

Fol/19/00738

## Annex A – Email Correspondence Between Transport Scotland and Glasgow City Council

Annex A.1 - 29<sup>th</sup> January 2019

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**From:** Vincent, George (LES) [REDACTED] lasgow.gov.uk>  
**Sent:** 29 January 2019 15:17  
**To:** [REDACTED] (TRANS) <[REDACTED]@transport.gov.scot>  
**Cc:** *[Redacted, 11(1)]*  
**Subject:** RE: attachments

Hi [REDACTED]

I've just noticed the agenda on the meeting invite.....I'll circulate to attendees in Glasgow and Renfrewshire

regards,	231 George Street
George Vincent	Glasgow
Senior Project Manager	G1 1RX
Glasgow Airport Access Project	Tel [REDACTED]
Development & Regeneration Services	e-mail: [REDACTED]@lasgow.gov.uk
Glasgow City Council	

**From:** [REDACTED]@transport.gov.scot [mailto:[REDACTED]@transport.gov.scot]  
**Sent:** 29 January 2019 14:38  
**To:** Vincent, George (LES) <[REDACTED]@glasgow.gov.uk>  
**Cc:** *[Redacted, 11(1)]*  
**Subject:** RE: attachments

George – all the attendees aren't on my calendar invite therefore don't have email addresses if you and Steve can pass to your CEs and Leaders.

Kind regards

[REDACTED]

T: [REDACTED] M: [REDACTED]

**From:** Vincent, George (LES) [REDACTED]@lasgow.gov.uk>  
**Sent:** 29 January 2019 12:47  
**To:** [REDACTED] (TRANS) <[REDACTED]@transport.gov.scot>; *[Redacted, 11(1)]*  
**Subject:** FW: attachments

All

Please find attached the final copies of the progress report and the presentation.

**[attachments to email are provided in Annex B and Annex C to FOI/19/00738]**

██████ Can you circulate them with the agenda

regards,

231 George Street

George Vincent

Glasgow

Senior Project Manager

G1 1RX

Glasgow Airport Access Project

Tel ██████████

Development & Regeneration Services

e-mail: ██████████ [lasgow.gov.uk](mailto:██████████@lasgow.gov.uk)

Glasgow City Council

**From:** Vincent, George (LES) ██████████ [lasgow.gov.uk](mailto:██████████@lasgow.gov.uk)>

**Sent:** 29 January 2019 08:54

**To:** ██████████ (TRANS) <██████████@transport.gov.scot>

**Subject:** AAP Exec Steering Group

Hi ██████████

I'm being asked for the agenda for tomorrow.....I'm assuming you will be issuing it?

We've had a few discussions about this but can I suggest we keep it snappy:

- Actions from previous meeting
- Progress Update presentation
- Way Forward ( Discussion)

regards

231 George Street

George Vincent

Glasgow

Senior Project Manager

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Glasgow Airport Access Project

Tel ██████████

Development & Regeneration Services

e-mail: ██████████ [lasgow.gov.uk](mailto:██████████@lasgow.gov.uk)

Glasgow City Council

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Annex A.2 – 15<sup>th</sup> January 2019

**From:** [Redacted]

**Sent:** 15 January 2019 18:21

**To:** [Redacted] (TRANS) [Redacted] transport.gov.scot>; Vincent, George [Redacted] glasgow.gov.uk>; [Redacted, 11(1)]

**Subject:** AAP Summary Report for Executive Steering Group

All,

ON BEHALF OF GEORGE VINCENT

Please find attached the next iteration of the summary report. **[Exemption under regulation 10(4)(d) applies]** As a, dvised previously I am trying to keep it fairly 'non techie' with the aim of getting some key messages across to the Executive Steering Group, and seeking to recommend a clear way forward that we can all get around. I see those messages as:

- We have addressed most issues from the [Redacted] Audit (those which haven't been fully addressed are non material or will be more suitably address in the revised OBC (and Jacobs agree with this approach)
- On review of the latest itteration of the Business Case metrics tram train and PRT are still the two best performing options
- **[Redacted, 10(5)(f)]**
- It is possible to deliver a PRT solution by early 2025 within the £144.3m budget

**[Redacted, 10(5)(f)]**

Can I stress that this is the Stakeholders Executive Steering Group and not the Councils Executive Steering Group. So, whilst I will make every effort to accommodate comments and seek to reach consensus in advance of the Steering Group, if we can't, then we need to seriously consider how we manage the Executive Steering Group meeting on 31st January as **[Redacted, 10(5)(f)]**. Can I suggest we discuss that potential outcome at the Stakeholder Working Group on Thursday (if required)?

