Limit of Deviation – Area within which the tram project may be constructed – as defined in the Parliamentary Plans lodged with the Tram Bills

LLAU Limit of Land to be Acquired or Used- Area which can be used temporarily or permanently for specified purposes connected with the tram project (eg temporary construction compounds) but not for the tram tracks – as defined in the Parliamentary Plans lodged with the Bills.

LTS Local Transport Strategy 2004-2007 as approved by the City Council in March 2004

NPV Net Present Value - the value of an investment based on an analysis of all life cycle costs and revenues adjusted to reflect present day prices. A positive net present value demonstrates that the investment will be profitable and the higher the figure, the more profitable it will be.

OLE Overhead Line Equipment ie wires and insulators, support poles and fixings to buildings to support wires.

S75 Agreement

A legal agreement under s75 of the Town and Country Planning (Scotland) Act 1997 between a land/property owner and the Planning Authority to restrict the use of land/property or make a contribution of some kind.

tie Transport Initiatives Edinburgh Limited

TSAO Tram System Aspirational Objectives - these are the Council's aspirations for the type of tram system that will be delivered



Part 2

Detailed Design Requirements

5(a) Tram Identity

5(b) Tramway Alignment and Integration

ALIGNMENT

GUIDANCE

Limits of Deviation

- 5.78 The general route of the proposed tramways has already been set out. The “Limits of Deviation” shown in the plans submitted to Parliament refer to a clearly defined area within which the tram route, associated infrastructure and any mitigation required can be built. In addition to these, there are also Limits of Land to be Acquired or Used – additional land which is needed for construction work.
- 5.79 Within the urban environment, the Limits of Deviation are generally set from building line to building line. This allows for maximum flexibility when coming to design the alignment in detail.

Detailed Route Alignment

- 5.80 The adoption of a coherent/holistic design approach to determining the exact alignment of the tram route, assessing the streetscape in its entirety, will minimise unnecessary visual/physical intrusion.
- 5.81 Segregated running will be sought wherever possible. This gives faster journey times and also opens up the potential to create a new type of public realm. Segregated tramways add to the overall amount of public realm space and enhance connections between different parts of the city. They increase the visibility of the tram and also its attractiveness to users. Opportunities should be taken to use the tram as a catalyst for regeneration or enhancement.
- 5.82 The detailed alignment of the tram line will require many different and sometimes conflicting pressures and constraints to be assessed: safety, environmental, transport, engineering, aesthetic, financial, political and operational.
- 5.83 The final alignment should, therefore, provide an equitable balance between the users’ needs (i.e., those who live, work, visit and socialise in the city), operational requirements and the city’s urban form. An effective and attractive tram system not only provides a transport service but also has the potential to enhance the urban environment for pedestrians by reducing private vehicular traffic. The tram scheme is a key element within the Council’s Integrated Transport Initiative and is promoted as a quality alternative to the car for many urban trips. The aim is to reduce congestion within the city and, therefore, improve the quality of its public spaces.



ALIGNMENT (CONT.)

Taking Account of Urban Context

- 5.84 The detailed alignment should complement the existing urban form in a sensitive, considered and positive way, reflecting the different character of conservation areas such as the geometry of the New Town, the medieval form of the Old Town, and the tight spaces within Leith and Trinity. It should avoid unnatural changes in direction or contrived curved deviations, facilitating ease of installation. This will also help to secure fast journey times. Edinburgh is also under significant development pressure and requires carefully considered, high quality solutions for more modern environments to encourage the successful and sustainable development of buildings and transportation networks.

Different Character Zones

- 5.85 The proposed routes for Line 1 and Line 2 pass through different character zones, presenting different design challenges. For instance, Edinburgh's historic core must be preserved aesthetically and does not have the physical capacity to incorporate dramatic change. Care must be taken to ensure that the alignment of the tram route complements existing buildings and the current spatial use of the public realm. Generally speaking, the tram line should run parallel to the predominant building line with care being taken to ensure that important visual axes are not broken. A set of Principles was devised for Princes Street (see Appendix).
- 5.86 In less intensively developed sectors of the city and adjacent to important open green spaces, the alignment of the tram line should be guided by strong visual lines in the landscape, such as fields, avenues of trees or natural variations in contours.
- 5.87 In more rural or remote locations, the subtle integration of the tram route is essential, in order to ensure that it does not stand out as an unnatural/alien feature. Utilising existing transport corridors and natural landscape features may help to provide a "fit" with the existing landscape. In many situations, it is not possible to screen the tram's associated infrastructure.

Other Relevant Documents


The design of the alignment should be consistent with the emerging guidance in “Edinburgh Standards for Streets” and the requirements of HMRI RSPG Part 2, Section G, Tramways.

Consideration should also be given to:

- Conservation Area Character Appraisals
- The World Heritage Trust Management Plan
- The Memorandum of Guidance for Listed Buildings and Conservation Areas

DESIGN GUIDANCE AND CHECKLIST

- 5.88 The detailed design requirements which follow set how the design principles are to be achieved to comply with this guidance.
- 5.89 The detailed alignment of rails and surfaces should take account of the following requirements:
- Tram lines should run parallel to the predominant building line, and important visual axes (existing or proposed);
 - Take due cognisance of the particular sensitivities within the WHS and Conservation Areas;
 - Mitigate the impacts on the setting of listed and prominent buildings;
 - Maintain important vistas either by running parallel to them or crossing them with minimum intrusion;
 - In rural areas and through large open spaces, alignment should follow existing features in the landscape, such as field boundaries or avenues of trees;
 - At junctions, the alignment should be as simple as possible, avoiding fragmented spaces and retaining ease of pedestrian movement;
 - Minimise land and property severance or isolation;
 - Minimise property take and demolition;
 - Maximise the space for pedestrians;

- 
- Minimise the impact upon key landscape features such as listed structures, scheduled monuments, archaeological remains and designed landscapes and gardens;
 - If a loss of landscape features is unavoidable, replace these;
 - Protect existing trees wherever possible and avoid damage to tree roots.
 - Minimise potential noise (wheel squeal) and vibration arising from tight radii at junctions, points and crossings;
 - Protect residential amenity by minimising the impact of any necessary noise and vibration;
 - Address frontager servicing and parking requirements;
 - Keep maintenance costs low;
 - Minimise track “wobble” to ensure minimal visual intrusion arising from OLE, kerb lines, fence lines, alignment markings or delineation);
 - Minimise construction impacts both on the environment and residents;
 - Seek to provide a balance of cut and fill volumes;
 - minimise the requirement for visual screening;
 - where route runs off-street, seek to avoid “overlooking” from trams; and
 - Integrate with the surrounding environment.

OVERHEAD LINE EQUIPMENT

- 5.90 The Council's preference is for a wire free system in the World Heritage Site and other sensitive locations. However, it has been accepted that this is not currently feasible and the following guidance therefore applies.

GENERAL DESCRIPTION FOR OVERHEAD LINE EQUIPMENT (OLE)

5.91 **Elements:**

- **Poles**

Poles may take a number of standard forms e.g. hollow circular; hollow circular and stepped; universal columns; hollow square (special fabrication). Circular options are generally preferred and allow easier attachment of equipment at different angles. The top of the pole needs a cap to prevent water ingress. This may be a decorative finial if required. The height of poles is dependent on the location and there is a preference to adopt a limited number of standard lengths of pole. Higher poles are generally of larger diameter/width and there are again a limited number of standard options available.

- **Pole foundations and mounting**

There are a number of alternative foundation options for poles. Some require the base of the pole to be bolted onto the foundation, which has advantages for future replacement. Disguise or treatment at the base must be addressed.

- **Rationalisation of Poles with street lighting etc**

For safety reasons, OLE poles are not frangible, unlike street-lighting columns. Because of this, OLE cannot be mounted onto existing columns, therefore consideration should be given to rationalisation of other elements onto the new OLE columns. The principal implication of this is for street lighting, requiring electrical safety and maintenance principles to be established. Signage may also be considered.

- **Location of poles**

Poles may be placed centrally between tracks or to the side of a single track or of double track. Where poles are close to the track, rigid cantilever arms are normally used to support the contact wires. With central poles, the cantilevers are balanced to either side and pole height can be minimised. Cantilevers can be used over two tracks from a side pole, although there is an effect on the height of the pole due to the greater length.

OVERHEAD LINE EQUIPMENT (CONT.)

- **Building Fixings**

In all normal circumstances these will take the form of a stainless steel eye-bolt.

- **Contact Wires**

A standard size single wire is expected to be used throughout the system. There is some variation in cross-sectional area available as standard and the selection will primarily be made on the overall traction power network design (There is a balance to be determined between cross-section, load requirements and substation location and spacing). In order to achieve a single contact wire, a parallel feeder cable is likely to be required. This would be laid in an underground duct and linked to the contact wire at intervals. Alternatively, solutions using twin contact wires, closely spaced, or catenary are required to give the required cross-section of copper along the route as part of the electrical design. The contact wires are suspended from cross spans of cantilever arms by smaller arms. The contact wire is divided into sections (typically 1200-1500m) which must be terminated off the line of the track to poles or other supports. An overlap to the next section is provided to ensure continuity of contact with the tram's pantograph. The contact wire is normally staggered from side to side along the length of the route (by typically +/- 300mm) to promote even wear on the pantograph.

- **Catenary**

An option for off-street sections may be the adoption of a simple catenary system with the contact wire suspended from a messenger wire (that takes the general form of a catenary and gives its name to the arrangement). This would allow significantly increased pole spacing on straight or gently-curved sections.

- **Tensioning**

The contact wire is normally longitudinally tensioned, usually by weights. For tramway applications, these are usually contained within poles of larger diameter. In some locations, it is possible that fixed termination equipment may be used, without tensioning. Operating speeds are limited without tensioning and supports must be spaced closer together.



- **Support Wiring**

The contact wire is suspended from the pole cantilevers or from support wiring between poles and/or other support locations. Where necessary, the contact wire must be restrained or tensioned laterally to follow the alignment of the tracks within relatively small dimensional limits. This is to ensure that the pantograph retains contact without the risk of losing contact sideways due to movement of the contact wire in wind or due to variations in temperature. This is the reason for the increased number of support positions required on horizontal curves, more being required the sharper the curve. Similar requirements are also present in locations of vertical curvature, and are compounded where combinations of horizontal and vertical curvature are present. Components to allow adjustment of the network of support wiring are included in the complete layout design.

- **Insulation**

Insulators must be placed in the support wiring and a system of double insulation is required by HMRI. In general, placing of the insulation as close as possible to the contact wires is preferred in order to minimise the amount of the total OLE network that must be considered as “live” in relation to safety considerations and arrangements for maintenance of both the tramway and adjacent properties. A variety of approaches to the insulating components is available. The aim must be to minimise visual intrusion.

- **Feeder Cabling (Insulated cables)**

Electrical power is supplied to the contact wire through cables from substations and additional trackside isolator cabinets (where necessary to provide electrical sectioning away from substation locations). Additional feeding cables are required to link periodically the parallel supply cable with the contact wires. Electrical sectioning is required in a limited number of locations, usually related to the positions of track crossovers to allow for the temporary suspension of services over sections of the route due to emergencies requiring OLE isolation, or planned or unexpected track blockages.

- **Materials**

To reduce maintenance, components are to be made from non-corroding materials such as stainless steel, or should be galvanised, and, for insulators, plastics or GRP. Poles are usually mild steel with galvanising. Painting (using an appropriate system) can be applied, although this would remain a maintenance liability. An alternative material for support wiring and related components is a synthetic rope. This has a black sheath and is of larger diameter than a stainless steel equivalent.

- A standard set of components from which the complete OLE system is assembled will be provided.
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OVERHEAD LINE EQUIPMENT (CONT.)

GUIDANCE

- 5.92 In any length of street or section of route, a number of factors have to be considered to achieve an overall balance of visual appearance. Issues to be addressed in achieving this balance include:
- Availability and suitability of buildings for the application of building fixings from both a technical, aesthetic, and architectural/historic sensitivity point of view.
 - Numbers and sizes of poles. A greater number of smaller poles may well be preferable to a smaller number of larger poles.
 - Position of poles in respect of highway safety (with consequential protection requirements) and rationalisation of street clutter.
 - In areas of curvature there are likely to be trade-offs between the numbers of supports (poles and/or building fixings) and the quantity of support wiring. There may be more flexibility in areas of horizontal curvature than in areas of vertical curvature.
 - To achieve maximum integration with street lighting, but typical spacing is usually different for the two requirements and height of street lighting must be considered in the visual impact of pole design.
 - Colour and design. The selection of colour and design of both poles and lines should be consistent with other street furniture and should consider the visual appearance.
 - Ancillary wires and other features should be co-ordinated and their effects considered holistically along with other trackside equipment

Other Relevant Documents

The design of elements required for Overhead Line Equipment should be consistent with the provisions of the “Edinburgh Standards for Streets” currently in preparation.

Other relevant planning guidance is contained in the following Development Quality Guidelines:

- Historic Buildings Repairs
- Development Affecting the Setting of Listed Buildings

The requirements of HMRI RSPG Part 2, Section G, Tramways also apply.

Consideration should also be given to:

- Conservation Area Character Appraisals
- The World Heritage Trust Management Plan
- The Memorandum of Guidance for Listed Buildings and Conservation Areas

DESIGN GUIDANCE CHECKLIST

- 5.93
- Need for early discussion with the Planning Authority regarding suitable approach for particular streets or sections of streets
 - Cross refer to Princes Street Guidelines and any other public realm/ townscape guidance.
- 5.94 Where poles are accepted as the appropriate solution
- the alignment of poles should run parallel to the predominant building facade.
 - the intervals between poles should be consistent and the locations must take cognisance of adjacent building fenestration and entrances.
 - Poles should be spaced to maintain clear visual axis across bisecting streets.
 - Where there is a strong visual axis along the full length of a street, the rhythm of the poles should be considered for the street as an entity.
 - The effect of colour of the poles and OLE should be considered and a consistent colour chosen in accordance with “Edinburgh Standards for Streets”.
 - The design (shape and height) should take reference from other street features and be consistently applied. Height of poles should be consistent throughout each section of the route.
- 5.95 Where building fixings are to be used
- Evidence of structural suitability to be provided
 - Building fixing positions must in each case respect the building features, e.g. fenestration and ornamentation.
 - Fixings should be discreet in terms of position and actual fixing design
 - All building fixings must be stainless steel or other suitable corrosion-resistant material.

SURFACING

GUIDANCE

- 5.96 Materials will need to comply with the provisions of the Edinburgh Standards for Streets document.
- 5.97 General requirements for tram surfacing are driven more by the requirements of other road traffic and pedestrians than by tramway-specific requirements.
- 5.98 Within existing streets, track construction in street will be developed to allow a variety of possible surface finishes to be applied. Surface finishes should be in line with those described in the Edinburgh Standards for Streets, or developed in consultation with the Council. The in-street track construction and possible surfacing options may include specific requirements when there is general traffic running along the track, or across the track. A similar approach will be adopted off street.
- 5.99 One additional general principle is to avoid excessive areas of metalwork (comprising rails, especially at pointwork, and manholes or equipment access covers) in trafficked carriageways.

Other Relevant Documents

Surfacing should be consistent with the provisions of the emerging guidance in “Edinburgh Standards for Streets”.

Refer also to the Council’s Development Quality Guideline on:

- Sett Paved Roads

Guidance in the HMRI RSPG Part 2, Section G, Tramways also applies.

DESIGN GUIDANCE CHECKLIST

General

- 5.100
- Surfacing should be simple and respond to the local context.
 - Only a limited palette of materials should be used, reflecting the Council's emerging guidance 'Edinburgh Standards for Streets'.
 - Road design standards must be satisfied in the context of the Edinburgh Standards.
 - All materials should be capable of being laid to tolerances to provide free flow of drainage.
 - The direction of movement or segregation should be clearly delineated/or protected within pedestrian zones.
 - The need for physical barriers should be designed out where appropriate by the selection of appropriate materials.
 - Physical control measures will only be considered where there is a risk that vehicles could cross the tramway.
 - The selection of the most appropriate trackform and finish for each location depends on a number of factors and will be determined after detailed consideration.

Noise

- 5.101
- The construction of the trackslab must be designed to reduce ground-borne vibration or noise, particularly to adjacent properties.
 - An acceptable balance must be reached between technical requirements for noise reduction and aesthetic requirements within sensitive areas of townscape, particularly in the WHS and conservation areas.

Definition of Tramway Path

- 5.102
- Final alignment of the tramway should take cognisance of potential visual impact at junctions/changes in direction.
 - The lines and fine curves (ellipses) associated with Edinburgh's street grids and layouts must be respected and reflected in the proposed track alignment.



SURFACING (CONT.)

Workmanship and Maintenance

- 5.103
- Establish a co-ordinated, public/private sector partnership to address issues of public realm management and maintenance.
 - Design out potential maintenance problems with particular regard to the layout of elements of street furniture and avoiding the creation of litter traps.
 - Ensure the Council's preferred method of street cleaning can be accommodated, (for example, access for mechanised street cleaners).
 - Ensure that paving surfaces, material and construction can withstand the potential eroding or corrosive effects of the preferred cleaning methods.
 - Ensure that new paving is finished off to marry neatly with existing areas and that specifications for workmanship follow council requirements.

Surfaces

- 5.104
- The finish between the tracks should be the same as that of the carriageway material. However in a street environment consideration should be given to differentiating the tram lane (HMRI Requirement).
 - The finish of platforms/ramps should mimic that of existing pavements, creating distinction between pedestrian and vehicular routes.
 - Continuity of surface material is paramount, however paving size and layout may be adapted to fit a specific area, such as platforms although differentiation may need to be accommodated (HMRI Requirement).
 - Where required, cycle lanes should only be segregated from pedestrian circulation through change in ground surface material or surface features instead of physical barriers.
 - The design of pavement/platform kerbs should create contrast for ease of use by those visually impaired and fit with the "Edinburgh Standards for Streets".
 - Pedestrian crossings should comply with Edinburgh's guidance with regard to surface treatment at crossing points.
 - Where the tram runs through amenity grass the finish between the tracks should be low-maintenance, fine textured grass, unless otherwise agreed.
 - In selecting grass track finish, consideration needs to be given to any unwanted effects such as pedestrian use.

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- Ballast should be implemented in depot areas, industrial areas and less sensitive or visually unobtrusive locations. The ground treatment will provide a well-drained solution.
 - Easy access for grass cutting and maintenance is required along the track and, depending on layout, two metres either side, cutting twice a year (minimum).
 - Where vehicle over-run of grass track is foreseen, a plastic reinforcement grid system, or similar, should be included.
 - Where pedestrian/cycle paths cross the track, the surfacing and edging of these will continue across the track infill.
 - In low maintenance grass areas the finish between the tracks could be a wildflower mix of low-growing fine grasses and low-growing native wildflowers, sown on low-fertility topsoil, cutting twice a year (minimum).
 - Where dirt tracks cross the track, wet rolled, bound-gravel construction, which will be restrained by pegged, treated timber will be implemented for the 1.5m minimum wide path, 3m either side of the outside rails.
 - Consideration should be given to Sustainable Urban Drainage Systems (SUDS) requirements.

ACCESS FOR ALL

GUIDANCE

- 5.105 Care must be taken to ensure that all the statutory obligations are met with regard to access in the public realm and in relation to the tram system.
- 5.106 In order to achieve a high standard of accessibility throughout the tram system, consultation with representatives from each of the identified user groups will be necessary at key stages throughout the design process.
- 5.107 Reference should also be made to the sections on Stops (see page 46) and Surfacing (see pages 84-87).

Other Relevant Documents

The design should be consistent with the emerging guidance in “Edinburgh Standards for Streets”.

Refer also to the requirements of the Council’s Development Quality Guideline on:

- Access to the Built Environment
- Community Safety

The provisions of the Department for Transport Inclusive Mobility Guide to Best Practice on Access to Pedestrian and Transport Infrastructure and the Disability Discrimination Act 2005 (DDA) and the Rail Vehicle Accessibility Regulations must also be complied with.

DESIGN GUIDANCE CHECKLIST

- The accessibility requirements of different user groups must be satisfied with regard to each element of the tram system.
- Address any necessary changes in level as an integrated, positive design feature.
- Crossings should be designed to prevent wheelchairs and prams being caught in the rails.
- In all instances, it is proposed that any street furniture located within active or passive pedestrian spaces should be minimised, if absolutely necessary. This reduces the potential number of hazards, not only to wheelchair and pram users and the partially sighted, but to pedestrians in general.
- All necessary trackside equipment should be set out in a logical and considered way to avoid creating potential hazards.

PEDESTRIANS & CYCLISTS

GUIDANCE

- 5.108 To maximise the use of the tram system by pedestrians and cyclists, access for these user groups to tram stops must be easy, recognisable, direct and safe. Footways/footpaths and cycle tracks should be well defined and aligned with the tram track, only merging with each other at tram stops if no other design solution can be implemented.
- 5.109 Consideration is required in the design and delineation of footways/footpaths and cycle tracks alongside tram tracks to ensure that existing widths are maintained and, if possible, extended. This is particularly important in areas of heavy pedestrian or cycle movements. An important part of the design will relate to the detailing of pedestrian, cycle and tram intersection points at tram stops and crossings, to ensure safe and direct access to the tram system.

Other Relevant Documents

Design should be consistent with the “Edinburgh Standards for Streets” document.

Access arrangements shall also comply with the Disability Discrimination Act (DDA) and the Council’s “Movement and Development” guidelines for adoptable roads and its “Cycle Friendly Design Guide” document

DESIGN GUIDANCE CHECKLIST

- 5.110 The following design requirements must be satisfied.
- Pedestrians and cyclists should be given priority by providing appropriate circulation space adjacent to the tram route.
 - The tram should either connect with existing pedestrian and cycle links, where practical, or give rise to new routes, creating a higher level of accessibility
 - Tram stops should connect with existing and proposed pedestrian links
 - Safe and appealing pedestrian paths must be created through careful delineation and use of changes in level or surfacing in preference to physical barriers.
 - Physical barriers should be avoided where possible as they create unused or unsafe routes. However they may be needed in particular locations to promote safety for pedestrians or cyclists.

