

112b- Reply by Sue Bruce to Engineers Letter to her dated

4th May 2012

Date: 4 May 2012



Edinburgh Trams Project.

I am writing to you in response to your letter of April 25, in which you raised a number of concerns relating to the Edinburgh Trams project.

I am disappointed that you chose to share these concerns with the media without waiting for clarification on the points, but appreciate you may have your own reasons for doing so.

As a Council, we take our responsibilities towards managing this project very seriously and, as such, will respond to the issues raised in your letter (in bold) point-by-point.

1. With the tram works in progress on Princes Street (PS) all buses are now diverted along York Place (YP) and it is proposed that this arrangement would continue if PS is designated 'Tram Only'. YP would continue as the main east-west city centre cross vehicular traffic, including buses.

Any change to the designation of Princes Street will be a matter for the Council. There is no technical reason for it to be designated 'tram only'.

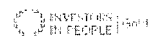
2. YP also contains the only entrance at Elder Street into both the Bus Station and St James Quarter multi-storey car park.

Taking account of point one, above, full traffic modelling has been carried out for York Place and the model provides confidence that the system that will be put in place will work. Separately, it is worth also pointing out that there is another entrance/ exit to the car park on Leith Street.

3. The present proposal to extend the tram tracks from the original terminating stop in St Andrew's Square (SAS) to YP was taken in order to provide a turnaround facility which, your staff and consultants argued, could not be accommodated in SAS. Given that you have now decided on the form of the station for YP, this is no

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longer the case and this facility could easily be provided on level ground outside the Old Royal Bank Building in SAS:

(i) Given that the gradients that exist on NSAS and the cross fall on YP the radius turn from YP into NSAS is too tight, we have grave doubts about tram vehicles being able to make such a turn. This is further compounded by the issue of potential 'wheel squeal', which has long been part of criticisms of this particular junction. Technically, this junction should incorporate an extra guide rail, raised above the road surface, to stop tram vehicles jumping the track. Guided rails protruding above road level are now forbidden in the UK following the Sheffield SuperTram decision.

That the geometry of the curve is complex is not in doubt and, to achieve it, will require some adjustment to the road surface levels – accommodated in our designer's drawings. However, the turn from York Place to St Andrew Square is not too tight; the curve geometry is within the agreed track alignment standards for Edinburgh Tram and does not present any undue concerns. It is also worth noting, of course, that Edinburgh's trams previously used this junction for a period of more than thirty years.

The tram manufacturer, CAF, is both technically and contractually bound into performing safely on track up to the limits of these standards. There are tighter turns within the existing Gogar Depot, which the trams cope with at appropriate speed.

These track alignment standards are not bespoke to Edinburgh, but draw heavily on long standing Continental Tram Standards. Thus, the majority of present modern tram designs would equally operate over this alignment.

The geometry around this curve is not altered by the new tram stop on York Place but remains as was planned for the through-route to Leith and beyond.

(ii) In addition, the Edinburgh Trams are fitted with a lubrication system that sprays an emulsion onto the wheel-rail interface to stop wheel squeal, further exacerbating the problem of transiting this corner by breaking the friction necessary to drive the trams.

Completion of the tram project from the Airport to YP must, therefore, be compromised by the inability of your design team to identify an acceptable technical solution that will balance environmental considerations with the needs of road users.

The lubrication system is applied to the wheel flange only. As such, it assists in reducing friction between the flange and the inner faces of the rail head, helping to minimise wheel squeal. It does not interfere with the interface between tread and rail head where the critical traction and braking forces are transmitted. Its application and accuracy are of a different order to those employed on the heavy rail network.

Tracks around the curves are laid accurately and maintained properly, 'wheel squeal' need not be an issue. We have the advantage of having, within the contracting team, a respected continental sub-contractor (BAM Rail) for the track works who have delivered successfully elsewhere.

(iii) The proposal to horizontally grade separate the two tram track along YP, to allow for the fact that the street has a severe cross fall, will require a steep ledge between the track which, in turn, will necessitate barrier protection. This would impede access across the tracks to traffic entering/leaving the bus station and St James Quarter multi-storey car park. As the tram tracks are located in "Tram Only" reserved lanes, no traffic entering Elder Street would be able to wait to enter without blocking the ONLY remaining East-West traffic route through the City Centre.