See you Thursday morning

**NOTE:** The table incorporating the key metric outputs will be inserted into the report tomorrow morning and reissued. The text will remain as this version.

George

Annex A.3 – 07<sup>th</sup> January 2019

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-----Original Appointment-----

**From:** [Redacted] (TRANS)

**Sent:** 07 January 2019 11:19

**To:** [Redacted] (TRANS); 'Vincent, George (LES)'; **[Redacted, 11(1)]**

**Subject:** Glasgow Airport Access Project Executive Steering Group

When: 30 January 2019 15:00-16:00 (UTC+00:00) Dublin, Edinburgh, Lisbon, London.  
Where: St Andrews House, Edinburgh

All

Please see slightly earlier time!

Also agenda attached and papers from the GAAP project team.

***[attachments to email are provided in Annex B, C and D to FOI/19/00738]***

Thanks

██████████

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All

If not in diaries already, please ensure this invite is passed to the Glasgow Airport Access Project Executive Steering Group members in your respective organisations.

Members:

Michael Matheson, Cabinet Secretary for Transport, Infrastructure and Connectivity Susan Aitken, Leader of the Glasgow City Council Annemarie O'Donnell, Chief Executive, Glasgow City Council Iain Nicolson, Leader of Renfrewshire Council Sandra Black, Chief Executive, Renfrewshire Council Mark Johnston, MD, Glasgow Airport Jonathan Pugh, Network Rail

Space is limited therefore the only permitted additional attendees are Alison Irvine (Transport Scotland), ██████████ (Scottish Government), Graeme Dodds (Jacobs), Ross Nimmo (Glasgow Airport) and George Vincent (AAP – Senior PM).

Kind regards

██████████

Head of Strategic Transport Planning | Transport Strategy and Analysis Directorate

T: ██████████ M: ██████████

**From:** [REDACTED] (TRANS)  
**Sent:** 19 December 2018 14:42  
**To:** Vincent, George (LES) <[REDACTED]@glasgow.gov.uk>  
**Subject:** RE: Summary Report for Executive Steering Group

George, I also meant to send this yesterday. **[Exemption under regulation 10(4)(d) applies]**. It should be as discussed.

Kind regards

[REDACTED]

T: [REDACTED] M: [REDACTED]

**From:** Vincent, George (LES) [REDACTED] <[REDACTED]@glasgow.gov.uk>  
**Sent:** 19 December 2018 14:37  
**To:** [REDACTED] (TRANS) <[REDACTED]@transport.gov.scot>  
**Cc:** **[Redacted, 11(1)]**

**Subject:** RE: Summary Report for Executive Steering Group

[REDACTED]

Thanks for your comments.

Happy to move the background into an Appendix and summarise it in a paragraph or two up front in the report.

Can I suggest I attempt to weave your comments on the Jacobs Audit element of the report into the current section and then add a section on the 'impact on business cases'. The 'impact on business cases' will clearly be informed by the key metrics and will help shape that section. Addressing the Jacobs Audit was one of the 2 main actions from the last steering group so I think it's important to keep it as a substantial element of the report, and record the outcome of the work done.

The second main action from the Executive Steering Group was the rail operational issues. **[Redacted, 10(5)(f)]** as discussed at the Stakeholder Working Group, we could have an agenda item on Rail Operational issues where we can have a fuller discussion on this matter without going through the pain of trying to have agreed text on this issue. As discussed last week I'll get a revised report out early in the New Year.

regards,

George Vincent

Senior Project Manager

Glasgow Airport Access Project  
Development & Regeneration Services  
Glasgow City Council  
231 George Street

Glasgow  
G1 1RX  
Tel [REDACTED]  
e-mail: [REDACTED] [lasgow.gov.uk](mailto:[REDACTED]@glasgow.gov.uk)

**From:** [REDACTED] (TRANS)  
**Sent:** 19 December 2018 09:04  
**To:** Vincent, George (LES) <[REDACTED]@glasgow.gov.uk>  
**Cc** **[Redacted]**