PEDESTRIANS & CYCLISTS (CONT.)

- There must be a minimum of one crossing point at any on-street tram stop, appropriately designed to create directness and ease of use. At off-street tram stops, two crossing points should be provided.
- Where a tram stop platform is integrated into the footway, the needs of pedestrians proceeding past the platform must be accommodated, including access to premises along the section of the footway that is also used as the platform
- Dropped kerbs and flush crossing of tram lines should be provided.
- Crossings should, ideally, be at right angles to the tram track or the street, with minimal physical barriers surrounding them.
- Crossings should be sufficiently illuminated to enhance the visibility of pedestrians and cyclists by other road users.
- Crossing points should be provided at frequent intervals along the tram route and provide easy access for all users, including those with prams and wheelchairs etc.
- Sufficient ambient lighting must be incorporated along pedestrian and cycle routes.
- Cycle/pedestrian routes are to be provided alongside the tram track on those sections where the tram route follows a corridor currently occupied by a cycle/pedestrian path only.
- Where space allows, cycle/pedestrian paths should be separated from the tram track by a grass verge, with 2m desirable optimum.
- For on-street sections, cycle lanes should be implemented where possible, to encourage segregation from the tram tracks.
- Cycling on platforms will not be accepted and should be designed out.
- Cycle parking, in the form of cycle stands and/or secure lockers, should be sited close to or on platforms as an integral part of the tram stop, where appropriate. The number of spaces should relate to tram stop location and anticipated demand.
- If possible, cycle parking should be in locations able to be overlooked by CCTV.
- Cycle stands should be secure and sheltered from external elements. Materials used should be robust, vandal resistant, easily maintained and to conform to the tram identity.
- Cycle routes should be fluent throughout the tram route, avoiding interaction with both trams and other vehicles, such as parked cars or unloading areas, and be designed so as to minimise the crossing of the tracks.
- Where there is restricted space and cycle routes cannot be implemented safely, they should merge with pedestrian routes rather than tram or vehicular paths.

DESIGN ELEMENTS OF ENVIRONMENTAL MITIGATION

GUIDANCE

- 5.111 It is important that the environmental impact of the tram is minimised and that this is a major consideration in the design process. All environmental mitigation measures must be well designed and long-lasting. Careful consideration must be given to the diversity and character of the areas through which the tram route passes. This includes the World Heritage Site, various Conservation Areas, seafront areas including the Firth of Forth SSSI / SPA, Sites of Importance for Nature Conservation, rural and semi-rural settings, and the Green Belt. Assessment of these and any other areas of interest together with survey work to identify essential and desirable mitigation to be incorporated into the overall landscape design will be undertaken. The survey work will be carried out by a qualified ecologist and will identify the requirements for complying with all protected species and habitat legislation.

The design, implementation and subsequent management of mitigation measures must respect not only the character of these various areas but their full environmental, ecological and cultural context. This work should be carried out in consultation with CEC and other relevant bodies such as Scottish Natural Heritage.

Other Relevant Documents

The design and construction of environmental mitigation measures must be consistent with the following:

- The relevant Environmental Statement
- Edinburgh Biodiversity Action Plan
- The Landscape and Habitat Management Plan
- The Noise and Vibration Policy
- The Code of Construction Practice
- Control of Substances Hazardous to Health (COSHH)
- Health and Safety Regulations
- BS 5837:2005 Trees in Relation to Construction
- BS 3998:1989 Recommendations for Tree Work

DESIGN ELEMENTS OF ENVIRONMENTAL MITIGATION (CONT.)

Consideration should also be given to:

- Conservation Area Character Appraisals
- The World Heritage Trust Management Plan
- The Memorandum of Guidance for Listed Buildings and Conservation Areas

The design of measures of environmental mitigation should also take account of the Council's Development Quality Guidelines including:

- Quality of Landscaping in New Developments
- Biodiversity
- Tree Protection
- Urban Forestry

DESIGN GUIDANCE AND CHECKLIST - GENERAL

5.112 Reducing the environmental impact of the tram and providing suitable mitigation should be central to the design process. The following design requirements should be considered:

- Refer to the relevant Environmental Statement.
- Comply with performance criteria set out by the CEC and other requirements (as identified above).
- Mitigation measures must be designed to take account of the full context of the area where they are to be introduced and be carefully related to the design of other elements of the tram infrastructure.
- Mitigation measures must be designed to create a positive visual impact.

DESIGN GUIDANCE AND CHECKLIST - TREE WORKS/MANAGEMENT

5.113 There will be a presumption against the felling and pruning of existing semi-mature and mature trees unless this can be proved to be absolutely necessary for engineering or health and safety reasons. The trees which are expected to be felled or pruned are those already identified in the Environmental Statements. A qualified arboriculturalist will be appointed to prepare a tree report prior to any works commencing. This report will set out clearly baseline tree conditions (location, species, condition, height, spread and diameter, each tree being identified by numbering and tagging) within the Limits of Deviation of the corridor; trees to be felled and justification for this; trees requiring pruning or other arboriculture work; and continued tree management required. Notice of tree works should be given to:

- Third parties indirectly affected by tree work proposals;
- The local roads authority if traffic restrictions are required or where works are to take place within, or adjacent to, public spaces;
- The local parks authority if pedestrian restrictions are required in parks or where works are to take place within, or adjacent to, public urban green-spaces;
- Local councillors;
- The Forestry Authority, to ascertain if a felling licence is required; and
- The general public, by means of advanced notices/ publicity.

5.114 Consideration should be given to the following design requirements:

- All trees, woodlands and hedgerows, irrespective of Tree Preservation Order (TPO's) or Conservation Area (CA) protection, are to be retained unless engineering or health and safety reasons dictate felling.
- If retention of existing trees, woodlands and hedgerows is not possible, then new planting on a similar scale to that which is to be lost must be designed.
- All trees, woodlands and hedgerows not to be felled must be clearly marked and protection measures put in place prior to site work commencing.
- Such work will take due account of season especially with regard to bat roosting and bird nesting (see above).
- All tree work will be carried out as per the Tree Report and will be in compliance with current best practice (see above).
- Timber will be disposed of in a sustainable manner, with alternative end uses to be found wherever possible, and will not be burnt on or off site.

DESIGN ELEMENTS OF ENVIRONMENTAL MITIGATION (CONT.)

- The relocation or location of utilities from ‘soft’ areas into shared conduits under ‘hard’ areas to protect existing trees and to maximise the potential for new planting.
- Proximity of track/OLE poles to existing trees to be retained and the relocation of poles to avoid tree removal;
- Minimisation of root severance to ensure tree longevity by employing hand digging around base of tree below canopy
- Finished levels of made-up ground in relation to root collar and root depth; and
- If retaining walls are required near trees, underground-bridging lintels should be used, in order to retain primary roots.
- Construction around trees will take full cognisance of current best practice (see above).

DESIGN GUIDANCE AND CHECKLIST - PLANTING

5.115 The design and choice of planting is vital to the successful integration of the tram into both urban and rural settings. Consideration should be given to the following design requirements:

- Retention of existing trees and hedgerows wherever possible, where they are in good health and tie in with new planting proposals;
- Provide a comfortable ‘fit’ with the adjacent context. Mitigation measures must not create visual intrusion in themselves;
- Avoidance of contained linear forms of planting such as hedgerows where the route crosses naturally open tracts of land, unless such planting is required for essential screening;
- Replanting of trees that are lost to the tram system construction;
- In principle all planting will be based on the use of native species proven to be locally hardy by established presence within the area.
- There will be a concentration on the use of young stock, which will more readily establish in these conditions, although larger plants may be used for initial impact in specific high-profile locations.
- Broadleaved woodland planting comprising a mix of transplants, whips and feathered trees with associated understorey species should be used to create multi-layered woodland with a mix dominated by native deciduous trees, comprising large woodland species and with oak and ash as the principal climax community.

- Mixed woodland planting comprising a combination of transplants, whips and feathered trees with associated understorey species should be used to provide mature multi-layered woodland with an appropriate mix of native deciduous, coniferous and evergreen species. Key species will include oak, ash and Scots pine. The balance between deciduous and evergreen species will be varied to suit desirable density of year-round screening and reflect local planting and landscape character.
- Enhancement and creation of habitat diversity, for example, the establishment of semi-natural grassland, scrub, freshwater and marginal habitats within severed areas, left-over corners or damp hollows immediately adjacent to the corridor.
- Compensation for loss of existing hedgerows and reinforcement of the existing hedgerow structure to enhance local landscape and ecological interests. Hedgerow trees and hedging species should be introduced in locations consistent with local landscape character and should be planted in a double staggered row.
- Use of mass planting at tram junctions, bridges and other structures to help assimilate the new arrangements into the surrounding landscape;
- There will be particular areas, such as in higher-profile urban and suburban areas and business parks, where the proposals will include amenity shrub and groundcover planting, with specimen trees and shrubs and feature hedges. These will normally be planted at a higher density and to a more robust specification than in more rural situations, in order to withstand the higher degree of wear-and-tear and vandalism to which they may be subjected.
- Planting to screen or reduce potential visual impact for identified receptors;
- Planting of severed field corners and landlocked areas where appropriate; and
- Introduction of local focal points of planting, where appropriate.
- In rural areas and wildlife corridors planting species should be native. In urban areas ornamental species appropriate to context may be considered. Final selection will be governed by context and the requirement to 'fit' into the existing environment.
- Cognisance should be taken of the Edinburgh Biodiversity Action Plan.
- Boundary treatments must reflect the existing context.
- In key locations 'one-off' designs should be considered to provide a high-quality design statement.
- Three forms of seeding will be used throughout the substantial part of the design. A verge and track infill mix suited to low levels of annual maintenance and with the potential to develop semi-natural characteristics will be the principal mix. Where areas are to be returned to agriculture, appropriate seed mixes will be selected after consultation with the Scottish Executive Environment and Rural Affairs Department (SEERAD). For informal, low- maintenance areas, often in association with scrub and



DESIGN ELEMENTS OF ENVIRONMENTAL MITIGATION (CONT.)

also for rural track infill, a rough grass mix is proposed, comprising native, non-invasive grass species and wild flowers.

- A landscape management plan should be put in place to ensure establishment of all new habitats and planting.

DESIGN GUIDANCE AND CHECKLIST - NEW CUTTINGS AND EMBANKMENTS

5.116 Consideration should be given to the following:

- Cross-sections on cuttings and embankments should be natural-looking and rounded with smooth curves grading into adjacent contours.
- In rural and urban-fringe settings should grade out to a shallow gradient suitable for return to agricultural.
- Retaining walls are only appropriate in urban or suburban areas where space is constrained.
- Retaining walls may utilise natural stone that provides a visual 'fit' with the surrounding townscape. There may be other means of achieving an appropriate visual fit.

DESIGN GUIDANCE AND CHECKLIST - ACOUSTIC BARRIERS

5.117 Consideration should be given to the following:

- Acoustic barriers where required must meet the noise attenuation performance criteria required for each specific location.
- Where acoustic barriers are a requirement, their design should be aesthetically pleasing and sympathetic to the character of the local area.
- Adverse visual impact disproportionate to the benefits of noise impact mitigation must be avoided.
- The design of acoustic barriers should take account of available space, topography, maintenance and cost.
- Planting will of itself not be used as an acoustic barrier although it should be considered as a means of positively assimilating the barrier with its setting.

DESIGN GUIDANCE AND CHECKLIST - FENCES, RAILINGS AND WALLS

5.118 Fences, railings and walls may be required for security, safety or aesthetic reasons. Consideration should be given to use of such structures in the following circumstances:

- Where it is desirable for the public to be kept away from the track in rural or semi-rural situations, for example, within Green Belt areas;
- In urban areas where existing boundaries are severed or there is a need to tie into existing boundaries;
- In rural areas where existing boundaries or hedgerows are severed, where stock proofing is required or there is a need to change or tie into existing boundaries;
- Where an acoustic barrier is required, acting both as a boundary and as a noise mitigation measure; and
- In other locations as may be agreed as necessary with the City Council Planning Authority.
- The design of any boundary structure must be in harmony with local townscape and landscape character, for example rural areas, seascapes, watercourses and be sympathetic to designations such as Conservation Areas or Wildlife Corridors.
- There may be situations where a design statement is provided if innovative or specific design solutions are required.

DESIGN GUIDANCE AND CHECKLIST – ARCHAEOLOGY AND HISTORIC BUILT ENVIRONMENT

5.119 Consideration should be given to the following:

- Refer to the relevant Environmental Statement.
- Adverse physical impact upon archaeological sites and monuments must be avoided where possible.
- Designs must minimise their impact upon the settings of historic monuments and upon historic landscapes and designed gardens.

You can get this document on tape, in Braille, large print and various computer formats if you ask us. Please contact ITS on 0131 242 8181 and quote ref 06060. ITS can also give information on community language translations. You can get more copies of this document by calling David Morgan (Customer Services Team Leader) on 0131 529 3900.

遠設計手冊解說要在愛丁堡電車計劃中遠致優質設計所需要具備的內容、要求及結構。愛丁堡市議會作為「規劃當局」在評估建議書時，會以此為參照，同時，設計手冊在採購過程中是重要的部份。欲查詢本文件的翻譯資料，請致電愛丁堡市議會傳譯及翻譯服務部(ITS)，電話0131 242 8181並說明檔案編號06060。

یہ ڈرائنگ سپیشل (ہدایت ہمس) ایڈیٹر کے نریم کے پراجیکٹ کے میڈیٹریڈرائٹ کے حصول کیلئے اس کے مضمون، مطالبات اور طریق عمل کی مجموعہ پیش کرتا ہے۔ یہ ایک ریفرنس پوائنٹ کی طرح کام کرتا ہے جس کے تحت سنی آف ایڈیٹر آؤٹس کو بحیثیت پائلٹ قدرتی اجازت کی کمی تجاویز کا جائزہ لیا جائے گا۔ اس کے علاوہ حصول کے طریقہ کار میں کلیہ کی کردار ادا کرتا ہے۔ اپنی کیونٹی میں ہول ہائے وائی ڈائن میں اس دستہ کے ترقی کے حلقہ معنوںات کیلئے برائے مہربانی ایئر پرائیوٹس ایڈوائسریٹس سروس (ITS) کو 0131 242 8181 پر ٹیلیفون کریں اور ریفرنس نمبر 06060 کا حوالہ دیں۔

شرح دليل استخدام التصاميم السياقي والمتطلبات والاليات لتحقيق التصاميم ذات التنوعية لجيدة لمشروع فريق إدنبرد، وسيكون نقطة مرجع تقييم على أساسه الطلبات التي يتم رفعها لمجلس بلدية مدينة إدنبرد باعتبارها "سنة التخطيط" كما سينصب دورا مهما في عملية الحصول على المشوريات. للمعلومات حول ترجمة هذه الوثيقة إلى لغة جانتك الرجاء الاتصال مكتب خدمة الترجمة الفورية والتدبيرية على رقم الهاتف 0131 242 8181 وذكر الإشارة رقم 06060

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Andrew M Holmes
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• EDINBURGH •
THE CITY OF EDINBURGH COUNCIL

EDINBURGH TRAM DESIGN MANUAL



APPROVED 1 DECEMBER 2005 (AMENDED 12 JANUARY 2006)

愛丁堡電車設計手冊

এডিনবরা ট্রাম পরিকল্পনা সম্বন্ধে লিখিত বর্ণনা

ایڈنبرا کیلئے ٹریم کے ڈیزائن کا ہدایت نامہ

دلیل استخدام تصامیم فریق اینبرہ

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CCTV	Closed Circuit Television	NPV	Net Present Value - the value of an investment based on an analysis of all life cycle costs and revenues adjusted to reflect present day prices. A positive net present value demonstrates that the investment will be profitable and the higher the figure, the more profitable it will be.
CEC	City of Edinburgh Council	OLE	Overhead Line Equipment ie wires and insulators, support poles and fixings to buildings to support wires.
DDA	Disability Discrimination Act	S75 Agreement	A legal agreement under s75 of the Town and Country Planning (Scotland) Act 1997 between a land/property owner and the Planning Authority to restrict the use of land/property or make a contribution of some kind.
LOD	Limit of Deviation – Area within which the tram project may be constructed – as defined in the Parliamentary Plans lodged with the Tram Bills	tie	Transport Initiatives Edinburgh Limited
LLAU	Limit of Land to be Acquired or Used- Area which can be used temporarily or permanently for specified purposes connected with the tram project (eg temporary construction compounds) but not for the tram tracks – as defined in the Parliamentary Plans lodged with the Bills.	TSAO	Tram System Aspirational Objectives - these are the Council's aspirations for the type of tram system that will be delivered
LTS	Local Transport Strategy 2004-2007 as approved by the City Council in March 2004		

Appendices

Appendix 1

TRAM SYSTEM ASPIRATIONAL OBJECTIVES

Appendix 2

'PLANNING APPROVALS'

Appendix 3

POST BILL PLANNING PROCEDURES

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Appendix 5

(DRAFT) DESIGN PRINCIPLES FOR PRINCES STREET

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LIST OF DEVELOPMENT QUALITY GUIDELINES

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TRAM SYSTEM ASPIRATIONAL OBJECTIVES

The LTS objectives inform the development of the City's transport system at the highest level. The Edinburgh Tram Project is deemed to be a major element of the Council's LTS. For this reason, a set of tram system aspirational objectives (TSAOs) has been prepared that set out the Council's aspirations, primarily in transportation terms, for the Edinburgh Tram Project. The TSAOs are included within the Tram Design Manual to aid the holistic design process, as they are considered relevant to the design of the tram system and do influence it.

The TSAOs are not intended as an output specification for the tram. Rather, they are intended as a guide to the choice of output specification and as criteria against which to assess the decisions that are being made in defining the tram network, trams and other aspects of the system and its performance.

The TSAOs will not preclude the need to liaise with the Council, as Roads, Planning and Environmental Health Authority, throughout the design process.

All objectives must be taken into account, during the design process, with the presumption of achieving as many of them as possible, whilst recognising that, in some cases, a choice must be made between conflicting objectives. If there are conflicts, the objectives highlighted in bold should be given greater weight, although discussions with the Council would be expected, prior to final decisions being taken.

SYSTEM OBJECTIVES

GENERAL

The most appropriate tram system for Edinburgh will not necessarily be the one producing the most positive Net Present Value. Economic considerations must be balanced with the Council's policies and aspirational objectives to produce the optimum solution with the available resources.

At all times, possible future system expansion should be borne in mind when taking decisions about the nature of Tram Lines 1 and 2.

A SAFE SYSTEM

Interaction with other network users (pedestrians, cyclists, buses and general vehicular traffic) shall include: clear delineation of Tramway Path; pedestrian crossing facilities equivalent to best practice in recent UK and European systems, conforming to any relevant HMRI guidance; and, if unavoidable by design, cycle crossings that are designed to minimise conflict for cyclists.

A SECURE SYSTEM

The whole of the system should be, and perceived as being safe. This should be achieved through design and the use of CCTV and Video Security etc.

Video security should also be provided on trams, surveying views to front and rear of trams as well as complete coverage of all relevant areas within the tram.

Staff – Practice elsewhere is moving towards on-board staff with a dual revenue protection and security/passenger help function. There should be a presumption in favour of provision of on-board staff at levels similar to those on other British and continental staffed light rail systems

In-vehicle security – clear sight lines throughout trams.

A SYSTEM APPROPRIATE FOR CITY'S PUBLIC TRANSPORT NEEDS

Tram services should operate during the normal working day, in the evenings, at weekends and on most public holidays. The actual hours of operation and service levels must be justified to and agreed by the City Council.

The tram system should be designed to maximise patronage of Edinburgh public transport system as a whole (i.e. not simply to transfer existing bus passengers to tram). This implies that mode shift from car is a key objective and further implies that high quality, punctuality, service reliability and ease of use are important parameters in the design of the system.

Agreed targets should be set for performance of operations (e.g. % of trams running on time) and a performance regime considered giving incentive/disincentive in relation to those targets.

A SYSTEM ADEQUATE FOR PRESENT AND FUTURE

Maximum operational tram length (including possible expansion of unit length to cope with additional passenger demand in future) should relate to:-

- the need to minimise the length of kerb space that is sterilised at on-street tram stops (taking into account sterilisation caused by adjacent bus stops, if relevant);
- level and 'peakiness' of predicted passenger demand;
- likely service frequency;
- effects on pedestrian and impacts on moving traffic flows, and
- passive provision for future platform extensions

while maximising the operational flexibility of the system.

Choice of size, length and capacity of trams, (seated, standing, and for wheelchairs/ pushchairs) and the relationship between the number of spaces in each category, and levels of passenger comfort, should be justified in relation to experience elsewhere in UK and on the continent.

Minimum curve radius, maximum vehicle width, and Tramway Path width should consider possible requirements of expansion of system to areas with narrower streets/tighter turning requirements than on Line 1 and 2, land-take/demolition requirements, and interaction with buses and other road-users on on-road sections. Trade-offs between these issues should be made explicit when decisions are taken.

Tram stop spacing should reflect trip generation characteristics of areas through which tram passes. All other things being equal, tram stops should be more frequently spaced where trip generating land uses are of greater density and the journey time advantage of the tram compared to other modes is higher. Thus, for example, high density areas and/or /social housing (e.g. Waterfront, Pilton) and areas providing large employment uses (e.g. Government Offices) would have a higher density of stops than a lower density areas such as Ravelston. There should be a particular concern to ensure that, where practicable, areas suffering from social exclusion are served by tram stops.

Tram stops should be sited as close as possible to the main entrance of employment sites and the highest density parts of housing areas.

Tram stop locations should reflect the underlying urban structure (e.g. tram stops should be close to points of high pedestrian accessibility).

Tram signalling and communication systems should be capable of easy interface with existing traffic signal control equipment.