In summary, technical problems preclude any acceptable design solution to running tram tracks into York Place; and traffic problems East-West across the city and into Elder Street would radically interfere with cross city traffic and sterilise Elder Street.

We do not accept that technical problems preclude any design solution for York Place. Extensive traffic modelling has been carried out for York Place and we are confident the carriageway has the capacity to cope with expected levels of traffic. As a contingency measure, the tram line nearest the Elder Street junction will have a graded edge, making it possible for vehicles to pass any occasional obstruction, should the need arise.

We, therefore, urge CEC to revisit the decision to construct the tramline to York Place in favour of the more pragmatic approach of terminating the route at St Andrew Square.

While the decision to build a tram stop at York Place is a reasonably new development, the decision to lay track there is not. The turn back was always planned for York Place – the only change being that, rather than having a length of track with no stop, we decided to make best use of the layout and incorporate a temporary stop.

St Andrew Square was one of the options considered but was ruled out at an early stage due to the requirement for significant change to track alignment, incurring sizable and unnecessary design costs, together with changes to traffic management and the wider redevelopment of the public realm. The requirement for additional OLE would also have fallen foul of planning regulations.

In closing, we must advise that, in our view, the tram project is even more out of control than it was under TIE. The risks that existed then continue to be critical and to impact the project (an example of this is the above issue of access into York Place). The risks that remain unresolved are:

- **The design is still incomplete; the original intention was to have this completed by the end of 2007**
- **The project has suffered from the absence of a single controlling entity that is experienced in building a project such as this. The committee structure now set up by CEC does not perform this function and obscured overall accountability and responsibility**
- **The utility diversions are still far from complete; without this, the design will never be finalised, the project will drift and costs will inevitably rise**

- The stated cost of terminating the tramline at York Place does not appear to be reflected in the current budget of £776m (including contingency). This figure, according to the Trams Reports to Council in summer 2011, was expected to cover the tramline from the airport to SAS alone, i.e. not to YP

The above noted risks appear to have been compounded by the negotiations that took place in August of last year and the irrational drive to terminate at York Place, at any cost, would alone ensure that the project would far exceed the current budget.

We collectively, have designed and built projects far larger than this all over the world. Please do the right thing for the people of Edinburgh, bite the bullet and terminate at St Andrews Square as this would at least aid the struggle to keep within the current budget.

In reviewing the governance and control of the project, the Council made a firm commitment to completely overhaul the way the project was managed. As a result, we have a constructive relationship with the contractors and with Transport Scotland. The project is under constant review and, where better ways of doing things are identified, we have the flexibility to adapt.

As Chief Executive of City of Edinburgh Council, I retain ultimate accountability for the project, working closely with the project team every step of the way. The previous history of disputes has been rectified with the appointment of an Independent Certifier, to the agreement of all parties involved in the project. This is a system that has worked well and we expect that constructive relationship to continue in the months ahead.

Utility diversions are now well advanced on Shandwick Place in St Andrew Street. These are also well underway on West Maitland Street and will be addressed in York Place later this year. We are confident this process will be complete in line with the target programme, which was widely published late last year.

Your claim that we are seeking to pursue the 'irrational drive to terminate at York Place at any cost' is unfounded. As mentioned previously, track was always going to be laid to York Place to incorporate the turn back, the cost of which is included in the £776m budget. The main difference is that we are installing a tram stop at the end of the line, adding to the amenity of the scheme, while maximising the capacity of the completed line at minimal cost.

We are confident that this project will be completed by summer 2014 to the revised budget of £776m. Recent press reports suggested the cost might rise to £900m based on spending from last year but these reports were both inaccurate and alarmist. The project is still on schedule and the current costs are in line with expectations.

The Council, alongside the internationally respected consortium of contractors (Bilfinger Berger, Siemens and CAF) and Transport Scotland, are able to draw on the experience of a senior team with experience of projects around the world. I am confident that the new direction and substantial progress being made in this project every day should not be under estimated.

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I hope the points outlined here allay some of the concerns you have raised but should you wish to discuss these matters further, please contact my office and I will be happy to arrange a meeting.

Yours sincerely



Sue Bruce
Chief Executive