**Subject:** RE: Summary Report for Executive Steering Group

George and team

As discussed when we met last week, our suggested approach is for the ESG to be presented information in a way that can support decision making. That is, it should present the evidence, case for change and updated OBC which is a result of addressing the OBC audit. It should be broadly structured as follows:

- Action was to address Audit comments on OBC
- High level summary of what the Audit raised
- What the work completed over the past year has meant for:
  - SBC
  - OBC
- The Outcomes
- Recommendation – what are they being asked

By addressing the individual audit comments, as the paper does at the moment, it lacks narrative on the impact/ changes to the business case. The outcomes of the work should be reported i.e. revisited SBC and OBC.

I have attached comments on the paper ***[Exemption under regulation 10(4)(d) applies]***.

Kind regards

[REDACTED]

T: [REDACTED] M: [REDACTED]

**From:** Vincent, George (LES) <[REDACTED]@lasgow.gov.uk>

**Sent:** 11 December 2018 16:01

**To:** [REDACTED] (TRANS) <[REDACTED]@transport.gov.scot>, [Redacted, 11(1)]

**Subject:** AAP: Summary Report for Executive Steering Group

All

Please find attached my first draft of the summary report ***[Exemption under regulation 10(4)(d) applies]*** for the AAP Executive Steering Group. Once I got into writing it I decided that it would be best to keep it high level and try to summarise the key points. I'm guessing that the exec steering group members really just want to get a feel for what has been done and whether we have resolved the audit issues, or if there are any outstanding issues which we or other stakeholders (or Jacobs) can't resolve.

If we can get agreement on the report and submit it jointly then that would be great. If not then I would suggest the project team submit the report on the basis that it is their report and other stakeholders provide commentary on any areas where they differ in opinion.

I've left some text in italics which invite comments which are fairly obvious and I've left the rail operational comments open at this time. The key metrics section still needs populated and I can do this when this information becomes available when we return in the New Year.

Can we discuss this when we meet on Thursday.

regards,

George Vincent

Senior Project Manager

Glasgow Airport Access Project

Development & Regeneration Services

Glasgow City Council

231 George Street

Glasgow

G1 1RX

Tel [REDACTED]

e-mail: [REDACTED]@lasgow.gov.uk

**From:** [REDACTED] (TRANS)  
**Sent:** 10 October 2018 14:22  
**To:** Vincent, George (LES) <[REDACTED]@glasgow.gov.uk>  
**[Redacted, 11(1)]**  
**Subject:** RE: AAP - SBC Evidence Update

George

Thanks for sight of the draft “Strategic Business Case – Strategic Case Evidence Update” report, dated 20 September 2018. Pre-dating Jacobs audit of the OBC, Transport Scotland commented on the original SBC and the attached notes ***[attachments to email are provided in Annex E to FOI/19/00738]***

should be considered alongside these, to ensure that the case for change in the revised SBC is as robust as possible.

David is going to send Stuart an email about our next meeting. However should you (or consultants) wish to discuss these comments separately/ prior then let me know.

Kind regards, [REDACTED] T: [REDACTED] M: [REDACTED]

**From:** Vincent, George (LES) [REDACTED]@glasgow.gov.uk>  
**Sent:** 27 September 2018 12:07  
**To:** [REDACTED] (TRANS) [REDACTED]@transport.gov.scot>; **[Redacted, 11(1)]**  
**Subject:** AAP - SBC Evidence Update

All

Please find attached a working draft of the SBC Evidence Update Report, ***[Exemption under regulation 10(4)(d) applies]*** which includes the proposed new set of TPOs. This will be finalised if/when we receive highlighted data and information and when the benchmarking exercise is undertaken. However, in the meantime, we thought it would be useful to share the document and get any comments or queries you may have.