Proposals should maximise the benefits of the investment in tram infrastructure. Therefore, there is a presumption that the Council as Roads Authority, will work with tie to provide the tram with maximum priority – including segregated running wherever practicable - while minimising the impact on other road users but that, in so doing, the Council Executive must be satisfied that the following have been identified and taken into account:-

- Choice of location of route (route options in on-street running sections);
- Maximising/retaining existing priority for buses;
- Priority at signals for trams using best practice (as well as green extensions and early recalls, to include options such as speeding up/slowing down entire signal cycles as tram approaches to enable tram arrival in sequence with tram green);
- Minimising conflicts with access requirements of frontagers

AN OPERABLE SYSTEM

Performance specification (speed/gradients/accelerations) – typical of comparable recent continental European and UK systems, modified to take account of requirements of Edinburgh system.

A USER FRIENDLY SYSTEM

All tram passenger doorways should have level boarding.

Interior floor should preferably be step free.

Trams should be able to carry bicycles, particularly during off-peak operation.

There should be easy, direct access to tram stops from the key trip generators that they serve. This includes dropped kerbs and easy crossing of tram lines, footpaths following obvious desire lines to/from tram stops and road crossings where necessary. Multiple routes to tram stops should be provided, where considered appropriate. Access to tram stops should be direct and not require lengthy detours.

There should be at least one designated pedestrian or more formal road crossing point at all on-road tram stops where non-tram traffic is present.

There should be a presumption that pedestrian crossing signals will be linked to tram movements in order to minimise risk and delay to pedestrians accessing the tram stop.

There should be a tram information and marketing strategy that reflects the emerging public transport information strategy, and includes the provision of timetable information to Traveline Scotland or its successor.

All tram stops should have timetable, route and fare information, audio (restricted for operational disruption/security use only) and visual real time information, a covered waiting area and seats. Information should cover modes other than the tram. Lighting at tram stops and on access routes to them should be of a high standard, and developed in liaison with the Roads Authority.

The type and level of information provided should reflect the needs of different kinds of users (e.g. visually impaired, tourists etc), whilst avoiding information overload.

A clear simple signing strategy for routes to and from tram stops should be developed.

Marketing of the tram should set it in the context of being part of a wider public transport system.

Any modification of the bus network should complement the tram system, particularly with regard to potential interchange sites. (Note that modifications could only be achieved by negotiation given the City of Edinburgh Council's limited influence on the bus network.)

The introduction of the tram should not lead to bus fares increases, reductions in bus services in areas not served by the tram, nor to increases in requirements for Council subsidy of the bus network to maintain existing levels of service

Bus-tram interchange to be considered and designed in to tram stops (and their locations) at an early stage. This should include access to and information about nearby bus services.

Bike and Ride: at each tram stop, cycle parking spaces linked to demand projections, should be provided. Cycle parking should be of a standard acceptable to the Roads Authority

'Kiss and Ride': Car pick up/drop off facilities should be provided where feasible. Provision of space for this should have priority over provision of space for car parking.

Park and Ride: Car parking should be provided at tram stops where feasible, especially further from the city centre.

At appropriate locations (e.g. Haymarket, Edinburgh Park), high quality tram-rail and tram-bus interchange should be designed into the system with the objective of maximising the ease of interchange.

There should be a presumption in favour of a common high-quality brand image, system-wide.

Where tram lines utilise existing shared use cycle/pedestrian paths, a replacement path on the same alignment meeting the Council's standards, as set out in its Cycle Friendly Design Guide, shall be provided.

There should be a presumption that all existing pedestrian crossings should be accommodated in locations where general traffic access is retained. Tram stops will, where necessary, provide new crossing opportunities.

A set of minimum permissible footway widths should be justified and defined for areas of on-street running, with a presumption in favour of maintaining existing footway widths in areas of heavy pedestrian traffic (e.g. shopping areas, close to major trip generators such as medical surgeries etc.)

There should be a public complaints strategy, linked to the Bus Users' Complaints Tribunal system.

AN ENVIRONMENTALLY ACCEPTABLE SYSTEM

Adverse environmental impact should be minimised.

Drainage – should conform to SEPA standards.

Noise, both inside trams and externally, to be minimised.

Net emissions of pollutants should be designed to be minimised, on whole life cycle basis.

Overhead lines (if required): visual intrusion should be minimised.

A VIABLE, COST-EFFECTIVE SYSTEM

tie will need to satisfy the City of Edinburgh Council that a detailed construction strategy and work programme has been developed which achieves an appropriate trade-off between reductions in tram construction cost against wider disruption.

Appropriate maintenance of the tram system, including the trams themselves, internally and externally, the visible infrastructure, and the equipment and systems, is very important to support a safe, high quality and efficient service, minimise environmental impact and retain the image and appearance of the tram system.

There are essentially four types of maintenance:

- Routine, planned inspection and maintenance. These activities should be minimised by design and the requirements clearly identified and documented.
- Unplanned maintenance to address safety issues, rectify faults and restore operational performance or equipment functionality. The design should ensure that in principle, individual faults have no, or only a minimum, effect on the normal service operation.
- Cleaning and maintaining the visual appearance of the tram system. The design and selection of materials should seek to minimise the potential for and the impact of vandalism and the effects of exposure to the environment.
- Renewals as a result of wear of components, functional degradation, or obsolescence.

The design of the tram system should ensure that cleaning, inspection, maintenance and rectification works can be carried out as far as possible without impacting on the service operation, to minimum disturbance to frontagers and other premises along the route, and to minimise inconvenience to other users of the street area. The design should also address the issues of future renewals so as to establish, in advance and as part of the original design approach, quick and convenient methods that cause minimum disruption.

The performance regime put in place for the tram system operation should ensure that appropriate incentives are given to:

- Carry out scheduled inspection and maintenance activities promptly and comprehensively
- Rectify faults in appropriate timescales, ensuring continuity of service as far as possible and minimising loss of passenger facilities, while achieving an appropriate balance of costs and performance
- Carry out cleaning tasks to an appropriate programme and restore appearance as quickly as possible. In particular graffiti and other vandalism should be removed or rectified within 24 hours.
- Plan and carry out renewals in a timely manner, before restrictions on service operation or the provision of passenger facilities are necessary.

Proposals for fares structure must address issues including:

- Economic viability of the tram system (including revenue protection implications)
- Promotion of Social Inclusion
- Maximising mode shift from car
- Travel for shopping and leisure as well as work
- Travel by family (and other) groups
- Concessionary Permit Holder scheme

Tram fare levels should be broadly equivalent to similar bus journeys.

The ticketing system, including ticket purchasing arrangements, should be able to deal with/provide the following

- Concessionary travel
- Pre-purchase of tickets in carnet format (or equivalent)
- Journeys involving change of tram and/or change from bus to tram - ideally, without any financial interchange penalty but perhaps subject to limited time validity
- Travel by family (and other) groups
- Regular travellers through appropriate season tickets – using smartcard technology, where practicable, compatible with those of major bus operators in Edinburgh, and available from a range of outlets.
- Day tickets
- Multi-modal day and season tickets
- Promotional tickets e.g. linked with Festival events and visitor attractions that permit travel on buses as well as trams should be available.
- Employment related discount tickets
- Journeys involving car parks
- Whether and how customers can pay by cash
- Through-ticketing with national rail services

The financial/economic implications of the tram system specification should be clearly identified. The trade-offs between investment up-front and ongoing operational and maintenance costs (including vandalism repairs) should be clearly identified and related to cost-effectiveness requirements. Similar trade-offs should be identified between the design life and renewal cycle for all elements of the system.

Operating costs should be minimised whilst meeting the required performance targets. The performance targets are more important than the minimisation of operating costs.

APPENDIX 2

'PLANNING APPROVALS' required for Edinburgh Lines 1 & 2 (November 2005)

The following table sets out a quick reference guide to the main elements associated with the Tram Project proposals and the planning approvals which are likely to be required. This table should not be used as a definitive guide. For the avoidance of doubt the relevant legislation should be consulted. This Table may also be revised should there be any changes to the Tram Legislation which at the time of writing is under consideration by Parliament.

Proposal (A to Z)	Type of Planning approval required	Legislation
Access Roads	Prior Approval	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29
Advertisements on Tram Stops or other buildings/ structures.	Express Consent to Display an Advertisement required for commercial advertising. Directional signs and information notices enjoy “deemed consent” and so do not require express consent	Town and Country Planning (Control of Advertisement) (Scotland) Regulations 1984 (Reg 5, 6 and 10 and Schedule 4)
Advertisements on Trams (inside and out)	No Consent Required	Town and Country Planning (Control of Advertisement) (Scotland) Regulations 1984 (Reg. 3(1) confirms that adverts on moving vehicles are exempt from control)
Bridges (Erection of new bridges and extensions to existing)	Prior Approval	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29
Buildings (Erection of new building or extensions to existing)	Prior Approval	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29

CCTV within LODs	May require Prior Approval (any building or pole on which they are fixed may require prior approval). Listed Building Consent where attached to Listed Building specified in Schedule 10.	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29 – as interpreted in Edinburgh Tram Bills s70
CCTV outwith LODs	None usually, but consent needed in Conservation Areas and consent also needed if preconditions contained in GPDO are not met. Listed Building Consent likely to be needed to attach CCTV cameras to listed buildings.	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 72
Construction compounds within LOD or adjacent to LOD land	None	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 14
Demolition of buildings/ structures within a Conservation Area	Conservation Area Consent (unless only partial demolition, or the building or structure is very small – 115 cu m or under - or was not in a Conservation Area at the time the Bill was introduced to Parliament)	Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 Direction on Exemption from Demolition Control in Conservation Areas 1987
Fences (means of enclosure only – see below for “sound barriers”)	None within LODs. Outwith LODs consent required only in the conservation areas unless over 1m high (and other GPDO preconditions)	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Classes 29 and 7

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Footbridges	Prior Approval	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29
Embankments	Prior Approval	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29 and definitions, supplemented by definitions in Town & Country Planning (Scotland) Act 1997
Landscaping - hard & soft	None. However, link with Environmental Statements and the Landscape Habitat Management Plan for Roseburn Corridor.	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29
Lighting	May require Prior Approval if attached to a building or placed on a pole Listed Building Consent where attached to Listed Building specified in Schedule 10.	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29 – as interpreted in the Edinburgh Tram Bills s70 Edinburgh Tram Bills s68
Listed Building alterations (for tram-related works)	Prior Approval. Listed Building Consent also required but only in relation to listed buildings specified in Schedule 10 to the Tram Bills	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29 – as interpreted in Edinburgh Tram Bills s70 Edinburgh Tram Bills s68 AND Sch. 10 Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 Town and Country Planning (Listed Buildings and Conservation Areas) Scotland Regulations 1987

OLE (Overhead Line Equipment) Poles	Prior Approval	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29 – as interpreted in Edinburgh Tram Bills s70
Overhead line fixings to Listed Buildings	Prior Approval Listed Building Consent may also be needed - but only if attached to Listed Building specified in Schedule 10.	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29 – as interpreted in Edinburgh Tram Bills s 70 Edinburgh Tram Bills s68 AND Sch. 10 Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 Town and Country Planning (Listed Buildings and Conservation Areas) Scotland Regulations 1987
Overhead line fixings to non-listed buildings	Prior Approval	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29 – as interpreted by Edinburgh Tram Bills s70
Park & Ride site at Ingliston	None (except for any formation or alteration of a means of access to a road used by vehicular traffic and any buildings/shelters)	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29
Park & Ride Sites - others	Full Planning Permission	Formation of Park and Ride Sites is not a scheduled work under the Edinburgh tram Bills

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Retaining walls	Prior Approval (unless retaining wall is considered to be solely a means of enclosure)	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29
Scheduled Ancient Monument (SAM)	Scheduled Monument Consent required for almost any type of work to Victoria Swing Bridge (including temporary storage on the surface of the SAM). Application must be made direct to the Scottish Ministers. Dealt with by Historic Scotland (who has indicated that a form of in principle SMC could be given).	Ancient Monuments and Archaeological Areas Act 1997 (assuming section 69 is removed from the Tram Bills as has been promised)
Signs	Traffic and other functional signs generally enjoy “Deemed Consent” providing any illumination is for purposes of warning	Town and Country Planning (Control of Advertisement) (Scotland) Regulations 1984 Schedule 4
Signalling	May require Prior Approval if attached to a building or placed on a pole Listed Building Consent would also be needed if attached to Listed Building specified in Schedule 10.	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29 – as interpreted by the Edinburgh Tram Bills s70 Edinburgh Tram Bills s68
Sound Barriers	Prior Approval. Sound barriers by definition are not considered a means of enclosure. Hence they fall within the definition of “building” in the 1997 Act and require prior approval.	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29

Street lighting	None usually, but may need consent in Conservation Area with Article 4 Direction in force	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 30
Substations	Prior Approval – within definition of “building”.	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29 – as interpreted in Edinburgh Tram Bills s70
Trackside Equipment Cabinets	None. Plant and equipment is exempt from the definition of “building” in GPDO.	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29 Town and Country Planning Scotland Act 1997 s 277
Trams	None	
Tram tracks & associated surfacing within existing roads	None	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29
Tram stops & associated equipment	Prior Approval for those parts defined as a building (eg Shelter). While not all parts of the tram stop require prior approval, it is tie’s intention to lodge applications for tram stops as a whole so that those parts which need approval can be judged in context	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29
Trees - removal of, or works to	None	Edinburgh Tram Bills s57

Vehicle access to road used by vehicular traffic (formation of or alteration to)	Prior Approval	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29
Viaducts (Erection of new one or alteration to existing one)	Prior Approval	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Class 29
Walls (means of enclosure only – see above for “sound barriers” and “retaining walls”)	None within LODs. Outwith LODs consent required only in the conservation areas or if more than 1m high.	Town and Country Planning (General Permitted Development) (Scotland) Order 1992 – Classes 29 and 7

POST BILL PLANNING PROCEDURES – THE “PRIOR APPROVAL PROCESS”

THIS PROCEDURE NOTE IS TAKEN FROM THE REPORT THAT WAS APPROVED BY PLANNING COMMITTEE ON 5 FEBRUARY 2004 .

PRIOR APPROVALS

The Bills acknowledge the scope of “Prior Approvals”. This is the term given to those detailed matters in respect of which further approval of the planning authority is required following any approval by Scottish Parliament for the Tram Project as a whole. The scope includes buildings, poles, substations, alterations to buildings and tram shelters. The detailed design of these matters which will come before the planning authority for further approval.

Bills will also give consent for mitigation measures (as contained in environmental statements).

“Prior approval” is not quite the same as planning permission. Approval may only be refused or given conditionally if the development ought to be and could reasonably be carried out elsewhere on the land designated (i.e., within limits of deviation), or the design or external appearance of any building or bridge etc would injure the amenity of the neighbourhood and is reasonably capable of modification to avoid such injury.

ROLE OF DESIGN MANUAL

The Design Manual is considered a key document in the prior approval process. It is now in a final draft form, ready to be submitted to Parliament. The Design Manual will have three key roles. It will:

- Outline aspirations and set design objectives to influence the design process;
- Act as a form of supplementary planning guidance - the key document to be used by the planning authority in assessing design details at the prior approval stage;
- Constitute an important tool in the procurement process to check that the detailed design and implementation meet the standard required to deliver a quality tram system.

Focusing on the role as a form of supplementary planning guidance, the Manual will be finally approved by Planning Committee and have a formal status. At the earlier stage in the process it was to do two things:

- To be forwarded to the Scottish Parliament to give support to the formal documents submitted, and
- To continue to develop as new information on best practice becomes available, in line with more detailed thinking by tie and other parties during the next stages of the Tram Project.

Work can still continue on the Manual, and this will be taken forward along with any findings or outcomes from the Parliamentary process in a report to Planning Committee following Royal Assent and prior to any design work being commissioned (and so before any prior approvals are received).

Final approval of the Planning Committee will be necessary either for the Design Manual as a whole, or for the elements which constitute supplementary planning guidance.

APPROVALS FOR ALTERATIONS TO LISTED BUILDINGS

The Bills will seek powers giving consent to attach fixings to listed buildings, providing these respect the character of the buildings. Certain key or sensitive buildings will be excepted from this (for example, National Portrait Gallery, Scott Monument and all other buildings on south side of Princes Street, St John's West Church, Church at east end York Place – a full list is included in the Bills. The Bills will also detail other specific works to listed buildings for which authorisation in principle is requested. The details of all of these will come to the planning authority for “prior approval”.

PROTOCOL

A protocol along the following lines has been agreed.

- Submission of details to Planning and Strategy (by letter). For fixings the details should include drawings of the type of fixing and the detailed position on the facade of the building in relation to other facade elements. A photograph of the facade showing the exact position of the fixing will be acceptable, providing this is sufficiently detailed to permit identification of the exact location of the fixing. For other alterations, full plans sections and elevations will be required.
- Proposals for fixings may be submitted on a street by street basis. This will enable a full assessment of impacts and consideration of alternatives.
- The submission should be registered on the UNiform system (special “TRAM” suffix code) and be included in the Weekly List.
- If sufficient detail then Site Visit takes place – case officer and officer from Historic Scotland – to check if fixing points fully comply with terms of Design Manual in relation to detailed features on building i.e., approval under delegated powers.
- If compliance, then letter of confirmation of approval sent.
- If non-compliance, then submission should be advertised, and indicated as item for Committee. Report to Committee and subsequent decision letter sent.
- A 2 month period should be allowed for determination (no period set down in statutory instruments).

For the excepted listed buildings, if fixings are desired, then a full application for listed building consent will be required in each case.

OTHER PRIOR APPROVAL MATTERS

Details of non-listed building related proposals will also require prior approvals. A similar protocol is recommended for these, but with Historic Scotland involved on a limited basis.

The following procedure is suggested.

- Submission of details to Planning and Strategy (by letter).
- The submission should be registered on the UNIFORM system (special “TRAM” suffix code) and be included in the Weekly List. If the details relate to items already identified as requiring a further report to Planning Committee, then this will be noted in the Weekly List.
- Case officer checks if proposals directly affect a scheduled ancient monument or a designed landscape, or if proposals affect the setting of a category A listed building*, and if so, refers the proposals to Historic Scotland.
- Case officer checks if details comply with Design Manual.
- If compliance, (and Historic Scotland have no concerns) then letter of confirmation of approval sent (i.e., approval under delegated powers), or Committee report prepared accordingly.
- If Historic Scotland express concern, then site meeting takes place to resolve the issue.
- If non-compliance with Design manual or concerns of Historic Scotland cannot be immediately resolved, then item advertised and changes sought or report to Committee prepared and subsequent decision letter sent.
- A 2 month period should be allowed for determination (no period set down in statutory instruments)

Further consideration will be given to:

- how the process might be streamlined in terms of submissions – for example could some matters such as proposed tram supports be handled on a street-by-street basis. For example, advice can be prepared about streets containing category A listed buildings, and within such streets referral to Historic Scotland will be likely.
- how delegated powers would apply to Tram Prior Approvals, particularly in the light of the limitation inherent in the process (see second paragraph above) – this will now be taken forward in the next review of the Authority’s Scheme of Delegation.

PLANNING POLICY CONTEXT

On 27 Nov 2003, the Planning Committee agreed that the routes shown in the final Parliamentary Plans should be safeguarded for future transport purposes. The Finalised Rural West Edinburgh Local Plan 2003 should safeguard the land needed for the section of Line 2 from the city edge to Newbridge. It should also safeguard the tram route from Newbridge to Kirkliston. The rest of the Line 2 route, and the whole of Line 1, should be safeguarded in the Edinburgh City Local Plan.

A paper providing detailed clarification of the practical effects of this safeguarding was approved for consultation by the Planning Committee on 26 May 2005. This is as follows:

NEW DEVELOPMENT ON OR NEAR SAFEGUARDED TRAM ROUTES - GENERAL PLANNING PROVISIONS (DRAFT)

In November 2003, the Planning Committee agreed to safeguard the routes for Edinburgh Tram Lines 1 and 2. In November 2004 it also agreed to do so for the route of Tram Line 3. This means that where a development proposal might impose obstacles or constraints to the implementation of the tram project, this has to be assessed before the Planning Committee determines that application. Issues to be addressed include proposed development of land required permanently for tram, creation of new vehicle accesses which could impose time delays to tram running, development which could pose difficulties in constructing the tram (including building on sites proposed to be temporarily occupied for construction purposes) and buildings that will require maintenance to take place sufficiently close to overhead line equipment to pose safety concerns which are sufficiently serious that the overhead power may need to be switched off, thus interfering with tram operations.

In general, if a proposed development poses a threat to the tram project then it should be refused unless it can be modified or conditions can be attached which overcome that threat. In some cases it may be appropriate for such conditions to be imposed through a s75 agreement.

The following policy will apply.

Any proposal for development or redevelopment which encroaches within the defined Limits of Deviation for Tram Lines 1, 2 and 3, should be refused unless the applicant is able to demonstrate to the satisfaction of the Planning Authority that it can be implemented without prejudice to the implementation of the Tram.

Any proposal for development or redevelopment which encroaches within the defined Limits of Land to be Acquired or Used may be considered acceptable if implementation can be delayed or phased to take account of the implementation of the tram Project. Consideration should be given to adapting proposals to incorporate tram infrastructure within the development.

Any development on land outside but close to the safeguarded routes will be assessed for potentially adverse impact on Tram operation or tram infrastructure. In particular, proposals must demonstrate sufficient clearances for overhead line equipment and safeguard adequate access for maintenance of buildings.

Tram interface issues are considered to arise in two types of circumstances:

- Extensions or new structures attached to existing buildings
- New buildings on large brownfield or greenfield sites adjacent to the tram route

The design of extensions to existing buildings or new structures attached to existing buildings should be carefully controlled or modified to ensure that (a) adequate clearances will be safeguarded for overhead line equipment and other infrastructure for the Tram and (b) maintenance of the building, as extended, can be carried out. Failure to demonstrate this will result in planning permission being refused.

It is recommended that all relevant applications should be referred to tie in the first instance.

- If tie consider that the design requires modification to address this issue then negotiations should take place with the applicant to this end.
- If the proposal cannot be modified to resolve the issue or if the applicant is not prepared to modify the design, then the method and timing of maintenance should be controlled through a condition on planning permission or a s75 agreement.
- If it cannot be demonstrated (either by the applicant or tie) that the proposed development can be safely maintained even with a condition or agreement then it should be refused.

The layout and design of new buildings on brownfield or greenfield sites adjacent to the tram route should anticipate the changes which will result from Tram. In particular consideration should be given to

- The creation of new public realm spaces relating well to stops and linking to established or emerging footway and cycleway connections.
- The relationship to established or potential transport interchange facilities
- The potential for mixed uses and higher density developments around tram stops
- The potential to incorporate overhead line equipment fixings within the fabric of the buildings
- The potential for buildings to accommodate internally any appropriate items of tram infrastructure such as sub stations, other equipment and ticket machines
- Safe and easy maintenance arrangements for overhead line, streetlighting, the buildings themselves and any associated equipment.

Tram will be a force for change within the city, both visually and in terms of the function of spaces. A key objective is for the Tram Project to act as a catalyst for improving the public realm throughout the city. Hence all opportunities to create new and improved spaces should be exploited in a creative way. In addition, the need to ensure that new buildings can be maintained without interfering with the tram operations is a material consideration. This should be reflected in determining planning applications and in the development of design briefs, masterplans, and statement of design principles. The objective is to ensure that good urban design can be achieved in a manner consistent with the tram project and without the need for additional controls or restrictions on future use. However, where urban design requirements are such that an intrusion of building lines into the tram interface zone is desirable, then this would be considered but only where it is possible control the method and timing of maintenance through a condition on planning permission or a s75 agreement.

(DRAFT) DESIGN PRINCIPLES FOR PRINCES STREET

APPROVED AS A DRAFT BY PLANNING COMMITTEE ON 27 NOVEMBER 2003.

Tram proposals for Princes Street must address the principles laid out below as well as following the overall Design Manual for the Tram. The aim is to integrate the tram into this key public space in a seamless manner.

1. DEFINITION OF PRINCES STREET

Princes Street shall be taken to be the length of the street from Waterloo Place to Shandwick Place

2. RESPECT THE HERITAGE OF PRINCES STREET

The insertion of a tram, and its associated equipment along the street must respect the Georgian, classical grid layout of the first new town. Consequently the geometry of the works associated with inserting a tram along the Street must be regular and uniform reflecting the Heritage of the first New Town.

- Axial views should not be disrupted and the positioning of poles, stops and other equipment must avoid any disruption and minimise the visual impact overall.
- The lines should be straight and parallel, running down the street with no deviations.
- Supports, if required to carry the wiring, should be regularly placed. The opportunity of using poles to carry other signs and reduce clutter along the street in a well designed, comprehensive manner should be examined in detail.
- Floorscape materials should pick up on regular kerb lines and through careful design and detailing, overcome the visual intrusion of buildouts.
- No substations shall be located on Princes Street. The objective is to create regular, straight lines that emphasise the symmetry of the street.
- Materials should be of the highest quality, in keeping with context. Extensive use of natural materials will be sought.

3. TRAM STOP

The tram stop is located to the east of Castle Street where no axial views are interrupted. If for any reason the stop has to be considered elsewhere then this principle shall still hold. Further considerations are

- The relationship between the tram stop and the bus stops should be carefully considered in terms of location and design. Tram and bus shelters should be seen as belonging to the same family.
- No advertising will be allowed on the tram stop.
- Only equipment necessary for the stop will be allowed – i.e. there shall be no kiosks or toilets associated with the stop.
- All plant associated with the stop shall be placed underground.

4. OVERHEAD WIRING

Along Princes Street, supports carrying overhead wiring shall be located between the tram lines and placed at regular intervals. These poles shall not

- Interrupt axial views down the streets connecting to Princes Street.
- There shall be no fixings for wiring allowed to buildings or structures on the south side of Princes Street.

5. PUBLIC REALM

The public realm will be designed to the highest standard using high quality natural materials that are fit for purpose. The design shall integrate with the work carried out under the Capital Streets Programme that will set the standard for work on Princes Street.

- Pedestrian movement on the Street should be improved through pavement widening, wherever, possible and designed to reflect the original grid layout and geometry
- Pedestrian crossings should be well located, give maximum symmetry, enhance axial views and relate well to the entrances to Princes Street Gardens.
- Pedestrian crossings going from the south to the north side of Princes Street should be widened to create a greater freedom for pedestrian movement. Where they connect with roads that have been closed, then consideration should be given to placing the crossings axially as well as widening the crossing to the same width as the street that they are connecting with.
- Elsewhere crossings should be placed axially wherever possible.
- The needs of disabled people shall be addressed in the final design.

6. STREET FURNITURE

A comprehensive examination of street furniture should be included in any design for Princes Street. The design of Street furniture should integrate with the work on the Capital Streets Programme to ensure that uniformity and consistency is achieved.

- Pedestrian barriers should be removed along the length of Princes Street.
- The opportunity of reducing clutter through integration shall be taken.

DRAFT DESIGN PRINCIPLES HAYMARKET

APPROVED AS A DRAFT BY PLANNING COMMITTEE ON 27 NOVEMBER 2003.

There are fundamental urban design and townscape issues associated with integration of the tram at Haymarket. The tram proposals are also a catalyst to improve the public realm in this complex space.

Any Masterplan for Haymarket must address the principles laid out below which when followed will provide a framework against which mitigation of the Tram's insertion can be judged.

These principles have been set in context with objectives that have been developed from those established as part of the tie Masterplanning Study Document.

It is important to establish a set of objectives and principles, which inform the masterplan to ensure the vision is achieved:

1. **To develop a strong modern identity for the site that reinforces the historic character of Edinburgh.**
2. **To establish a transport interchange of national standing which will bring positive physical, social and economic benefits to the city and the Haymarket Area.**
3. **Create an attractive and dynamic pedestrian gateway to the city with a workable junction, which is accessible to all user groups.**

PUBLIC REALM

A co-ordinated contemporary public realm, designed to the highest possible standards, creating a high quality floorscape in association with street furniture should be delivered for the entire Haymarket area.

A review of the townscape structure should be undertaken and appropriate built forms considered to create a contemporary urban context to the new pedestrian space that respects and reinforces the heritage of the area.

This should be achieved through reference to the following specific issues:

Roads and pedestrian spaces

- The pedestrian space should be increased in order to improve the access to and from the new 'transport interchange'.
- Pedestrian space should be increased in front of the new Morrison Street development, between Morrison Street and Dalry Road by narrowing the carriageway on Morrison Street and Dalry Road.
- The pedestrian space in front of the station should be increased to form a new square and a strong, positive connection, both in terms of townscape and pedestrian circulation, made with Dalry Road. This is likely to include bridging/decking over the railway line in this area. .

TRANSPORT CONNECTIONS

A proposal to form a direct, clear transport interchange between tram, rail, bus, cycles and pedestrians will be taken. This should be achieved through reference to the following specific issues:

- The interchange and associated space should be pedestrian friendly with covered connections.
- Co-ordinate tram stops and bus stops in the context of the station concourse and access to the station. Opportunities for locating these close together should be maximised.

Ensure links and a physical connection in the scheme design is made to the cycle network at the rear of Haymarket Terrace.

TOWNSCAPE

The coherent townscape structure of the area should be enhanced and should inform the nature of the new development.

LISTED BUILDINGS AND STRUCTURES

- Following approval of the Tram Project proposals by Scottish Parliament, demolition of the Caledonian Ale House is expected to take place. Alterations to and/or demolition of the stairs and lamp associated with the station will also be authorised and this should be addressed in detailed design work.
- The setting to the remaining listed buildings is to be respected and in particular new development should seek to enhance the setting of Haymarket Station.
- The War Memorial at the Haymarket Junction should remain an important component to the space and should be re-sited accordingly.

DEVELOPMENT OPPORTUNITIES

Consideration should be given to decking over the railway. This would also offer the opportunity to construct lightweight structures to create a sense of enclosure for Dalry road and improve the relationship between the station and Gorgie/Dalry. There are also opportunities for redevelopment at Rosebery House which occupies a key position in relation to Haymarket, and also Haymarket House.

APPENDIX 6

LIST OF DEVELOPMENT QUALITY GUIDELINES

Access Stairs on Listed Buildings
Access to the Built Environment
Advertisements and Sponsorship
Affordable Housing
Affordable Housing (appendix) Notes on Implementation
Alarm Boxes
Allotments
Alterations to Listed Buildings
Amusement Centres
Art in Public Places
Automatic Teller Machines
Biodiversity
Car Parking in Front Gardens
Cinema Developments
Colonies
Colour of Buildings
Commercial Frontages
Commercial Leisure Uses
Community Safety
Conservation and Design Development Controls for the First New Town
Daylighting, Sunlight and Privacy
Development Affecting the Setting of Listed Buildings
Developer Contributions for Investment in Schools
Duddingston Village – Maintenance and Repair Guide
Flagpoles, Flags and Banners
Guest Houses
High Buildings and Roofscape
Historic Buildings Repairs
House Extensions and Alterations
Houses in Multiple Occupation
Housing Development in Garden Grounds
Light Intrusion
Location of Licensed Premises

Loss of Residential Use

Mews

Nursing Homes

Open Space and Ancillary Facilities for New Housing Developments

Planning and Flooding

Police Boxes

Princes Street Shop Front Design Guide

Private Day Nurseries

Quality of Landscaping in Developments

Queensferry Conservation Area – Design Guide

Radio Telecommunications

Replacement Windows and Doors

Restaurants, Cafes and Hot Food Shops

Safeguarding of Building Interiors During Vacancy

Satellite Dish Aerials

Services on Buildings

Sett Paved Roads

Shops – Conversion to Residential Use

Site Planning for Sustainable Development

Speciality Shopping Streets

Stonecleaning Paint Removal and Graffiti Removal

Subdivision of Listed Buildings

Tram Developer Contributions

Tree Protection

Urban Forestry

Villa Areas and the Grounds of Villas

Well Court (Dean Village) – Design Guide

Working from Home

World Heritage Site Manifesto

INITIAL STATEMENTS ON STRUCTURES

This document sets out objectives for each of the major structures proposed in the Tram Project. The objectives are set in the context of the policy background and other considerations.

The 11 structures listed in the Tram Design Manual now follow in this order.

- A8 crossing point under the Gogar roundabout
- Line 2 depot access road bridge at Gogar roundabout
- New bridge over railway at Edinburgh Park
- New bridge over railway at Stenhouse
- Murrayfield viaduct
- Haymarket viaduct
- Coltbridge retaining wall
- Crewe Toll retaining wall/structure
- Lower Granton Road retaining wall to maintain access to Granton Harbour eastern breakwater
- Starbank walkway
- Lindsay Road retaining wall/structure

EDINBURGH TRAM PROJECT
PROPOSED MAJOR STRUCTURES -
DESIGN OBJECTIVES

LOCATION : A8, GOGAR ROUNDABOUT

TRAM LINE : 2

DESCRIPTION OF STRUCTURE :

Underpass for tramway to cross A8

LOCAL PLAN : Rural West Edinburgh

CONSERVATION AREA : No

RELEVANT LP DESIGN POLICIES :

Policy E41 – New development will be required to promote high standards of design for all development and its careful visual and physical integration with its surroundings, built fabric as well as natural environment, in terms of scale, form, siting, street pattern, alignment and materials. It should prevent intrusion into views of the city’s landmarks, natural features and skyline. Special attention is required to design quality at gateways and along arterial routes and to densities at accessible locations. Landscape buffers should be provided within new development sites or where a change of use occurs, to soften the transition to adjacent areas, especially where they have a natural heritage designation. New development should improve energy efficiency and reduce noise pollution.

Policy E42 – New development will be required to make a positive contribution to the overall character of its context and immediate setting. It must demonstrate high design quality and make provision for accessibility, safety, landscaping, new open spaces and public realm improvements. Good urban design including architectural and/or landscape features present in or around the site should be incorporated to full effect.

RELEVANT LP ENVIRONMENTAL POLICIES :

Policy E6 – Where acceptable in principle, development proposals in the green belt or countryside must meet high standards of design and landscaping and safeguard local amenity. The following criteria must be met:

- a the proposed development is sited in a location which will minimise impact on its immediate surroundings and general landscape setting and should where possible be closely related to an existing building;
- b sufficient landscaping is provided to enhance the setting of the development through the creation of a positive landscape framework that is in keeping with the existing landscape character of the area;



- c the existing rural character and amenity is not detrimentally affected in terms of traffic, noise or air quality (including dust or odour);
- d Provision is made for the protection of species under the Habitats Regulation and Wildlife and Countryside Act 1981 and the protection of badgers Act 1992, where appropriate;
- e Boundary treatment is appropriate to a rural setting;
- f Colours, finishes and materials should be used which blend with the natural environment.

In addition, Policies E15, E20 and E46 seek the retention of trees, the improvement of nature conservation and biodiversity value and innovative methods of surface water disposal in association with new development.

OTHER POLICY CONSTRAINTS :

West Edinburgh Planning Framework (part of National Planning Framework)

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

Integrate new and existing development at the city edges in order to provide continuity and underline contrast and gradation between urban and rural character.

It is essential that the quality of gateways, arterial routes and their varied character and strategic views are maintained to protect the city image and legibility.

New developments along these locations should be of high quality urban design and architecture. This will involve providing them with appropriate settings.

SITE CHARACTERISTICS :

Mature landscaping which screens car park at Morrison's. Screening is about 90% effective. Underpass will dive down through existing beech hedge and cypress trees, below level of existing car park. Portals at each end will largely be out of sight – should have minimal visual impact. Landscaping of approach will be a key issue.

OTHER CONTEXTUAL MATTERS :

Promotion of alternative alignment at the Gyle and how this affects location of underpass entrances. Until Parliament has considered the Bill Amendments, it will not be clear if the alignment will be as originally submitted or as amended.

No proposals for expansion at the Gyle, but it is anticipated that some may come forward.

New City Local Plan and what it may say about Gyle expansion.

RELEVANT EXTRACT FROM ENVIRONMENTAL STATEMENT

The Supplementary ES (submitted with the Bill Amendment) states the tram line would

“run parallel to South Gyle Broadway instead of through the car park to the side of the Morrison store. The Revised Alignment incorporates the construction of an underpass immediately to the east of the Gogar interchange. The tram line would cross beneath the A8 as the road rises eastwards from the interchange bridges to cross the railway. This will require the Revised Alignment to be placed in cutting immediately to the south of the A8.... A large section of the recent woodland structure planting situated at the north eastern side of South Gyle Broadway would therefore be lost.”

This is considered to have direct impacts on the landscape – slightly adverse initially and in the longer term.

The Supplementary ES concludes *“a minor negative impact for permanent landscape impacts is predicted, due to the loss of structure planting and the need to replace this landscape element.”* Figure 2.2 accompanying this (Drawing No 30894/C257) refers to various mitigation measures – Hedgerow planting to reflect existing, potential retaining wall to edge of car park, and woodland structure planting with hedgerow planting to reflect existing.

OBJECTIVES

- Minimise land take and removal of existing parking spaces and landscaping, particularly hedge and trees.
- Make provision for replacement planting, in accordance with the existing landscape structure.
- Avoid creating dark or hidden spaces which may be unsafe or attract anti-social behaviour
- Avoid impacting on views from main approaches to the city
- Ensure a good and safe relationship between tram, traffic circulation, car parking and pedestrian/cyclist circulation.

INTERESTED PARTIES

City Development Dept – Structures Section (Transport)

Edinburgh Park (Management) Limited

Gyle owners/USS

EDINBURGH TRAM PROJECT
PROPOSED MAJOR STRUCTURES -
DESIGN OBJECTIVES

LOCATION : GOGAR/GOGARBURN

TRAM LINE : 2

DESCRIPTION OF STRUCTURE :

Road bridge to permit access to depot.
Two lane road capable of accommodating
outside tram delivery lorries.

LOCAL PLAN : Rural West Edinburgh

CONSERVATION AREA : No



RELEVANT LP DESIGN POLICIES :

Policy E41 – New development will be required to promote high standards of design for all development and its careful visual and physical integration with its surroundings, built fabric as well as natural environment, in terms of scale, form, siting, street pattern, alignment and materials. It should prevent intrusion into views of the city’s landmarks, natural features and skyline. Special attention is required to design quality at gateways and along arterial routes and to densities at accessible locations. Landscape buffers should be provided within new development sites or where a change of use occurs, to soften the transition to adjacent areas, especially where they have a natural heritage designation. New development should improve energy efficiency and reduce noise pollution.

Policy E42 – New development will be required to make a positive contribution to the overall character of its context and immediate setting. It must demonstrate high design quality and make provision for accessibility, safety, landscaping, new open spaces and public realm improvements. Good urban design including architectural and/or landscape features present in or around the site should be incorporated to full effect....

RELEVANT LP ENVIRONMENTAL POLICIES :

Policy E6 – Where acceptable in principle, development proposals in the green belt or countryside must meet high standards of design and landscaping and safeguard local amenity. The following criteria must be met:

- a the proposed development is sited in a location which will minimise impact on its immediate surroundings and general landscape setting and should where possible be closely related to an existing building;

- b sufficient landscaping is provided to enhance the setting of the development through the creation of a positive landscape framework that is in keeping with the existing landscape character of the area;
- c the existing rural character and amenity is not detrimentally affected in terms of traffic, noise or air quality (including dust or odour);
- d provision is made for the protection of species under the Habitats Regulation and Wildlife and Countryside Act 1981 and the protection of badgers Act 1992, where appropriate;
- e Boundary treatment is appropriate to a rural setting;
- f Colours, finishes and materials should be used which blend with the natural environment.

In addition, Policies E15, E20 and E46 seek the retention of trees, the improvement of nature conservation and biodiversity value and innovative methods of surface water disposal in association with new development.

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

Integrate new and existing development at the city edges in order to provide continuity and underline contrast and gradation between urban and rural character.

It is essential that the quality of gateways, arterial routes and their varied character and strategic views are maintained to protect the city image and legibility.

New developments along these locations should be of high quality urban design and architecture. This will involve providing them with appropriate settings.

Examine proposals for their possible contribution to definition of edges.

OTHER POLICY CONSTRAINTS :

BAA restrictions on height and landscaping/plant species.

Road safety constraints – Gogar roundabout.

West Edinburgh Planning Framework (part of National Planning Framework)

SITE CHARACTERISTICS :

Site of proposed depot is significantly lower than road/roundabout and depot proposals are likely to increase height difference. Height of structure likely to be similar to existing road and hence visibility of any structure will be restricted.

Existing bunds are significant in height, but these are likely to change. New landscape structure will need to be designed.

Structure would be seen from tramway, but hardly visible from other viewpoints (railway, access road, roundabout).

OTHER CONTEXTUAL MATTERS :

Detailed design of depot site (including tramway access and detailed tramway alignment) is not yet established and will influence final design of bridge.

Depot access only (2 lane road) - any link to possible airport access road to be ignored at this stage as premature.

EXTRACT FROM ENVIRONMENTAL STATEMENT

The ES does not identify any major impacts. It identifies the changes at Gogar roundabout as possible modification of mounding and a sunken depot as having a slightly adverse effect in the short term, a slightly beneficial effect in the longer term.

Mitigation works include *“between the proposed Tram depot and the Gogar roundabout, proposed screen bunding around the sunken depot would be at least the height of the roof above the surrounding ground levels. They would be planted with scrub rather than woodland so as not to interfere with airport flightpath.”*

OBJECTIVES

- High quality design, fit for context
- To ensure the bridge in its design and location minimises any adverse effect on road and tram safety, achieving sufficient visibility for the safe movement of traffic, but minimising visual impacts of the structure.
- To ensure the height and landscape design takes account of highly constraining BAA restrictions in terms of height, the need to avoid “birdstrike” and other special design considerations
- To ensure the road crosses the proposed tramline at a safe height, but restrict the height of the structure to sit quietly in relation to the Gogar roundabout and the A8 and minimise the impact on views looking north and east from the road at this gateway to the city.

- To contribute to the establishment of a new landscape structure for this area.
- Provide appropriate and safe connections with established or proposed footpath/ cycleway routes.
- To avoid creating dark or hidden spaces which may be unsafe or attract anti-social behaviour
- To be designed with the future development of the depot in mind, avoiding awkward left over open spaces with no clear functionality and building in the potential to ensure a good relationship to new buildings
- To pay regard to the potential to provide for new or enhanced habitats for flora and fauna.
- To maximise absorption of surface water run-off within the site.

INTERESTED PARTIES

City Development Dept – Structures Section (Transport)

EDINBURGH TRAM PROJECT
PROPOSED MAJOR STRUCTURES -
DESIGN OBJECTIVES

LOCATION : EDINBURGH PARK

TRAM LINE : 2

DESCRIPTION OF STRUCTURE : Tramline
bridge crossing over Glasgow Railway line

LOCAL PLAN : North West Edinburgh/South
West Edinburgh/West Edinburgh

CONSERVATION AREA : No



RELEVANT LP DESIGN POLICIES :

Policies from draft WELP are most up-to-date material considerations.

Policy DQ 6 – New development should make a positive contribution to the quality, accessibility and safety of the environment, having regard to the character, opportunities and constraints of the site and its surroundings and the basic character of the city. In particular, new development will be expected, if relevant to

- Create or contribute to a sense of place and local distinctiveness
- Promote community safety and minimise the opportunities for crime and anti-social behaviour
- Afford ease of movement for all, having regard to the needs of different population groups, including the elderly, the very young and mobility impaired;
- Minimise the potential for pedestrian/cyclist/traffic conflict and accidents
- Connect visually and functionally with its surroundings.

Policy DQ8 – Development proposals for visually prominent sites, sites on major transport corridors or in gateway locations (on the city’s urban edge) will be expected to demonstrate a particularly creative design solution, specific to the site in question.

Other relevant policies are DQ7 – seeking new tree planting and robust landscaping with proposals - and DQ9 which requires protection of key views from intrusive development.

Proposal BUS1 – covering the area to the north of the railway line. As far as design is concerned this states “The layout, design and landscaping of the remainder of the site will be expected to reflect the quality of the existing development”. The type of development includes Class 4 (predominantly office) and also hotel, retail and caf /restaurants.