Can I ask that you provide any comments by cop Friday 6 October and return comments to ***[Redacted, 11(1)]***

regards,

231 George Street

George Vincent

Glasgow

Senior Project Manager

G1 1RX

Glasgow Airport Access Project

Tel [REDACTED]

Development & Regeneration Services

e-mail: [REDACTED]@glasgow.gov.uk

Glasgow City Council

Annex A.7 – 04<sup>th</sup> October 2018

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**From:** Vincent, George (LES) [REDACTED] lasgow.gov.uk>  
**Sent:** 04 October 2018 15:18  
**To:** [REDACTED] (TRANS) <[REDACTED]@transport.gov.scot>  
**Subject:** RE: AAP - SBC Evidence Update

Ok [REDACTED] thanks for letting me know.

regards, 231 George Street  
George Vincent Glasgow  
Senior Project Manager G1 1RX  
Glasgow Airport Access Project Tel [REDACTED]  
Development & Regeneration Services e-mail: [REDACTED] [lasgow.gov.uk](mailto:[REDACTED]@lasgow.gov.uk)  
Glasgow City Council

**From:** [REDACTED] [transport.gov.scot](mailto:[REDACTED]@transport.gov.scot) [[mailto:\[REDACTED\]@transport.gov.scot](mailto:[REDACTED]@transport.gov.scot)]  
**Sent:** 04 October 2018 15:13  
**To:** Vincent, George (LES) <[REDACTED]@glasgow.gov.uk>; **[Redacted, 11(1)]**  
**Subject:** RE: AAP - SBC Evidence Update

George, we are unlikely to be able to send our comments tomorrow, more realistically early next week.

Kind regards

[REDACTED]

T: [REDACTED] M: [REDACTED]

**From:** Vincent, George (LES) [REDACTED] [lasgow.gov.uk](mailto:[REDACTED]@lasgow.gov.uk)>  
**Sent:** 27 September 2018 12:07  
**To:** [REDACTED] (TRANS) <[REDACTED]@transport.gov.scot>; **[Redacted, 11(1)]**  
**Subject:** AAP - SBC Evidence Update

All

Please find attached a working draft of the SBC Evidence Update Report, **[Exemption under regulation 10(4)(d) applies]** which includes the proposed new set of TPOs. This will be finalised if/when we receive highlighted data and information and when the benchmarking exercise

is undertaken. However, in the meantime, we thought it would be useful to share the document and get any comments or queries you may have.

Can I ask that you provide any comments by cop Friday 6 October and return comments to **[Redacted, 11(1)]**

regards,

George Vincent

Senior Project Manager

Glasgow Airport Access Project

Development & Regeneration Services

Glasgow City Council

231 George Street

Glasgow

G1 1RX

Tel [Redacted]

e-mail: [Redacted] [glasgow.gov.uk](mailto:[Redacted]@glasgow.gov.uk)

**From:** Vincent, George (LES) <[REDACTED]@glasgow.gov.uk>

**Sent:** 14 September 2018 15:48

**To:** Irvine A (Alison) <Alison.Irvine@transport.gov.scot>; **[Redacted, 11(1)]**

**Subject:** RE: Glasgow Airport Access Project - Stakeholder Working Group papers

**[Redacted, 11(1)]**

Thanks for your response. I've copied it below and would add some commentary in red which I would ask you to note:

#### Item 4 – Inclusion of Tram / Train Analysis

- Work on the South Glasgow Timetable Capacity Analysis is progressing well and in line with the project plan. It should be noted that the South Glasgow work is being progressed primarily to inform short to medium term (CP6) capacity considerations at Glasgow Central Station. The South Glasgow Timetable Capacity Analysis scope does not include analysis of Tram / Train options.

- Initial outputs for internal consideration are expected within the next few weeks with a final report expected in Autumn 2018. Thereafter the results will be shared with the GAAP team and discussion around the need for further assessment can take place.

It would be helpful for stakeholders to have a meeting with TS & Atkins to discuss the initial outputs, could this be arranged before the next stakeholder working group? (this request was an action from yesterday's Stakeholder Working Group)

- It is a decision for the GAAP Team to consider if appropriate to progress further Tracsis analysis of timetabling capacity to meet project reporting timescales and/or to justify potential further testing following consideration of the South Glasgow work.

**[Redacted, 10(5)(f)]**

- TS note the response provided by **[redacted, 11(1)]** on 26 August regarding the scope of the Tracsis work and would be grateful for an update on consideration of the points raised.

**[Redacted, 10(5)(f)]** comments effectively say that we need to understand the impact any proposed mitigating interventions have on performance impact. I totally agree.

**[Redacted, 10(5)(f)]**

#### Item 5 - Executive Steering Group Meeting Date

- We are in discussion with the Cabinet Secretary's private office and will provide an update when possible.