RELEVANT LP ENVIRONMENTAL POLICIES :

Policies from draft WELP are most up-to-date material considerations.

Policy GE12 – Development proposals will generally be considered for their impact upon wildlife, habitats and geological features. The Council will not permit developments that have the potential to result in harm to a species of plant or animal, or its habitat, that is protected under relevant legislation.... Developers will be encouraged to maintain and increase the nature conservation value of proposed development, including the creation of new wildlife habitats where appropriate.

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

It is essential that the quality of gateways, arterial routes and their varied character and strategic views are maintained to protect the city image and legibility.

The Edinburgh Business Park at the Gyle gives the impression of entering a prosperous modern city shown by the scale of new business, the care in layout and landscape design and by modernity of buildings and finishes.

Protect and enhance views from established landmarks, hills, skylines and recognise distinctive urban zones, layers of built form and backcloths. Maintain strategic views from major access routes and public vantage points.

All development should reinforce and not detract from valued skyline and views.

New development along arterial routes should be of high quality urban design and architecture. This will involve consideration of their context and providing them with appropriate settings.

OTHER POLICY CONSTRAINTS :

BAA consultation requirements.

West Edinburgh Planning Framework (part of National Planning Framework)

Edinburgh Park design standards/constraints.

The terms of the Agreement between Council and New Edinburgh Ltd and Edinburgh Park (Management) Ltd, and specifically Clause Nine, as follows.

“It is acknowledged that the Tram will cross the Edinburgh to Glasgow railway line by means of a viaduct bridge to be located between the points marked “A” and “B” on Plan 2 (“the Bridge”). The Bridge will be an open structure (as opposed to solid embankment) on concrete pillars and will be of a design complimentary with the landscaping already in existence in Edinburgh Park and the Council shall consult with NEL and EPML on the proposed design of the Bridge.”

SITE CHARACTERISTICS :

Open undeveloped area. When viewed from Edinburgh Park will be seen against backdrop of by-pass bridge. Height should relate to height of by pass and bridges. By Pass looks down on this location.

Edinburgh Park Station building is close by – design should relate to this.

Bridge location should ensure appropriate development site remains – potential to integrate with emerging design?

Extent of embankment and span of structure will be key design issues. Although open sites at present, new landscape and townscape structure will emerge for this area (both sides of railway track).

OTHER CONTEXTUAL MATTERS :

Network Rail design constraints – height of bridge/clearance to allow for future electrification.

EXTRACT FROM ENVIRONMENTAL STATEMENT

The ES notes that there will be direct positive and negative impacts on the landscape (brownfield site) – initially there will be a moderate adverse impact from the overbridge, but this will not be significant in the longer term. It notes that there will be distant elevated views of the tram alignment and overbridge structure from localised sections of the City By Pass, but that there would be no significant change in the visual experience of travellers on other roads.

Mitigation measures include *“at the railway overbridge, the intention would be to reduce landscape and visual impacts using woodland structure planting”*.

OBJECTIVES

- High quality and creative design, fit for the Edinburgh Park context
- To restrict the height to ensure that the structure, with tramway, sits well in relation to the backdrop of the city by pass and the adjacent Edinburgh Park station building.
- To achieve an elegant design solution, incorporating an open structure on concrete pillars, and taking account of necessary vertical and horizontal curves
- Make an appropriate contribution to the Council's 'Placemaking' agenda,
- To establish an appropriate landscape structure for the areas both south and north of the railway line recognising any potential to provide or enhance connections with footpath/cycleway routes.
- To avoid creating dark or hidden spaces which may be unsafe or attract anti-social behaviour
- To be designed with future development in mind, avoiding awkward left over open spaces with no clear functionality and building in the potential to ensure a good relationship to new buildings
- To take account of any special design constraints arising from proximity to the airport

INTERESTED PARTIES

Network Rail

City Development Dept – Structures Section (Transport)

New Edinburgh Limited

Edinburgh Park (Management) Limited

BAA – consultation requirement

EDINBURGH TRAM PROJECT
PROPOSED MAJOR STRUCTURES -
DESIGN OBJECTIVES

LOCATION : STENHOUSE

TRAM LINE : 2

DESCRIPTION OF STRUCTURE : Tram bridge
over main Glasgow and Fife Railway lines

LOCAL PLAN : South West Edinburgh/North
West Edinburgh/West Edinburgh

CONSERVATION AREA : No



RELEVANT LP DESIGN POLICIES :

Policies from draft WELP are most up-to-date material considerations.

Policy DQ 6 – New development should make a positive contribution to the quality, accessibility and safety of the environment, having regard to the character, opportunities and constraints of the site and its surroundings and the basic character of the city. In particular, new development will be expected, if relevant to

- Create or contribute to a sense of place and local distinctiveness
- Promote community safety and minimise the opportunities for crime and anti-social behaviour
- Afford ease of movement for all, having regard to the needs of different population groups, including the elderly, the very young and mobility impaired;
- Minimise the potential for pedestrian/cyclist/traffic conflict and accidents
- Connect visually and functionally with its surroundings.

Policy DQ8 – Development proposals for visually prominent sites, sites on major transport corridors or in gateway locations (on the city’s urban edge) will be expected to demonstrate a particularly creative design solution, specific to the site in question.

Other relevant policies are DQ7 – seeking new tree planting and robust landscaping with proposals - and DQ9 which requires protection of key views from intrusive development.

RELEVANT LP ENVIRONMENTAL POLICIES :

Policies from draft WELP are most up-to-date material considerations.

Policy GE12 – Development proposals will generally be considered for their impact upon

wildlife, habitats and geological features. The Council will not permit developments that have the potential to result in harm to a species of plant or animal, or its habitat, that is protected under relevant legislation.... Developers will be encouraged to maintain and increase the nature conservation value of proposed development, including the creation of new wildlife habitats where appropriate.

In addition, Policy GEg – relevant to Carrick Knowe Golf Course and the allotments to the south of the railway line – requires the protection of open space, but these allocations are overlain by transport safeguard for CERT and other public transport proposals.

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

It is essential that the quality of gateways, arterial routes and their varied character and strategic views are maintained to protect the city image and legibility.

Provide safe and pleasant places.

Consider outdoor spaces as a means of integrating and linking development to provide structure and a shared community focus.

Minimise the loss of public access to areas of outdoor/visual amenity, recreation and biodiversity interest.

OTHER POLICY CONSTRAINTS :

Edinburgh Biodiversity Action Plan?

SITE CHARACTERISTICS :

Existing footbridge spans railway – curves over track – wooden spars. It crosses in right angled alignment. It carries both a footpath and a cycleway.

Proposed bridge runs from open ground with ATC huts over the railway to existing golf course land. Bridge will be viewed (looking north) against Corstorphine Hill (middle distance).

Existing houses/flats on north side will be very close – relationship should be considered.

Angle of bridge to be carefully considered – balance between short direct span and longer oblique span – latter more suited to tramway alignment.

OTHER CONTEXTUAL MATTERS :

Network Rail design constraints – height of bridge/clearance to allow for future electrification.

RELEVANT EXTRACT FROM ENVIRONMENTAL STATEMENT:

Mitigation in the relevant Murrayfield – Carrick Knowe section proposed as follows

“Tree planting between railway line and tram, to break up linearity of rail/tram corridor”

“Tree planting to north side to frame views of the golf course and echo golf course planting”

The ES notes that the line would cross from the golf course over the railway on an overbridge, resulting in the demolition of one building. Here the local impact is summarised as having direct impacts on the landscape (the overbridge having a substantial adverse impact, the loss of vegetation on the southern boundary of the golf course having a moderate adverse impact). The mitigation proposed is

“At the Stenhouse overbridge, sideslopes would be graded out to reduce landscape and visual impacts and woodland structure planting would be introduced to also assist in this aim and infill derelict area to east and hollow to west, between the existing retained footbridge and the proposed bridge.”

“Between Stenhouse Drive and Saughton Mains Street, specimen decorative tree groups would be planted in amenity grassland to reflect current character and replace those lost to construction.”

OBJECTIVES

- High quality and creative design, relating well to the adjacent footbridge design in terms of height, vertical alignment and materials.
- Make an appropriate contribution to the Council’s ‘Placemaking’ agenda, recognising this is adjacent to a key footpath/cycleway route.
- To re-establish an appropriate landscape structure for the areas south and north of the railway line
- Make provision for direct and continuous walk/cycleway connections with established routes, enhancing these routes if possible.
- To avoid creating dark or hidden spaces which may be unsafe or attract anti-social behaviour
- To avoid left over open spaces with no clear functionality

INTERESTED PARTIES

City of Edinburgh Council – Culture & Leisure Dept

City Development Dept – Structures Section (Transport)

Lothian & Borders Police

Network Rail

Adjoining householders

EDINBURGH TRAM PROJECT PROPOSED MAJOR STRUCTURES - DESIGN OBJECTIVES

**LOCATION : MURRAYFIELD RUGBY
FOOTBALL STADIUM/ROSEBURN
STREET**

TRAM LINE : 2

DESCRIPTION OF STRUCTURE : Bridge to provide elevated run of track adjacent to Glasgow Railway line. Four different sections.

- a To rear of industrial/commercial properties
- b With direct frontage to Roseburn Street and providing tram stop.
- c Bridge crossing of Roseburn Street, adjacent and parallel to existing rail bridge
- d To south of Murrayfield stadium

LOCAL PLAN : Central Edinburgh

CONSERVATION AREA : No

RELEVANT LP DESIGN POLICIES :

CD 10 – The Council encourages new development of the highest possible architectural and urban quality.

CD11 – Proposals.... should respect the constraints of a site, the character of its surroundings and the opportunities to add visual interest or improve the environment.

CD18 – All development will in its design and layout be expected to contribute to an environment which is safe, equally accessible to all including people with particular mobility needs and sustainable in the long term.

L9 – The Council will support measures and proposals intended to meet the information and movement needs of tourists provided these are sensitive to the historic environment of the city centre.

Policy T10 – The Council will seek to create as extensive, safe and attractive an environment for pedestrians as practicable, especially within the city centre and other main areas of pedestrian congregation. Attention will be paid to its design quality and utility for people with movement difficulties. Wherever possible, more circulation space for pedestrians will be sought when development is proposed.

Also Policies T6, T8 and T9 seeking expansion of cycle routes, secure cycle parking facilities both on and off street.



RELEVANT LP ENVIRONMENTAL POLICIES :

GE2 – Planning permission will not be given for new development which would result in the loss of any open space which contributes to environmental character and amenity or is of recreational or other social value.

GE5 – The amenity and recreational value of the Water of Leith and Union Canal corridors will be protected and enhanced.

GE6 – The Council will protect, and where appropriate, improve, existing rights of way and will promote a network of linked walkways throughout the Plan area, based on parks, disused railway land, the Water of Leith valley, the Union Canal towpath and other rights of way.

Also Policies GE7, GE8 and GE11 seeking to protect Urban Wildlife Sites from damaging development (Water of Leith corridor being one of these Sites) and requiring proposals to show consideration for trees.

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

It is essential that the quality of gateways, arterial routes and their varied character and strategic views are maintained to protect the city image and legibility.

Provide safe and pleasant places.

Consider outdoor spaces as a means of integrating and linking development to provide structure and a shared community focus.

Minimise the loss of public access to areas of outdoor/visual amenity, recreation and biodiversity interest.

Proposals should demonstrate urban design to create a “sense of place” and integration with local context; places which are attractive, offering mixed uses, variety of form and choice; sensitivity to human scale.

OTHER POLICY CONSTRAINTS :

Public safety requirements (Murrayfield crowd handling)

Biodiversity Action Plan

SITE CHARACTERISTICS :

- a Barely visible – screened by existing buildings (low quality industrial, with potential for redevelopment)
- b Highly visible sloping embankment with important street frontage. Vacant land at present – unkempt appearance. Opportunity to create improved street frontage. Crowd handling will be important on match and event days. Potential for some development as well as structure.
- c Existing bridge unassuming. Dark corner. Need to consider permeability of structure to provide natural light on roadway.
- d Existing embankment. Access road and fence to north, leading into car park and stadium. Site looks very secure – high fence and notice about CCTV.

OTHER CONTEXTUAL MATTERS :

Changes to the Water of Leith Flood Prevention Scheme may be required following the findings of the recent Public Inquiry. Need to continue to ensure integration between the two projects.

RELEVANT EXTRACT FROM ENVIRONMENTAL STATEMENT:

Mitigation in the relevant Roseburn/Murrayfield section proposed as follows

“High quality hard landscape treatment at Murrayfield / associated specimen trees/ seating/signing etc”

The ES notes that the line would cross Roseburn Street on an overbridge to run alongside the railway on an elevated structure above the flood plain, supported by piers. Here mitigation proposed is

“Careful choice of construction materials”

For the section which crosses the Water of Leith and its footpath, relevant mitigation is

“Planting adjacent to Water of Leith to compensate for that lost due to construction”

OBJECTIVES

(Key sections to which each objective primarily relates indicated in brackets)

- High quality and creative bespoke design, contributing to the Council's 'Placemaking' agenda *(b, c)*
- To sit quietly within the existing well-established landscape structure of the area *(c,d)*
- To provide spaces which enhance the identity of the area and the functionality and setting of Murrayfield Stadium *(b,c,d)*
- Give consideration to the potential to provide walk/cycleway connections with Water of Leith corridor and other established routes *(d)*
- Take account of any implications arising from the Water of Leith Flood Prevention Scheme *(d)*
- Design should ensure that there are no adverse impacts on the Urban Wildlife Site or that any adverse impacts are balanced by enhancements. Consideration should be given to a design which incorporates facilities or habitats for appropriate known species *(d)*
- To use a mixture of design solutions – bridge structure, retaining walls, embankments – as appropriate to the detailed context. *(a,b,c,d)*
- To ensure that the street frontage provides a safe and secure environment with a good human scale *(b,c)*
- To avoid creating dark or hidden spaces which may be unsafe or attract anti-social behaviour *(a,b,c,d)*
- To provide an appropriate foundation for developing stop design and transport interchange in this location *(b)*
- To consider possible future development potential in adjacent commercial/industrial area (eastern end) *(a,b)*

INTERESTED PARTIES

Scottish Rugby Union

Network Rail

City Development Dept – Structures Section (Transport)

Lothian & Borders Police

EDINBURGH TRAM PROJECT PROPOSED MAJOR STRUCTURES - DESIGN OBJECTIVES

LOCATION : HAYMARKET

TRAM LINE : 1 and 2

DESCRIPTION OF STRUCTURE : Bridge to provide elevated run of track alongside Haymarket Terrace

LOCAL PLAN : Central Edinburgh

CONSERVATION AREA : no – but adjacent to New Town CA and West End CA.



RELEVANT LP DESIGN POLICIES :

CD2 – All proposals affecting a listed building or its setting will be considered for their effect on its character and if appropriate their contribution to its care and restoration....

CD 10 – The Council encourages new development of the highest possible architectural and urban quality.

CD11 – Proposals..should respect the constraints of a site, the character of its surroundings and the opportunities to add visual interest or improve the environment.

CD18 – All development will in its design and layout be expected to contribute to an environment which is safe, equally accessible to all including people with particular mobility needs and sustainable in the long term.

L9 – The Council will support measures and proposals intended to meet the information and movement needs of tourists provided these are sensitive to the historic environment of the city centre.

Policy T10 – The Council will seek to create as extensive, safe and attractive an environment for pedestrians as practicable, especially within the city centre and other main areas of pedestrian congregation. Attention will be paid to its design quality and utility for people with movement difficulties. Wherever possible, more circulation space for pedestrians will be sought when development is proposed.

Also Policies T6, T8 and T9 seeking expansion of cycle routes, secure cycle parking facilities both on and off street.

RELEVANT LP ENVIRONMENTAL POLICIES :

See above

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

It is essential that the quality of gateways, arterial routes and their varied character and strategic views are maintained to protect the city image and legibility.

Provide safe and pleasant places.

Proposals should demonstrate urban design to create a “sense of place” and integration with local context; places which are attractive, offering mixed uses, variety of form and choice; sensitivity to human scale.

Where new development is to be located within a neighbourhood of distinctive spatial structure, townscape and landscape, the proposal should reinforce the existing character.

OTHER POLICY CONSTRAINTS :

Site adjacent to Category A Listed Building (Haymarket Station), and also adjacent to Edinburgh World Heritage Site.

SITE CHARACTERISTICS :

Rosebery House (RH) has unsatisfactory frontage – addresses Haymarket Terrace badly. Area between Haymarket Terrace and RH drops down to car park. Lower floors of Rosebery House are understood to be functioning offices – need to ensure adequate levels of daylight. This needs to be balanced against the potential to improve entrance to offices by linking this frontage directly to main street.

Consider optimal use of area underneath the structure – car parking and/or plant for tram.

OTHER CONTEXTUAL MATTERS :

Because of long term aspirations for improvement to townscape here, structure should be designed to be adaptable.

Awaiting outcome of Haymarket Master Plan Study to provide ideas for possible future context (study expected to commence December 2005 - interim findings may be useful)

Tram Bills include provision for demolition of steps etc at Haymarket Station.

EXTRACT FROM ENVIRONMENTAL STATEMENT

The ES notes that there will be visual impacts experienced by properties in Haymarket Terrace, Haymarket yards and Clifton Terrace. The long term impacts are considered to range from slight to adverse and hence significant. The impacts on listed buildings are

also significant – demolition of the Caley Ale House and the possible removal of steps and lamp standard at the Station.

Mitigation measures include “*a co-ordinated and visually integrated design for the tram stop including walls or other architectural devices to recreate some of the enclosure of the entrance to Haymarket Terrace lost with the demolition of the Ale House to link the tram stop with Haymarket Station and to enhance the setting of the station building.*”

Photographic and standing building surveys are recommended before demolition commences, and monitoring during demolition works in case any unusual features come to light.

OBJECTIVES

General

- High quality and creative bespoke design, contributing to the Council’s ‘Placemaking’ agenda
- To sit quietly in relation to existing site levels and buildings
- To ensure no adverse impacts on the setting of Haymarket Station Building, and seek to mitigate any adverse impacts arising from the loss of the steps and lamp standard at the station.
- To consider the potential for enhancing the street frontage framed by Rosebery House (either now or in the future)
- To provide spaces which enhance the identity and functionality of the area
- To ensure that the street frontage provides a safe and secure environment with a good human scale
- To avoid creating dark or hidden spaces (at street level or below) which may be unsafe or attract anti-social behaviour
- To provide an appropriate foundation for developing stop design and major transport interchange in this location.
- To take account of any findings emerging from the Haymarket Masterplanning work and incorporate flexibility in the design for future adaptation.

INTERESTED PARTIES

Norwich Union

Network Rail

Historic Scotland

City Development Dept – Structures Section (Transport)

Architecture and Design Scotland

EDINBURGH TRAM PROJECT
PROPOSED MAJOR STRUCTURES - DESIGN
OBJECTIVES

LOCATION : COLTBRIDGE

TRAM LINE : 1

DESCRIPTION OF STRUCTURE : Retaining
wall and embankment

LOCAL PLAN : Central Edinburgh

CONSERVATION AREA : No but contiguous
with Coltbridge & Wester Coates (existing
wall forms boundary)

RELEVANT LP DESIGN POLICIES :

CD11 – Proposals..should respect the
constraints of a site, the character of
its surroundings and the opportunities
to add visual interest or improve the
environment.

Also Policies T6, T8 and T9 seeking expansion of cycle routes, secure cycle parking
facilities both on and off street.

RELEVANT LP ENVIRONMENTAL POLICIES :

GE6 – The Council will protect, and where appropriate, improve, existing rights of way
and will promote a network of linked walkways throughout the Plan area, based on parks,
disused railway land, the Water of Leith valley, the Union Canal towpath and other rights
of way.

GE7 – Areas identified ...as... Urban Wildlife Sites will be protected from potentially
damaging development.

GE8 – All development proposals will be considered for their impact upon wildlife and
its habitat. Where development proposals are acceptable they should include features
that will mitigate their effects upon wildlife and its habitat, including the creation of new
habitats where appropriate.

Also Policies GE10, GE11 and GE12 requiring proposals to show consideration for trees,
encouraging tree planting and provision for landscaping in relation to development
proposals.



EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

It is essential that the quality of gateways, arterial routes and their varied character and strategic views are maintained to protect the city image and legibility.

Provide safe and pleasant places.

Consider outdoor spaces as a means of integrating and linking development to provide structure and a shared community focus.

Minimise the loss of public access to areas of outdoor/visual amenity, recreation and biodiversity interest.

OTHER POLICY CONSTRAINTS :

Biodiversity Action Plan

Coltbridge and Wester Coates Conservation Area Character Appraisal

SITE CHARACTERISTICS :

Existing stone wall to residential properties. Wall is well-screened by mature vegetation.

Any extension to existing boundary treatments should use matching materials. Replacement landscape treatment will be necessary although the space remaining for this may be limited.

OTHER CONTEXTUAL MATTERS :

Provisions contained within the Landscape Heritage Management Plan may be relevant.

EXTRACT FROM ENVIRONMENTAL STATEMENT

The ES states there will be landscape impacts, including *“retaining structures will be required to allow for widening. The height and extent of these cannot be properly determined ... But they are not currently envisaged to be more than 1 to 1.5m high if designed as vertical walls or 2.5m high if designed as raked crib walling”*. Other impacts include potential loss of habitat and species, disturbance and damage to habitats.

Mitigation works include *“ensuring that new works are generally sympathetic to the character of the area, and by replacing lost trees with a mixture of native and decorative shrub planting. Over time this will partially re-enclose and screen the area.”* Mitigation works for nature conservation matters are set out and these have been further detailed in the Landscape Habitat Management Plan for the Roseburn Corridor.

OBJECTIVES:

- To sit quietly within the existing well-established landscape structure of the area, enhancing the overall green character of the space.
- Minimise damage to existing vegetation during construction works.
- Design should ensure that there are adverse impacts on the Urban Wildlife Site are kept to a minimum and balanced by enhancements. Design should take account of potential disturbance of habitats for particular species.
- To avoid creating dark or hidden spaces which may be unsafe or attract anti-social behaviour
- To use materials which match with existing as far as possible, and an unobtrusive design which enhances the character of the adjacent Conservation Area.

INTERESTED PARTIES

City Development Dept – Structures Section (Transport)

Lothian & Borders Police

Friends of the Roseburn Urban Wildlife Corridor Association (FRUWCA)

EDINBURGH TRAM PROJECT
PROPOSED MAJOR STRUCTURES -
DESIGN OBJECTIVES

LOCATION : CREWE TOLL

TRAM LINE : 1

DESCRIPTION OF STRUCTURE : Retaining
Wall

LOCAL PLAN : North West Edinburgh/West
Edinburgh

CONSERVATION AREA : No

RELEVANT LP DESIGN POLICIES:

Policies from draft WELP are most up-to-date material considerations.

Policy DQ 6 – New development should make a positive contribution to the quality, accessibility and safety of the environment, having regard to the character, opportunities and constraints of the site and its surroundings and the basic character of the city. In particular, new development will be expected, if relevant to

- Create or contribute to a sense of place and local distinctiveness
- Promote community safety and minimise the opportunities for crime and anti-social behaviour
- Afford ease of movement for all, having regard to the needs of different population groups, including the elderly, the very young and mobility impaired;
- Minimise the potential for pedestrian/cyclist/traffic conflict and accidents
- Connect visually and functionally with its surroundings.

Other relevant policies are DQ7 – seeking new tree planting and robust landscaping with proposals - and DQ9 which requires protection of key views from intrusive development.



RELEVANT LP ENVIRONMENTAL POLICIES :

Policies from draft WELP are most up-to-date material considerations.

Policy GE12 – Development proposals will generally be considered for their impact upon wildlife, habitats and geological features. The Council will not permit developments that have the potential to result in harm to a species of plant or animal, or its habitat, that is protected under relevant legislation... Developers will be encouraged to maintain and increase the nature conservation value of proposed development, including the creation of new wildlife habitats where appropriate.

In addition, Policy GE9 – relevant to Carrick Knowe Golf Course and the allotments to the south of the railway line – requires the protection of open space, but these allocations are overlain by transport safeguard for CERT and other public transport proposals.

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

It is essential that the quality of gateways, arterial routes and their varied character and strategic views are maintained to protect the city image and legibility.

Provide safe and pleasant places.

Consider outdoor spaces as a means of integrating and linking development to provide structure and a shared community focus.

Minimise the loss of public access to areas of outdoor/visual amenity, recreation and biodiversity interest.

OTHER POLICY CONSTRAINTS :

Edinburgh Biodiversity Action Plan

Landscape Habitat Management Plan

SITE CHARACTERISTICS :

Footpath/cycleway already slopes down to road – slope may change – flatten out – to accommodate tramstop (and possible bus interchange).

Semi-mature vegetation between footway and residential properties. Variety of fences on residential boundaries.

Retaining structure will be required between cycleway and tramway – currently an embankment. Potential for integration with tramstop.

OTHER CONTEXTUAL MATTERS :

More detailed design development required to inform design of structure here.

EXTRACT FROM ENVIRONMENTAL STATEMENT

The ES states “*the existing railway corridor is on embankment some six metres above the surrounding land. Significant retaining will be required to ramp the tram line up to and down from this level... retaining structures will be required to allow for widening. The height and extent of these cannot be properly determined. But they are not currently envisaged to be more than 1 to 1.5m high if designed as vertical walls or 2.5m high if designed as raked crib walling*”.

OBJECTIVES:

- Design should ensure that any adverse impacts on the Urban Wildlife Site are kept to a minimum and balanced by enhancements. Design should take account of potential disturbance of habitats for particular species.
- To avoid creating dark or hidden spaces which may be unsafe or attract anti-social behaviour
- To make appropriate provision for proposed tramstop location and design, and the potential for bus interchange
- To use materials which match with existing as far as possible, and an unobtrusive design.

INTERESTED PARTIES

City Development Dept – Structures Section (Transport)?

Lothian & Borders Police

Friends of the Roseburn Corridor Urban Wildlife Site?

Adjoining householders?

EDINBURGH TRAM PROJECT
PROPOSED MAJOR STRUCTURES - DESIGN
OBJECTIVES

LOCATION : LOWER GRANTON ROAD

TRAM LINE : 1

DESCRIPTION OF STRUCTURE : Retaining
wall for access to harbour

LOCAL PLAN : North West Edinburgh/West
Edinburgh and North East Edinburgh

CONSERVATION AREA : No but Trinity CA is
close by. Also listed structures nearby



RELEVANT LP DESIGN POLICIES

Policies from draft WELP are most up-to-date material considerations for western section of Lower Granton Road

Policy DQ 6 – New development should make a positive contribution to the quality, accessibility and safety of the environment, having regard to the character, opportunities and constraints of the site and its surroundings and the basic character of the city. In particular, new development will be expected, if relevant to

- Create or contribute to a sense of place and local distinctiveness
- Promote community safety and minimise the opportunities for crime and anti-social behaviour
- Afford ease of movement for all, having regard to the needs of different population groups, including the elderly, the very young and mobility impaired;
- Minimise the potential for pedestrian/cyclist/traffic conflict and accidents
- Connect visually and functionally with its surroundings.

Policy DQ8 – Development proposals for visually prominent sites, sites on major transport corridors or in gateway locations (on the city’s urban edge) will be expected to demonstrate a particularly creative design solution, specific to the site in question.

Other relevant policies are DQ7 – seeking new tree planting and robust landscaping with proposals - and DQ9 which requires protection of key views from intrusive development.

For eastern section, the following North East Edinburgh Local Plan policies are relevant

RELEVANT LP DESIGN POLICIES :

Policy E25 – The Council will encourage and promote high standards of design for all development and its careful integration with its surroundings as regards scale, form, siting, alignment and materials.

Policy E26 – New development will be expected to make a positive contribution to the overall quality, accessibility and safety of the environment and the street scene, creating new public spaces and points of interest where appropriate and incorporating to full effect any architectural or landscape feature present on or around the site. Particular attention will be paid to the need to enhance main or important thoroughfares and frontages, to protect city views and vistas from intrusion and to enhance important features of the local plan area, notably its seafront and waterfront locations and the Water of Leith.

RELEVANT LP ENVIRONMENTAL POLICIES :

Policies from draft WELP relate to western section :

Policy GE12 – Development proposals will generally be considered for their impact upon wildlife, habitats and geological features. The Council will not permit developments that have the potential to result in harm to a species of plant or animal, or its habitat, that is protected under relevant legislation... Developers will be encouraged to maintain and increase the nature conservation value of proposed development, including the creation of new wildlife habitats where appropriate.

In addition, Policy GE10 relates to Sites of International and National Importance such as Special Protection Areas and Sites of Special Scientific Interest – on the seaward side of the wall.

The NEELP policies which relate to the eastern section:

Policy E8 – The Council will seek to protect and expand the network of linear open spaces and walkways based upon the Water of Leith, the coastline, the Figgate Burn corridor and former railway lines. New development adjoining the coastline and key open spaces will be required to respect and enhance the character of the open spaces.

Policy E11 – Development will not normally be permitted which would adversely affect the integrity of either of the two Sites of Special Scientific Interest and the Special protection Area. Only when it can be demonstrated that any proposed development will not adversely affect the nature conservation or geological interest of the site will consideration be given to the granting of planning permission. The overall scope for development is very limited and, as the level of statutory nature of conservation protection implies, strict control will be applied. In particular, there is a presumption against land reclamation from the sea which would adversely affect nature conservation or geological interest.

Policy E33 – The Council will support initiatives to improve the environment of the Plan area as a whole. Priority areas for improvement will be the coastline, Water of Leith corridor, conservation areas and approaches to Leith.

Policy E35 – There is a presumption against development proposals likely to adversely affect the amenity of the coastline. In particular, there is a presumption against land reclamation from the sea which would adversely affect the amenity of the coastline.

These allocations are overlain by transport safeguard for CERT and other public transport proposals.

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

It is essential that the quality of gateways, arterial routes and their varied character and strategic views are maintained to protect the city image and legibility.

Provide safe and pleasant places.

Proposals should demonstrate urban design to create a “sense of place” and integration with local context; places which are attractive, offering mixed uses, variety of form and choice; sensitivity to human scale.

Where new development is to be located within a neighbourhood of distinctive spatial structure, townscape and landscape, the proposal should reinforce the existing character.

OTHER POLICY CONSTRAINTS :

Seawall is listed – category B. Alterations to wall may need listed building consent.

SITE CHARACTERISTICS :

Any change to buttress walls may impact on structural stability of the Wall – structural engineering issues to be addressed.

Green strip includes embankment – changes to wall may impact on stability of embankment.

Open foreshore area to north – Forth Special protection Area (SPA) and Site of Special Scientific Interest (SSSI)

OTHER CONTEXTUAL MATTERS :

Not clear at this stage the level at which the tramway will run and hence not yet clear about the nature of the structure or structural change. This will be determined through detailed design.

Design study being undertaken – led by City Development Dept (Planning). Timescale for this to be advised.

A degree of control will have to be exercised by CDD (coastal protection).

RELEVANT EXTRACT FROM ENVIRONMENTAL STATEMENT

The seawall is described as a “major boundary structure” of local importance and it would suffer a minor adverse impact. Alterations in this area generally are described as having “medium magnitude”.

The mitigation works in this area include “*the use of grass infill between the tracks across the extensive lawn areas created by the removal of the old Granton railway along Lower Granton Road.*”

OBJECTIVES

- Ensure the design protects the character of the listed sea wall.
- Ensure the design protects and enhances the character of Trinity Conservation Area and the setting of the cottages fronting on to Lower Granton Road.
- Take into account the overall emerging Waterfront Vision.
- Take account of the need to enhance the walkway/cycleway connections to other established routes
- Make provision for a sufficient number of safe and accessible pedestrian crossing facilities and ease of access between the road and the beach/foreshore
- Ensure there are no material adverse impacts on SSSI or SPA or that any adverse impacts are balanced by enhancements. Consideration should be given to a design which incorporates facilities or habitats for bird activities. Consideration also needs to be given to the timing of construction works.
- Demonstrate that there is no adverse impact on the structural soundness of the seawall.

INTERESTED PARTIES

Scottish Natural Heritage

Architecture and Design Scotland

Wardie Bay Residents Association

City Development Dept –
Structures Section (Transport)

EDINBURGH TRAM PROJECT
PROPOSED MAJOR STRUCTURES -
DESIGN OBJECTIVES

LOCATION : STARBANK ROAD

TRAM LINE : 1

DESCRIPTION OF STRUCTURE : Walkway to be constructed on seaward side of existing sea wall

LOCAL PLAN : North East Edinburgh

CONSERVATION AREA : Trinity and Newhaven CAs



RELEVANT LP DESIGN POLICIES :

Policy E25 – The Council will encourage and promote high standards of design for all development and its careful integration with its surroundings as regards scale, form, siting, alignment and materials.

Policy E26 – New development will be expected to make a positive contribution to the overall quality, accessibility and safety of the environment and the street scene, creating new public spaces and points of interest where appropriate and incorporating to full effect any architectural or landscape feature present on or around the site. Particular attention will be paid to the need to enhance main or important thoroughfares and frontages, to protect city views and vistas from intrusion and to enhance important features of the local plan area, notably its seafront and waterfront locations and the Water of Leith.

Policy E21 – In relation to development proposed within a conservation area the Council will require the retention of all features which contribute to its character and appearance, including unlisted buildings of townscape interest, boundary walls and railings, historic gardens, trees and landscape features, traditional and natural paving materials, street furniture, and the historic pattern of streets and spaces.

RELEVANT LP ENVIRONMENTAL POLICIES :

Policy E8 – The Council will seek to protect and expand the network of linear open spaces and walkways based upon the Water of Leith, the coastline, the Figgate Burn corridor and former railway lines. New development adjoining the coastline and key open spaces will be required to respect and enhance the character of the open spaces.

Policy E11 – Development will not normally be permitted which would adversely affect the integrity of either of the two Sites of Special Scientific Interest... and the Special protection Area. Only when it can be demonstrated that any proposed development will not adversely

affect the nature conservation or geological interest of the site will consideration be given to the granting of planning permission. The overall scope for development is very limited and, as the level of statutory nature of conservation protection implies, strict control will be applied. In particular, there is a presumption against land reclamation from the sea which would adversely affect nature conservation or geological interest.

Policy E33 – The Council will support initiatives to improve the environment of the Plan area as a whole. Priority areas for improvement will be... the coastline, Water of Leith corridor, conservation areas and approaches to Leith.

Policy E35 – There is a presumption against development proposals likely to adversely affect the amenity of the coastline. In particular, there is a presumption against land reclamation from the sea which would adversely affect the amenity of the coastline.

These allocations are overlain by transport safeguard for CERT and other public transport proposals.

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

Enhance the appearance and maintain the complex and varied character of arterial routes. It is essential that the quality of gateways, arterial routes and their varied character and strategic views are maintained to protect the city image and legibility. New developments along these locations should be of high quality urban design and architecture. This will involve providing them with appropriate settings.

Provide safe and pleasant places.

Proposals should demonstrate urban design to create a “sense of place” and integration with local context; places which are attractive, offering mixed uses, variety of form and choice; sensitivity to human scale.

Where new development is to be located within a neighbourhood of distinctive spatial structure, townscape and landscape, the proposal should reinforce the existing character.

OTHER POLICY CONSTRAINTS :

Forth SPA and SSSI.

Trinity Conservation Area Character Appraisal

SITE CHARACTERISTICS :

Seawall defines edge of pavement – approx 1-1.5 high. Only one gap in this wall. Stone wall but not listed.

Sea wall is important sea defence. Potential for cantilevered design – if wall sufficiently sound in structural terms. Has the wall been surveyed?

Is ground on seaward side of sea wall stable enough for structure to rest on?

Any structure here will be highly visible – open outlook over the seafront.

OTHER CONTEXTUAL MATTERS :

Control exercised by CDD (coastal protection).

Tie carried out bird survey – results to inform design of structure.

Waterfront “Vision” is in course of preparation by Planning Authority. Related to this are the Authority’s Placemaking agenda and the “Tiling” plans.

EXTRACT FROM ENVIRONMENTAL STATEMENT

The ES focuses on impacts from the tramway and notes the following.

“Major adverse visual impacts will also be experienced along the waterfront where overhead lines will be particularly visible because they will be seen against the open sky. Again the mitigation here will be the careful design of equipment to keep it as simple and uncluttered as possible. “

Mitigation in the relevant section Newhaven to Granton is specified as follows.

“A new combined footway and cyclepath on the north side of Starbank Road, seaward of the existing seawall, finished in a manner architecturally appropriate for the location (contingent on acceptable impacts on nature conservation issues).”

Impacts to areas of identified nature conservation interest (including the SSSI) will be avoided as far as possible. Where works are unavoidable, the contractor will be required to ensure the best practice measures are adopted to minimise any direct or indirect adverse impacts. There is also a commitment to bird monitoring to inform the assessment of the works within the SPA, and the information used to develop detailed mitigation measures for the species and habitats affected. It is understood that surveys have taken place and results should be brought forward.

A sketch – a proposed cross section at Starbank Road – has been included in the ES showing a cantilevered walkway (but suggesting a timber footbridge supported on concrete columns).

OBJECTIVES

- High quality and creative bespoke design, contributing to the Council's 'Placemaking' agenda, enhancing the identity of the area
- Ensure the design protects and enhances the character of Trinity Conservation Area.
- Take into account the overall emerging Waterfront 'Vision'.
- Contribute to the provision of a complete waterfront esplanade, connecting into other existing or proposed arrangements to ensure a continuous walk/cycleway is achieved between Leith and Granton
- Enhance the walkway/cycleway connections to other established routes
- Provide breakthrough points in existing wall to connect the new structure with the main street in order to ensure safety for users and to encourage appropriate activity within the street
- Make provision for a sufficient number of safe and accessible pedestrian crossing facilities
- Ensure there are no adverse impacts on SSSI or SPA or that any adverse impacts are balanced by enhancements. Consideration should be given to a design which incorporates facilities or habitats for bird activities. Consideration also needs to be given to the timing of construction works.
- Demonstrate that there is no adverse impact on the structural soundness of the seawall.
- The walls should be finished in natural stone to match the main original sea wall

INTERESTED PARTIES

Scottish Natural Heritage

Architecture and Design Scotland

City Development Dept – Structures Section (Transport)

Newhaven Community Council

EDINBURGH TRAM PROJECT
PROPOSED MAJOR STRUCTURES -
DESIGN OBJECTIVES

LOCATION : LINDSAY ROAD

TRAM LINE : 1

DESCRIPTION OF STRUCTURE :

Retaining Wall

LOCAL PLAN : North East Edinburgh

CONSERVATION AREA : No but Newhaven CA close by.



RELEVANT LP DESIGN POLICIES :

Policy E25 – The Council will encourage and promote high standards of design for all development and its careful integration with its surroundings as regards scale, form, siting, alignment and materials.

Policy E26 – New development will be expected to make a positive contribution to the overall quality, accessibility and safety of the environment and the street scene, creating new public spaces and points of interest where appropriate and incorporating to full effect any architectural or landscape feature present on or around the site. Particular attention will be paid to the need to enhance main or important thoroughfares and frontages, to protect city views and vistas from intrusion and to enhance important features of the local plan area, notably its seafront and waterfront locations and the Water of Leith.

Policy E21 – In relation to development proposed within a conservation area the Council will require the retention of all features which contribute to its character and appearance, including unlisted buildings of townscape interest, boundary walls and railings, historic gardens, trees and landscape features, traditional and natural paving materials, street furniture, and the historic pattern of streets and spaces.

RELEVANT LP ENVIRONMENTAL POLICIES :

Policy E13 requires all development proposals to be considered for their impact on wildlife and the natural environment, and policies such as E15, E16 require protection of trees and new tree planting.

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

It is essential that the quality of gateways, arterial routes and their varied character and strategic views are maintained to protect the city image and legibility.

Provide safe and pleasant places.

Proposals should demonstrate urban design to create a “sense of place” and integration with local context; places which are attractive, offering mixed uses, variety of form and choice; sensitivity to human scale.

Shape distinctive neighbourhoods to create local identity, where the existing development form is poor or due for regeneration. Combine activities, development and spaces to give distinctive urban form.

OTHER POLICY CONSTRAINTS :

Leith Docks Development Framework and the downstream masterplanning work.

The Planning Committee report of 26th May 2005 on the proposed Bill Amendment made the following comment.

“The proposed change permits a smoother horizontal alignment of the Tramway, and would also have the effect of permitting a slightly enlarged development site to the south... The fine detail of the proposed road alignment and the siting of existing substations which the LODs avoid may need some thought so that a proper street is created here. There are awkward site levels and retaining walls are proposed (similar to those identified in the plans introduced to Parliament). The triangular redevelopment site to the south may provide an opportunity to house some tram equipment by making use of the change in levels. That site and the ‘Britannia Quay’ site to the north are intended to be included in one masterplan (see LDDF). However, the timing for its preparation has not yet been agreed with Forth Ports. Ideally that masterplanning work and the detailed tram design work should take place in parallel and this will now be followed up.”

SITE CHARACTERISTICS :

Chancelot Mill site lies at level lower than Lindsay Road. Footpath runs between these at present. Chancelot Mill is potential development opportunity.

Existing substantial retaining wall (facing brick) between Lindsay Road and industrial estate road – this may be extended.

Trees/landscaped area between retaining wall and business units.

OTHER CONTEXTUAL MATTERS :

Until Parliament has considered the Bill Amendments, it will not be clear if the alignment will be as originally submitted or as amended.

More detailed design work is required on the alignment to inform height of wall(s) required here.

RELEVANT EXTRACT FROM ENVIRONMENTAL STATEMENT

The ES assesses the change at Lindsay Road as an embankment rather than a retaining wall.

Mitigation works include

“The co-ordination of the design for the tram and for new developments to ensure as far as this is within tie’s power, the proper integration of the tram with the new townscape”

“Appropriate finishing to the visible parts of the ramp structure between Lindsay Road and the dock road.”

These extracts are from the main ES submitted with the Bills. The supplementary environmental information submitted with the Bill Amendment notes that there will be no change in environmental impacts apart from noting that

“The additional land to be taken at Lindsay Road is currently unused land in the ownership of Forth Ports. Its occupation will cause no change in the direct impacts of the scheme on land use.”

OBJECTIVES:

- To design a new retaining wall to relate well to the existing retaining structures in the area.
- To avoid creating dark or hidden spaces which may be unsafe or attract anti-social behaviour
- To ensure that street frontages provide a safe and secure environment with a good human scale and interest for pedestrians.
- To consider incorporating a new building into the retaining structure in order to maximise development land, fit with the new townscape structure, and provide interest at street level.
- To consider any provision for tram equipment or plant which can be designed into structures.
- To seek to work up design details in parallel with masterplanning design for the Leith Docks Development Framework

INTERESTED PARTIES

City Development Dept – Structures Section (Transport)

Lothian & Borders Police

Forth Ports

APPENDIX 8

INITIAL STATEMENTS ON ALTERATIONS TO MAJOR STRUCTURES

This document sets out objectives to be pursued in alterations to structures required in relation to the Tram Project. The objectives are set in the context of the policy background and other considerations.

There are 8 existing structures affected by the proposals for Tram Lines 1 and 2. These are as follows.

- Balgreen Bridge
- Russell Road underpass
- Roseburn Bridge
- Coltbridge retaining wall
- Coltbridge Viaduct
- St George's School Bridge
- Craigleith Drive Bridge
- Groathill Road South Bridge

EDINBURGH TRAM PROJECT
PROPOSED MAJOR STRUCTURES -
DESIGN OBJECTIVES

STRUCTURE : BALGREEN BRIDGE

TRAM LINE : 2

DESCRIPTION OF EXISTING STRUCTURE:

Bridge carrying main Glasgow and Fife railway lines over Balgreen Road. Two simple parallel girder bridges with steel railing. There is a small gap between the bridges... Sandstone abutments and wing walls with solid copings. There is a pedestrian underpass alongside to the east. Embankments are quite steep.



LISTED BUILDING : No

LOCAL PLAN : On boundary between North West and South West Edinburgh Local Plans/
West Edinburgh

CONSERVATION AREA : No

RELEVANT LP DESIGN POLICIES:

Policies from draft WELP are most up-to-date material considerations.

Policy DQ 11 – Alterations and Extensions to existing buildings, where acceptable in principle, should be subservient and relate carefully to the original building. They should be of a suitable scale to the existing building and the space around it and should have an acceptable impact upon its surroundings and neighbourhood.

Other relevant policies are DQ7 – seeking new tree planting and robust landscaping with proposals - and DQ9 which requires protection of key views from intrusive development.

RELEVANT LP ENVIRONMENTAL POLICIES :

Policy E26 – New development will be expected to make a positive contribution to the overall quality, accessibility and safety of the environment and the street scene, creating new public spaces and points of interest where appropriate and incorporating to full effect any architectural or landscape feature present on or around the site. Particular attention will be paid to the need to enhance main or important thoroughfares and frontages, to protect city views and vistas from intrusion and to enhance important features of the local plan area, notably its seafront and waterfront locations and the Water of Leith.

OTHER POLICY CONSTRAINTS :

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

Provide safe and pleasant places – well designed and maintained open spaces – footpaths, streets, parks, squares - can be seen as places for people to meet. They are also opportunities to provide integration between different places, spaces and buildings.

Consider outdoor spaces as a means of integrating and linking development to provide structure and a shared community focus.

Minimise the loss of public access to areas of outdoor/visual amenity, recreation and biodiversity interest.

SITE CHARACTERISTICS AND CONTEXTUAL ANALYSIS :

The bridges effectively span a gap in the embankment, which is steep and blocks the view. Balgreen Road dips down under the bridge. There are some trees on either side. There are also two advertisement hoardings. The proposed new bridge would be on the north side of the existing bridges.

On this side, Jenner's Depository is adjacent to west – listed building (Category B) – enclosed by a 2m high metal palisade fence. A small wooden palisade fence has been erected on the embankment next to Jenner's fence. The Balgreen to Corstorphine walkway separates the embankment from Jenner's.

Adjacent to the underpass on the east sits a large double garage with roller shutter style door. Housing at Baird Drive lies further east, almost adjacent.

The existing girder bridges have little architectural merit. The underpass design is basic and utilitarian, is not particularly inviting, but offers little opportunity for change unless the structure were to be completely re-built.

The scrubby vegetation on the embankments on either side would benefit from enhancement.

RELEVANT EXTRACT FROM ENVIRONMENTAL STATEMENT

The ES states that “*the route would cross Balgreen Road at grade before attaining a possible stop location on the other side.*”

Mitigation works are “Mixed/broadleaved woodland planting near Jenners depository to replace that lost to construction and screen sub station.

Since the ES was prepared, extensive consultation has taken place with residents in Baird Drive with regard to the tram alignment to the rear of their houses and a report was completed and presented to Parliament on the preferred alignment. The high level alignment now preferred requires a bridge crossing of Balgreen Road rather than a crossing at grade.

OBJECTIVES

- The new bridge should match the existing in height and general design, and should aim to mask the existing parapets.
- Bridge and underpass extensions should be designed in an integral manner.
- A separate structure should be considered with a gap to provide natural daylighting to the street below.
- Any extension to the underpass should be of minimum length with clear unobstructed entry/exit points.
- Any alterations to abutments, wing walls or retaining walls should maximise the re-use of existing stone.
- If extensive additional retaining walls are required, consideration will be given to the use of good quality brick as an alternative to stone.
- Embankments should be as shallow as possible.
- All elements should be designed holistically – lighting, equipment and OLE – to achieve visual coherence from all viewpoints. OLE poles on the bridge deck should be avoided if possible.
- Design should take account of the structural characteristics of the existing bridge and should demonstrate that construction can take place without causing damage to the structure.

INTERESTED PARTIES

City Development Dept – Structures Section (Transport)

Network Rail

Jenners

Local Residents and adjacent landowners

EDINBURGH TRAM PROJECT
PROPOSED MAJOR STRUCTURES -
DESIGN OBJECTIVES

STRUCTURE : RUSSELL ROAD UNDERPASS

TRAM LINE : 2

DESCRIPTION OF EXISTING STRUCTURE :

Simple but extensive girder bridge. The structure is actually two bridges with daylight gap between. The northerly bridge has a skewed alignment. Wing walls are of stone.

LISTED BUILDING : No

LOCAL PLAN : Central Edinburgh

CONSERVATION AREA : No



RELEVANT LP DESIGN POLICIES :

CD11 – Proposals..should respect the constraints of a site, the character of its surroundings and the opportunities to add visual interest or improve the environment.

CD19 – The Council will permit alterations and extensions to buildings which in their design and form, choice of materials and positioning are compatible with the character of the original building, will not result in an unreasonable loss of privacy or natural light to neighbouring properties and are not detrimental to neighbourhood amenity or character. Particular attention will be paid to ensuring that such works to listed buildings and non-listed buildings in conservation areas do not damage their special character.

CD18 – All development will in its design and layout be expected to contribute to an environment which is safe, equally accessible to all including people with particular mobility needs and sustainable in the long term.

Policy T10 – The Council will seek to create as extensive, safe and attractive an environment for pedestrians as practicable, especially within the city centre and other main areas of pedestrian congregation. Attention will be paid to its design quality and utility for people with movement difficulties. Wherever possible, more circulation space for pedestrians will be sought when development is proposed.

Also Policies T6, T8 and T9 seeking expansion of cycle routes, secure cycle parking facilities both on and off street.

RELEVANT LP ENVIRONMENTAL POLICIES :

GE6 – The Council will protect, and where appropriate, improve, existing rights of way and will promote a network of linked walkways throughout the Plan area, based on parks, disused railway land, the Water of Leith valley, the Union Canal towpath and other rights of way.

Also Policies GE7, GE8, GE11 and GE12 seeking to protect Urban Wildlife Sites from damaging development and requiring proposals to include provision for landscaping and to show consideration for trees.

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

Provide safe and pleasant places – well designed and maintained open spaces – footpaths, streets, parks, squares - can be seen as places for people to meet. They are also opportunities to provide integration between different places, spaces and buildings.

Consider outdoor spaces as a means of integrating and linking development to provide structure and a shared community focus.

Minimise the loss of public access to areas of outdoor/visual amenity, recreation and biodiversity interest.

OTHER POLICY CONSTRAINTS :

SITE CHARACTERISTICS AND CONTEXTUAL ANALYSIS:

This is a gloomy corner, and the bridge has an unwelcoming air, dominated by traffic. The abutments are finished in white glazed bricks/tiles. Retaining walls exist on sides - west side - brick wall, a few trees, then builder's yard; east side - good quality stone retaining wall runs alongside the road up to cycleway entrance. There are advertisement hoardings here, and the cycleway ramps up in a zig zag behind the hoardings on to main cycleway.

Housing is close by at Roseburn Maltings (new development several storeys high) means that residents directly overlook the structure.

EXTRACT FROM ENVIRONMENTAL STATEMENT

The ES states *“A delta junction at the disused railway line/cycletrack would pass over Russell Road on a new structure, with retaining walls to the south side of Russell Road which would contain an electricity sub station. “*

Mitigation works proposed are

- *Mixed woodland and scrub planting on side slopes linked to realigned cycle path corridor and ramp*
- *Careful choice of construction materials to harmonise with those adjacent.*

OBJECTIVES

- New structure should be designed as a separate bridge rather than an extension.
- Design should seek to create visual interest.
- Allow for maximum permeation of daylight to street below.
- Design should screen existing railway, or create a visual distraction.
- Retain as much as possible of stone retaining wall intact.
- Any extension to retaining wall should be constructed of similar stone - similar in type and size of blocks and copes.
- New planting should be included to screen the new tram route and railway from nearby residential properties. This should supplement any existing planting, with species appropriate to the location
- Slopes should be as shallow as possible.
- Any re-routing of the existing walkway/cycleway to be carefully graded for ease of access to all (including wheelchair users)
- Any opportunities to improve lighting and open up the existing structure should be maximized
- All elements should be designed holistically – lighting, equipment, OLE, landscaping and retaining walls – to achieve visual coherence from all viewpoints. OLE poles on the bridge deck should be avoided if possible.
- Design should take account of the structural characteristics of the existing bridge and should demonstrate that construction can take place without causing damage to the structure.

INTERESTED PARTIES

City Development Dept – Structures Section (Transport)

Network Rail

Local residents in Roseburn Maltings

Community Council

EDINBURGH TRAM PROJECT
PROPOSED ALTERATIONS TO MAJOR
STRUCTURES - DESIGN OBJECTIVES

STRUCTURE : ROSEBURN BRIDGE

TRAM LINE : 1 and 2

DESCRIPTION OF EXISTING STRUCTURE :

Former railway bridge – girder bridge with cast iron superstructure and parapet with steel girders. Decorated iron consoles with grilled sections above which are dies at same intervals as consoles. Central grilled panel contains pair of lions rampant flanking thistle. Rose and shamrock motifs.



Abutments of coursed sandstone and wing walls with polished dressings. Wing walls are stepped with pedestalled ball finial to lowest step.

LISTED BUILDING : Category B

LOCAL PLAN : South West Edinburgh/North West Edinburgh/West Edinburgh

CONSERVATION AREA : Coltbridge and Wester Coates.

RELEVANT LP DESIGN POLICIES :

CD2 – All proposals affecting a listed building or its setting will be considered for their effect on its character and if appropriate their contribution to its care and restoration....

CD11 – Proposals..should respect the constraints of a site, the character of its surroundings and the opportunities to add visual interest or improve the environment.

CD19 – The Council will permit alterations and extensions to buildings which in their design and form, choice of materials and positioning are compatible with the character of the original building, will not result in an unreasonable loss of privacy or natural light to neighbouring properties and are not detrimental to neighbourhood amenity or character. Particular attention will be paid to ensuring that such works to listed buildings and non-listed buildings in conservation areas do not damage their special character.

CD18 – All development will in its design and layout be expected to contribute to an environment which is safe, equally accessible to all including people with particular mobility needs and sustainable in the long term.

Policy T10 – The Council will seek to create as extensive, safe and attractive an environment for pedestrians as practicable, especially within the city centre and other main areas of pedestrian congregation. Attention will be paid to its design quality and utility for people with movement difficulties. Wherever possible, more circulation space for pedestrians will be sought when development is proposed.

Also Policies T6, T8 and T9 seeking expansion of cycle routes, secure cycle parking facilities both on and off street.

RELEVANT LP ENVIRONMENTAL POLICIES :

GE6 – The Council will protect, and where appropriate, improve, existing rights of way and will promote a network of linked walkways throughout the Plan area, based on parks, disused railway land, the Water of Leith valley, the Union Canal towpath and other rights of way.

Also Policies GE7, GE8, GE11 and GE12 seeking to protect Urban Wildlife Sites from damaging development and requiring proposals to include provision for landscaping and to show consideration for trees.

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

It is essential that the quality of gateways, arterial routes and their varied character and strategic views are maintained to protect the city image and legibility.

Provide safe and pleasant places – well designed and maintained open spaces – footpaths, streets, parks, squares - can be seen as places for people to meet. They are also opportunities to provide integration between different places, spaces and buildings.

Consider outdoor spaces as a means of integrating and linking development to provide structure and a shared community focus.

Minimise the loss of public access to areas of outdoor/visual amenity, recreation and biodiversity interest.

OTHER POLICY CONSTRAINTS :

Edinburgh Biodiversity Action Plan

Coltbridge and Wester Coates Conservation Area Character Appraisal

Local Habitat Management Plan

SITE CHARACTERISTICS AND CONTEXTUAL ANALYSIS :

This is a fine bridge located on one of the key approaches to the city, the A8. It is also an important feature within the conservation area – both architecturally and historically.

Adjacent sites are housing at Roseburn Maltings and Wester Coates, and a vacant garage/filling station, a prominent advert hoarding site and compact open space (a possible future development site).

The bridge is well maintained, but there is evidence of erosion, particularly on the carvings at the end of the parapets.

Planning Paper No.1 – Conceptual Design Solution Roseburn Terrace Bridge was commissioned by tie to consider in more detail the options for introducing a tramroad over the bridge while at the same time maintaining a footway/cycleway. It identified four possible options. These have now been narrowed down to two possibilities.

- Constructing a new separate footway/cycleway to the west of the existing structure and construct a new deck on top of the existing deck to carry the tramline
- Constructing a new widened deck on the existing widened abutments.

The decision on which option, or an alternative design, will only be made through the Prior Approval process.

The Description in the Statutory List should also be taken into account in design work.

RELEVANT EXTRACT FROM ENVIRONMENTAL STATEMENT:

The ES notes that *“the stone bridges, extensive stone retaining walls and old platforms act as reminders of the disused railway line, including the bridge over the A8 at Roseburn”*. *Alterations will be required to all the smaller bridges that the tram runs over. Where the railway corridor passes under narrow and low-arched bridges, the track bed will be lowered slightly to allow the tram tracks to be offset from the bridge centre-line and thus allow room for a narrow cycle and footpath.”*

“Works will be required to widen the listed Roseburn Bridge but it will be reinstated to match its existing appearance such that there will be negligible effect on the townscape”

“The combined width of the tram tracks and the cycle and foot path will be approximately 11m, compared to the original railway of 8m and the current cycle track of 3m. Parts of the existing cutting and embankments are narrower than this, so retaining structures will be required to allow for widening. The height and extent of these can not be properly determined until more detailed engineering design has been carried out”

Mitigation along the railway corridor would be through screening, particularly replacing and reinforcing hedges along the site boundary.

OBJECTIVES

- The integrity of the bridge must be maintained in any future design work.
- Only the minimum of alteration should be made to the bridge commensurate with its new function and the existing original features should be retained intact if at all possible. Failing that, the existing cast iron parapets and cladding panels should be carefully removed, repainted, repaired and stored safely, and then refitted to the altered structure.
- Existing stonework should be fully retained, intact, if at all possible.
- Any widening of the bridge deck should not compromise its appearance. In the event that the alterations are major in nature, consideration should be given to designing separate arrangements for the footway/cycleway.
- Avoid creating dark or hidden spaces which may be unsafe or attract anti-social behaviour
- The alterations should not adversely affect the character of the structure or of the conservation area.
- No poles should be erected on the bridge or, if unavoidable, should be placed symmetrically around the centre point of the bridge.
- Any regrading of embankments should seek to ensure that slopes are no steeper than existing and that there is no adverse impact on the daylight and sunlight received by existing residential properties.
- Direct pedestrian and cycle linkages between Roseburn Terrace and the tramway corridor should be retained.
- All elements should be designed holistically – lighting, equipment, OLE, landscaping, retaining walls, noise mitigation measures (if considered necessary) and elements of stop design – to achieve visual coherence from all viewpoints.
- Design should take account of the structural characteristics of the existing bridge and should demonstrate that construction can take place without causing damage to the structure.

INTERESTED PARTIES

City Development Dept – Structures Section (Transport)

Historic Scotland

Spokes

Architecture and Design Scotland

Friends of the Roseburn Urban Wildlife Corridor Association

EDINBURGH TRAM PROJECT
PROPOSED ALTERATIONS TO MAJOR
STRUCTURES - DESIGN OBJECTIVES

**STRUCTURE : COLTBRIDGE RETAINING
WALL**

TRAM LINE : 1

DESCRIPTION OF EXISTING STRUCTURE
: Massive structure which abuts the
viaduct on its upriver side. Has a buttress
appearance. Constructed of natural
stone.

LISTED BUILDING : No

LOCAL PLAN : Central Edinburgh

CONSERVATION AREA : Coltbridge and Wester Coates



RELEVANT LP DESIGN POLICIES :

CD11 – Proposals..should respect the constraints of a site, the character of its surroundings and the opportunities to add visual interest or improve the environment.

CD19 – The Council will permit alterations and extensions to buildings which in their design and form, choice of materials and positioning are compatible with the character of the original building, will not result in an unreasonable loss of privacy or natural light to neighbouring properties and are not detrimental to neighbourhood amenity or character. Particular attention will be paid to ensuring that such works to listed buildings and non-listed buildings in conservation areas do not damage their special character.

CD18 – All development will in its design and layout be expected to contribute to an environment which is safe, equally accessible to all including people with particular mobility needs and sustainable in the long term.

Policy T10 – The Council will seek to create as extensive, safe and attractive an environment for pedestrians as practicable, especially within the city centre and other main areas of pedestrian congregation. Attention will be paid to its design quality and utility for people with movement difficulties. Wherever possible, more circulation space for pedestrians will be sought when development is proposed.

Also Policies T6, T8 and T9 seeking expansion of cycle routes, secure cycle parking facilities both on and off street.

RELEVANT LP ENVIRONMENTAL POLICIES :

GE5 – The amenity and recreational value of the Water of Leith and Union Canal corridors will be protected and enhanced.

GE6 – The Council will protect, and where appropriate, improve, existing rights of way and will promote a network of linked walkways throughout the Plan area, based on parks, disused railway land, the Water of Leith valley, the Union Canal towpath and other rights of way.

Also Policies GE7, GE8, GE11 and GE12 seeking to protect Urban Wildlife Sites from damaging development and requiring proposals to include provision for landscaping and to show consideration for trees.

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

It is essential that the quality of gateways, arterial routes and their varied character and strategic views are maintained to protect the city image and legibility.

Provide safe and pleasant places – well designed and maintained open spaces – footpaths, streets, parks, squares - can be seen as places for people to meet. They are also opportunities to provide integration between different places, spaces and buildings.

Consider outdoor spaces as a means of integrating and linking development to provide structure and a shared community focus.

Minimise the loss of public access to areas of outdoor/visual amenity, recreation and biodiversity interest.

Proposals should demonstrate urban design to create a “sense of place” and integration with local context; places which are attractive, offering mixed uses, variety of form and choice; sensitivity to human scale.

OTHER POLICY CONSTRAINTS :

Edinburgh Biodiversity Action Plan

Coltbridge and Wester Coates Conservation Area Character Appraisal

Local Habitat Management Plan

SITE CHARACTERISTICS AND CONTEXTUAL ANALYSIS:

This massive buttress wall appears inseparable from the Coltbridge Viaduct and any proposed alterations should be considered within the context of both structures. It is a solid structure, but its condition is somewhat unkempt with some stonework cracked, some stones missing, trees and plants growing out of the mortar.

Alongside this wall runs a staircase of steps leading from the Roseburn Corridor walkway to the Water of Leith Walkway (and on to the Gallery of Modern Art) – this is a key linkage. Slopes down to the river are steep and there appears to be little opportunity to relocate this staircase.

The area is heavily wooded with deciduous trees.

Water of Leith Flood Prevention Scheme may have some (limited) relevance for future design work.

RELEVANT EXTRACT FROM ENVIRONMENTAL STATEMENT:

“The combined width of the tram tracks and the cycle and foot path will be approximately 11m, compared to the original railway of 8m and the current cycle track of 3m. Parts of the existing cutting and embankments are narrower than this, so retaining structures will be required to allow for widening. The height and extent of these can not be properly determined until more detailed engineering design has been carried out...”

OBJECTIVES

- Structural stability of this wall is of paramount importance – any proposal for alteration or extension will be required to demonstrate that it will be capable of implementation without causing any damage to the structure.
- Design should take also account of the structural characteristics of the existing viaduct and should demonstrate that construction can take place without causing damage to either structure.
- There is a presumption in favour of retaining the wall largely intact.
- A cantilevered structure should be considered to accommodate any required widening of the route.
- A direct walkway linkage from Water of Leith Walkway to Roseburn Corridor should be retained
- All elements should be designed holistically – lighting, equipment, OLE and the alterations to the viaduct – to achieve visual coherence from all viewpoints. OLE poles on the bridge deck should be avoided if possible.

INTERESTED PARTIES

City Development Dept – Structures Section (Transport)

Friends of the Roseburn Urban Wildlife Corridor Association

Spokes

Community Council

EDINBURGH TRAM PROJECT
PROPOSED ALTERATIONS TO MAJOR
STRUCTURES - DESIGN OBJECTIVES

STRUCTURE : COLTBRIDGE VIADUCT

TRAM LINE : 1

DESCRIPTION OF EXISTING STRUCTURE
: A stone viaduct spanning the Water of
Leith, the adjacent walkway, and a road.
The southern arch spans the walkway/
cycleway, central arch spans the river,
and the north arch spans Coltbridge Avenue.

Ashlar sandstone supported on masonry (stone) abutments and piers.

LISTED BUILDING : No

LOCAL PLAN : Central Edinburgh

CONSERVATION AREA : Coltbridge and Wester Coates



RELEVANT LP DESIGN POLICIES :

CD11 – Proposals..should respect the constraints of a site, the character of its surroundings and the opportunities to add visual interest or improve the environment.

CD19 – The Council will permit alterations and extensions to buildings which in their design and form, choice of materials and positioning are compatible with the character of the original building, will not result in an unreasonable loss of privacy or natural light to neighbouring properties and are not detrimental to neighbourhood amenity or character. Particular attention will be paid to ensuring that such works to listed buildings and non-listed buildings in conservation areas do not damage their special character.

CD18 – All development will in its design and layout be expected to contribute to an environment which is safe, equally accessible to all including people with particular mobility needs and sustainable in the long term.

Policy T10 – The Council will seek to create as extensive, safe and attractive an environment for pedestrians as practicable, especially within the city centre and other main areas of pedestrian congregation. Attention will be paid to its design quality and utility for people with movement difficulties. Wherever possible, more circulation space for pedestrians will be sought when development is proposed.

Also Policies T6, T8 and T9 seeking expansion of cycle routes, secure cycle parking facilities both on and off street.

RELEVANT LP ENVIRONMENTAL POLICIES :

GE5 – The amenity and recreational value of the Water of Leith and Union Canal corridors will be protected and enhanced.

GE6 – The Council will protect, and where appropriate, improve, existing rights of way and will promote a network of linked walkways throughout the Plan area, based on parks, disused railway land, the Water of Leith valley, the Union Canal towpath and other rights of way.

Also Policies GE7, GE8, GE11 and GE12 seeking to protect Urban Wildlife Sites from damaging development and requiring proposals to include provision for landscaping and to show consideration for trees.

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

It is essential that the quality of gateways, arterial routes and their varied character and strategic views are maintained to protect the city image and legibility.

Provide safe and pleasant places.

Proposals should demonstrate urban design to create a “sense of place” and integration with local context; places which are attractive, offering mixed uses, variety of form and choice; sensitivity to human scale.

Where new development is to be located within a neighbourhood of distinctive spatial structure, townscape and landscape, the proposal should reinforce the existing character.

OTHER POLICY CONSTRAINTS :

Coltbridge and Wester Coates Conservation Area Character Appraisal

Local Habitat Management Plan

SITE CHARACTERISTICS AND CONTEXTUAL ANALYSIS :

The Viaduct is a dramatic and dominant feature in the conservation area, striding high over the Water of Leith Valley. However, it looks in poor condition. There is obvious erosion to stonework and mortar and the parapets have already been altered to incorporate a concrete buffer and deterrent spikes. It is seamlessly linked to the adjoining retaining wall.

The slopes adjacent are very steep, diving down to the bowling green below on one side, and housing on the other.

Planning Paper No. 2 – Conceptual Design Solution Coltbridge Viaduct - was a study commissioned by tie to consider in more detail the possible options for introducing a tramroad across the Coltbridge Viaduct while maintaining a footway/cycleway. Three options were considered, as follows.

Option 1 – constructing the footway/cycleway along with the tramroad, requiring these to fit within the width of the existing structure.

Option 2 – twin track running across the bridge, and rerouting the footway/cycleway via a new bridge (the height of which was not determined)

Option 3 – constructing a new widened deck which would have to cantilever out over the main walls of the structure.

The decision on which option, or any alternative design option, will only be made through the Prior Approval process.

Water of Leith Flood Prevention Scheme may have some relevance and should be checked.

EXTRACT FROM ENVIRONMENTAL STATEMENT

The ES states “Works will be required to the Coltbridge Viaduct, but the finishes will be reinstated such that there is no significant change to the appearance of the structure.”

OBJECTIVES

- The integrity of the bridge must be maintained in any future design work.
- Only the minimum of alteration should be made to the bridge commensurate with its new function and the existing original features should be retained intact if at all possible.
- Structural stability of the viaduct is of paramount importance – any proposal for alteration or extension will have to be accompanied by a structural survey.
- Design should take account of the structural characteristics of the existing viaduct and should demonstrate that construction can take place without causing damage to the structure.
- Rebuilding of the parapets may be considered but only if it can be demonstrated that such works will be carried out whilst maintaining the visual integrity of the structure overall.
- Existing stonework should be made good and improved.
- Any widening of the bridge deck should not compromise its appearance overall. In the event that the alterations required are major in nature, consideration should be given to designing separate arrangements for the footway/cycleway.
- To avoid creating dark or hidden spaces which may be unsafe or attract anti-social behaviour
- The alterations should not adversely affect the character of the structure or of the conservation area.
- OLE poles should be placed in an disposition which is in harmony with the main piers of the bridge.
- Any regrading of embankments should ensure that slopes are no steeper than existing and that there is no adverse impact on the daylight and sunlight received by existing residential properties.
- All elements should be designed holistically – lighting, equipment, OLE, landscaping, retaining walls, and any noise mitigation measures (if considered necessary) – to achieve visual coherence from all viewpoints.

INTERESTED PARTIES

City Development Dept – Structures Section (Transport)

Architecture and Design Scotland

Friends of the Roseburn Urban Wildlife Corridor Association

Adjacent landowners

EDINBURGH TRAM PROJECT
PROPOSED MAJOR STRUCTURES - DESIGN
OBJECTIVES

STRUCTURE : ST GEORGE'S SCHOOL BRIDGE

TRAM LINE : 1

DESCRIPTION OF STRUCTURE : Two bridges over the Roseburn Corridor - the original former railway bridge and a modern footbridge. The bridges span over the walkway/cycleway within the Roseburn Corridor. The former railway bridge is of stone, with elliptical arch and low headroom. It has stone abutments and wing walls. There is a simple iron railing on either side of the road. The footbridge has a wider span and higher headroom. It is transparent structure with steel framework. The bridges carry the access road and footway into St George's School.



LOCAL PLAN : Central Edinburgh

CONSERVATION AREA : No but adjacent to the boundary and within an area proposed as an extension to the conservation area

RELEVANT LP DESIGN POLICIES:

CD11 – Proposals..should respect the constraints of a site, the character of its surroundings and the opportunities to add visual interest or improve the environment.

CD19 – The Council will permit alterations and extensions to buildings which in their design and form, choice of materials and positioning are compatible with the character of the original building, will not result in an unreasonable loss of privacy or natural light to neighbouring properties and are not detrimental to neighbourhood amenity or character. Particular attention will be paid to ensuring that such works to listed buildings and non-listed buildings in conservation areas do not damage their special character.

CD18 – All development will in its design and layout be expected to contribute to an environment which is safe, equally accessible to all including people with particular mobility needs and sustainable in the long term.

Policy T10 – The Council will seek to create as extensive, safe and attractive an environment for pedestrians as practicable, especially within the city centre and other main areas of pedestrian congregation. Attention will be paid to its design quality and utility for people with movement difficulties. Wherever possible, more circulation space for pedestrians will be sought when development is proposed.

Also Policies T6, T8 and T9 seeking expansion of cycle routes, secure cycle parking facilities both on and off street.

RELEVANT LP ENVIRONMENTAL POLICIES :

GE6 – The Council will protect, and where appropriate, improve, existing rights of way and will promote a network of linked walkways throughout the Plan area, based on parks, disused railway land, the Water of Leith valley, the Union Canal towpath and other rights of way.

Also Policies GE7, GE8, GE11 and GE12 seeking to protect Urban Wildlife Sites from damaging development and requiring proposals to include provision for landscaping and to show consideration for trees.

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

Provide safe and pleasant places – well designed and maintained open spaces – footpaths, streets, parks, squares - can be seen as places for people to meet. They are also opportunities to provide integration between different places, spaces and buildings.

Consider outdoor spaces as a means of integrating and linking development to provide structure and a shared community focus.

Minimise the loss of public access to areas of outdoor/visual amenity, recreation and biodiversity interest.

OTHER POLICY CONSTRAINTS :

Edinburgh Biodiversity Action Plan

Local Habitat Management Plan

Coltbridge and Wester Coates Conservation Area Character Appraisal

SITE CHARACTERISTICS AND CONTEXTUAL ANALYSIS :

The two bridges have an acceptable relationship to each other. In some views, the metal framework structure appears to sit on top of the stone bridge; in other views it sits awkwardly. The openness of the new structure minimizes the visual conflict between them. However, its presence does detract from the setting of the original bridge.

The former railway bridge is a fine example, well-proportioned with its elliptical arch. It adds character to the corridor and is worthy of inclusion in the conservation area (as proposed).

Steps lead up from walkway to roadway. These are shallow steps on a well-graded slope. This is a heavily wooded area, with strong sense of enclosure.

Note on drawing states “possible widened bridge structure with increased span to accommodate tramway and combined footway/cycleway”

Safer routes to School considerations

EXTRACT FROM ENVIRONMENTAL STATEMENT

The ES states “*The combined width of the tram tracks and the cycle and foot path will be approximately 11m, compared to the original railway of 8m and the current cycle track of 3m. Parts of the existing cutting and embankments are narrower than this, so retaining structures will be required to allow for widening. The height and extent of these cannot be properly determined. But they are not currently envisaged to be more than 1 to 1.5m high if designed as vertical walls or 2.5m high if designed as raked crib walling*”.

“*Where the railway corridor passes under narrow and low-arched bridges, the track bed will be lowered slightly to allow the tram tracks to be off set from the bridge centre-line and thus allow for a narrow cycle and footpath.*”

Other impacts include potential loss of habitat and species, disturbance and damage to habitats. “*The safety clearances for the OLE, combined with the increased width of track mean that extensive tree clearance will be required*”

Mitigation works include “*ensuring that new works are generally sympathetic to the character of the area, and by replacing lost trees with a mixture of native and decorative shrub planting. Over time this will partially re-enclose and screen the area.*” Mitigation works have been further detailed in the Landscape Habitat Management Plan for the Roseburn Corridor.

OBJECTIVES:

- All alterations should be in keeping with the character and architectural integrity of the original bridge and the adjacent conservation area.
- The existing arch on the stone bridge should be retained intact.
- In the event that the alterations required are major in nature, consideration should be given to designing a replacement structure.
- The existing abutments should be retained, and any extension downwards should be in stone to match existing in type and size of blocks
- Existing retaining walls should be retained, or, failing that should be rebuilt using the existing stone.
- The connection between the Roseburn Corridor and the school access should be retained or reinstated and enhanced at a gradient no steeper than existing.
- The creation of dark or hidden spaces which may be unsafe or attract anti-social behaviour should be avoided.
- All materials to be used must match existing.
- All elements should be designed holistically – lighting, equipment, OLE, landscaping – to achieve visual coherence from all viewpoints.
- Design should take account of the structural characteristics of the existing bridge and should demonstrate that construction can take place without causing damage to the structure.

INTERESTED PARTIES

City Development Dept – Structures Section (Transport)
Friends of the Roseburn Urban Wildlife Corridor Association
St George's School
Spokes
Community Council

EDINBURGH TRAM PROJECT
PROPOSED MAJOR STRUCTURES - DESIGN
OBJECTIVES

STRUCTURE : CRAIGLEITH DRIVE BRIDGE

TRAM LINE : 1

DESCRIPTION OF EXISTING STRUCTURE

: Former railway bridge constructed of stone and with a semi-circular stone arch. Very narrow span over Craigleith Drive. It carries the existing walkway/cycleway in the Roseburn Corridor. Stone abutments and curved wing walls of same stone.



LISTED BUILDING : No

LOCAL PLAN : Central Edinburgh

CONSERVATION AREA : No

RELEVANT LP DESIGN POLICIES :

CD11 – Proposals..should respect the constraints of a site, the character of its surroundings and the opportunities to add visual interest or improve the environment.

CD19 – The Council will permit alterations and extensions to buildings which in their design and form, choice of materials and positioning are compatible with the character of the original building, will not result in an unreasonable loss of privacy or natural light to neighbouring properties and are not detrimental to neighbourhood amenity or character. Particular attention will be paid to ensuring that such works to listed buildings and non-listed buildings in conservation areas do not damage their special character.

CD18 – All development will in its design and layout be expected to contribute to an environment which is safe, equally accessible to all including people with particular mobility needs and sustainable in the long term.

Policy T10 – The Council will seek to create as extensive, safe and attractive an environment for pedestrians as practicable, especially within the city centre and other main areas of pedestrian congregation. Attention will be paid to its design quality and utility for people with movement difficulties. Wherever possible, more circulation space for pedestrians will be sought when development is proposed.

Also Policies T6, T8 and T9 seeking expansion of cycle routes, secure cycle parking facilities both on and off street.

RELEVANT LP ENVIRONMENTAL POLICIES :

GE6 – The Council will protect, and where appropriate, improve, existing rights of way and will promote a network of linked walkways throughout the Plan area, based on parks, disused railway land, the Water of Leith valley, the Union Canal towpath and other rights of way.

Also Policies GE7, GE8, GE11 and GE12 seeking to protect Urban Wildlife Sites from damaging development and requiring proposals to include provision for landscaping and to show consideration for trees.

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

Provide safe and pleasant places.

Consider outdoor spaces as a means of integrating and linking development to provide structure and a shared community focus.

Minimise the loss of public access to areas of outdoor/visual amenity, recreation and biodiversity interest.

OTHER POLICY CONSTRAINTS :

Edinburgh Biodiversity Action Plan

Local Habitat Management Plan

SITE CHARACTERISTICS AND CONTEXTUAL ANALYSIS :

This stone bridge has a strong verticality, and a very narrow span which acts to slow traffic down – probably discourages the through movement of traffic. The parapets are separated from the rest of the structure by a prominent string course. There is a steep embankment on either side, but no retaining walls. Trees either side.

Large warning signs on each side of bridge. Housing comes close up to the embankment (including a new house)

Notes on drawing state “Widened bridge structure to accommodate tramway and combined footway/cycleway” and “Earth retaining structures and slope regrading as required throughout corridor to accommodate tramway and footway/cycleway”.

Apart from through traffic, this is a quiet residential area

Provisions contained within the Landscape Habitat Management Plan may be relevant.

EXTRACT FROM ENVIRONMENTAL STATEMENT

The ES states “The combined width of the tram tracks and the cycle and foot path will be approximately 11m, compared to the original railway of 8m and the current cycle track of 3m. Parts of the existing cutting and embankments are narrower than this, so retaining structures will be required to allow for widening. *The height and extent of these cannot be properly determined But they are not currently envisaged to be more than 1 to 1.5m high if designed as vertical walls or 2.5m high if designed as raked crib walling*”.

Other impacts include potential loss of habitat and species, disturbance and damage to habitats. *The safety clearances for the OLE, combined with the increased width of track mean that extensive tree clearance will be required*”

Mitigation works include “*ensuring that new works are generally sympathetic to the character of the area, and by replacing lost trees with a mixture of native and decorative shrub planting. Over time this will partially re-enclose and screen the area.*” Mitigation works have been further detailed in the Landscape Habitat Management Plan for the Roseburn Corridor.

OBJECTIVES:

- Any widening of the bridge should be the minimum necessary commensurate with its new function and should not compromise its appearance. In the event that the alterations are major in nature, consideration should be given to designing a replacement structure.
- The existing stone arch should be retained intact.
- Any regrading of embankments should ensure that slopes are no steeper than existing and that there is no adverse impact on the daylight and sunlight received by existing residential properties.
- If retaining walls are required these should be the minimal possible height, finished in good quality facing brick, the colour of which should seek to brighten the space.
- To minimise damage to existing vegetation during construction works.
- To avoid creating dark or hidden spaces which may be unsafe or attract anti-social behaviour
- Any re-routing of walkway/cycleway should be carefully graded for ease of access to all (including wheelchair users)
- All elements should be designed holistically – lighting, equipment, OLE, landscaping and noise mitigation measures (if considered necessary) – to achieve visual coherence from all viewpoints. OLE poles on the bridge deck should be avoided.
- Design should take account of the structural characteristics of the existing bridge and should demonstrate that construction can take place without causing damage to the structure.

INTERESTED PARTIES

City Development Dept – Structures Section (Transport)

Friends of the Roseburn Urban Wildlife Corridor Association

Community Council

Spokes

Residents in houses immediately adjacent

EDINBURGH TRAM PROJECT
PROPOSED MAJOR STRUCTURES - DESIGN
OBJECTIVES

STRUCTURE :

GROATHILL ROAD SOUTH BRIDGE

TRAM LINE : 1

DESCRIPTION OF STRUCTURE : Former railway bridge, constructed of stone, now carrying walkway/cycleway. Span allows for two vehicles to pass underneath on Groathill Road South. The abutments and curved wing walls are constructed in stone.

LISTED BUILDING : No

LOCAL PLAN : North West Edinburgh/West Edinburgh (on boundary with Central Edinburgh)

CONSERVATION AREA : No



RELEVANT LP DESIGN POLICIES

Policies from draft WELP are most up-to-date material considerations.

Policy DQ 11 – Alterations and Extensions to existing buildings, where acceptable in principle, should be subservient and relate carefully to the original building. They should be of a suitable scale to the existing building and the space around it and should have an acceptable impact upon its surroundings and neighbourhood.

Other relevant policies are DQ7 – seeking new tree planting and robust landscaping with proposals - and DQ9 which requires protection of key views from intrusive development.

RELEVANT LP ENVIRONMENTAL POLICIES :

Policies from draft WELP:

Policy GE12 – Development proposals will generally be considered for their impact upon wildlife, habitats and geological features. The Council will not permit developments that have the potential to result in harm to a species of plant or animal, or its habitat, that is protected under relevant legislation. Developers will be encouraged to maintain and increase the nature conservation value of proposed development, including the creation of new wildlife habitats where appropriate.

EXTRACT FROM EDINBURGH STANDARDS OF URBAN DESIGN :

Provide safe and pleasant places – well designed and maintained open spaces – footpaths, streets, parks, squares - can be seen as places for people to meet. They are also opportunities to provide integration between different places, spaces and buildings.

Consider outdoor spaces as a means of integrating and linking development to provide structure and a shared community focus.

Minimise the loss of public access to areas of outdoor/visual amenity, recreation and biodiversity interest.

Proposals should demonstrate urban design to create a “sense of place” and integration with local context; places which are attractive, offering mixed uses, variety of form and choice; sensitivity to human scale.

OTHER POLICY CONSTRAINTS :

Edinburgh Biodiversity Action Plan

Local Habitat Management Plan

SITE CHARACTERISTICS AND CONTEXTUAL ANALYSIS :

The stone bridge occupies a dark corner. There is poor visibility for traffic passing underneath (road twists under the bridge). This is a busy road which appears to be used as a “rat run” by cars avoiding a traffic light junction on Telford Road.

The wing walls are supplemented by extensive retaining walls on southeast side. Adjacent in the other quadrants are a house and garden on northeast side, steep embankment adjacent to house on southwest side, house and garden on northwest side. South side is therefore more critical in terms of height differences.

RELEVANT EXTRACT FROM ENVIRONMENTAL STATEMENT

The ES states “The combined width of the tram tracks and the cycle and foot path will be approximately 11m, compared to the original railway of 8m and the current cycle track of 3m. Parts of the existing cutting and embankments are narrower than this, so retaining structures will be required to allow for widening. *The height and extent of these cannot be properly determined. But they are not currently envisaged to be more than 1 to 1.5m high if designed as vertical walls or 2.5m high if designed as raked crib walling.*”

Other impacts include potential loss of habitat and species, disturbance and damage to habitats. *The safety clearances for the OLE, combined with the increased width of track mean that extensive tree clearance will be required*”

Mitigation works include “ensuring that new works are generally sympathetic to the character of the area, and by replacing lost trees with a mixture of native and decorative shrub planting. Over time this will partially re-enclose and screen the area.” Mitigation works have been further detailed in the Landscape Habitat Management Plan for the Roseburn Corridor.

OBJECTIVES

- Any widening of the bridge should be kept to a minimum, commensurate with its new function and should not compromise its appearance. In the event that the alterations are major in nature, consideration should be given to designing a separate footbridge of light transparent design.
- The existing stone arch should be retained intact.
- Any regrading of embankments should ensure that slopes are no steeper than existing and that there is no adverse impact on the daylight and sunlight received by existing residential properties.
- If retaining walls are required these should be the minimal possible height, finished in good quality material, the colour of which should seek to provide additional brightness to the public street.
- Minimise damage to existing vegetation during construction works.
- Avoid creating dark or hidden spaces which may be unsafe or attract anti-social behaviour
- Opportunities to create new pedestrian and cycle linkages between Groathill Road South and the tramway corridor should be maximised.
- All elements should be designed holistically – lighting, equipment, OLE, retaining walls, landscaping and noise mitigation (if considered necessary) – to achieve visual coherence from all viewpoints. OLE poles on the bridge deck should be avoided if possible.
- Design should take account of the structural characteristics of the existing bridge and should demonstrate that construction can take place without causing damage to the structure.

INTERESTED PARTIES

City Development Dept – Structures Section (Transport)

Community Council

Spokes

Residents in houses immediately adjacent

You can get this document on tape, in Braille, large print and various computer formats if you ask us. Please contact ITS on 0131 242 8181 and quote ref 06060. ITS can also give information on community language translations. You can get more copies of this document by calling David Morgan (Customer Services Team Leader) on 0131 529 3900.

遠設計手冊解說要在愛丁堡電車計劃中遠致優質設計所需要具備的內容、要求及結構。愛丁堡市議會作為「規劃當局」在評估建議書時，會以此為參照，同時，設計手冊在採購過程中是重要的部份。欲查詢本文件的翻譯資料，請致電愛丁堡市議會傳譯及翻譯服務部(ITS)，電話0131 242 8181並說明檔案編號06060。

یہ ڈرائنگ سپیشل (ہدایت ہمس) ایڈ میرا کے ٹرم کے پراجیکٹ کے میڈیٹریڈرائٹ کے حصول کیلئے اس کے مضمون، مطالبات اور طریق عمل کی مجموعی پیش کرتا ہے۔ یہ ایک ریفرنس پوائنٹ کی طرح کام کرتا ہے جس کے تحت سنی آف ایڈ میرا ٹولس کو بحیثیت پائلٹ قدرتی اجازت کی کمی تجاویز کا جائزہ لیا جائے گا۔ اس کے علاوہ حصول کے طریقہ کار میں کلیہ کی کردار ادا کرتا ہے۔ اپنی کیونٹی میں بول جانے والی زبان میں اس دستہ کے ترجمے کے متعلق معلومات کیلئے برائے مہربانی ایئر پرائیویٹس ایڈوائس سروس (ITS) کو 0131 242 8181 پر ٹیلیفون کریں اور ریفرنس نمبر 06060 کا حوالہ دیں۔

شرح دلیل استخدام التصاميم السياقي والمتطلبات والاليات لتحقيق التصاميم ذات النوعية لخدمة لمشروع فريق إدنبورج، وسيكون نقطة مرجع تقييم على أساسه الطلبات التي يتم رفعها لمجلس بلدية مدينة إدنبورج باعتبارها "سنة التخطيط" كما سينصب دورا مهما في عملية الحصول على المشروبات. للمعلومات حول ترجمة هذه الوثيقة إلى لغة جابتك الرجاء الاتصال مكتب خدمة الترجمة الفورية والتحريرية على رقم الهاتف 0131 242 8181 وذكر الإشارة رقم 06060

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Andrew M Holmes
Director of City Development
The City of Edinburgh Council
1 Cockburn Street
Edinburgh EH1 1ZJ