In view of the above comments on modelling of performance impacts can I ask that this meeting is organised ASAP in order to allow a discussion by the Executive Steering Group on this issue.

#### Item 8 TS Update

- Work is progressing on the Managed Motorway work and initial outcomes were shared with the GAAP team.
- Further information requests from the GAAP team are being considered and responses will be provided in due course.

Thank you for facilitating the meeting re managed motorways and how it could be integrated with the bus option, it was helpful.

regards,

George Vincent

Senior Project Manager

Glasgow Airport Access Project

Development & Regeneration Services

Glasgow City Council

231 George Street

Glasgow

G1 1RX

Tel [REDACTED]

e-mail: [REDACTED] [glasgow.gov.uk](mailto:[REDACTED]@glasgow.gov.uk)

**From:** [Redacted, 11(1)]

**Sent:** 12 September 2018 07:58

**To:** [REDACTED] [@transport.gov.scot](mailto:[REDACTED]@transport.gov.scot); [Redacted, 11(1)]

**Subject:** Re: Glasgow Airport Access Project - Stakeholder Working Group papers

[REDACTED] / All,

Unfortunately neither myself or Alison will be able to attend the meeting on Thursday. I have spoken to Graeme Dodds and he has confirmed that he will be attending.

On the items noted against TS I can give the following updates and comments to inform discussion...

#### Item 4 – Inclusion of Tram / Train Analysis

- Work on the South Glasgow Timetable Capacity Analysis is progressing well and in line with the project plan. It should be noted that the South Glasgow work is being progressed primarily to inform short to medium term (CP6) capacity considerations at Glasgow Central Station. The South Glasgow Timetable Capacity Analysis scope does not include analysis of Tram / Train options.
- Initial outputs for internal consideration are expected within the next few weeks with a final report expected in Autumn 2018. Thereafter the results will be shared with the GAAP team and discussion around the need for further assessment can take place.
- It is a decision for the GAAP Team to consider if appropriate to progress further Tracsis analysis of timetabling capacity to meet project reporting timescales and/or to justify potential further testing following consideration of the South Glasgow work.
- TS note the response provided by Graeme Dodds on 26 August regarding the scope of the Tracsis work and would be grateful for an update on consideration of the points raised.

#### Item 5 - Executive Steering Group Meeting Date

- We are in discussion with the Cabinet Secretary's private office and will provide an update when possible.

#### Item 8 TS Update

- Work is progressing on the Managed Motorway work and initial outcomes were shared with the GAAP team.
- Further information requests from the GAAP team are being considered and responses will be provided in due course.

Kind Regards,

***[Redacted, 11(1)]***

**Airport Access Project  
Executive Steering Group (30 January 2019)  
Project Update Report**

**Purpose of Report:**

The purpose of this report is to update the AAP Executive Steering Group on progress made on closing out the independent audit of the Airport Access Project Outline Business Case which was commissioned by Scottish Ministers and carried out by Jacobs consultancy. It does not seek to give a detailed discussion on what are highly technical transport planning/ project delivery issues, rather it seeks to give the Executive Steering Group a summary of the key focus of this, whether there are any major outstanding issues and the way forward for the project.

**Recommendations:**

The Executive Steering Group is asked to note the work which has been completed by the Airport Access Project Team and stakeholders in the past year to address the independent audit of the Outline Business Case, and the implications this may have for the way forward on future delivery of the project.

It is recommended that the Executive Steering Group:

- (i) Notes the content of this report and the progress made in closing out the Jacobs Audit.
- (ii) Note the timetable to delivery and the need for all stakeholders to collectively work together to ensure the project is progressed to this timetable.
- (iii) Agree that PRT is recommended to the City Deal Cabinet as the new preferred option for the Airport Access Project which should be further examined within a revised OBC

**Background**

The £1.13bn Infrastructure Fund within the Glasgow City Region City Deal has identified the Airport Access Project (AAP) as one of the key regional projects (with a project cost of £144.3m), due to its strategic importance to the overall City Region. It has long been recognised that Glasgow Airport is heavily reliant on road based access to the airport and that there is a desire to deliver a more sustainable form of surface access to the airport to support the continued growth of the airport and the sustainable and inclusive growth of the Glasgow City Region economy.

Since the cancellation in 2009 of the Glasgow Airport Rail Link there have been a numerous studies carried out to help inform and identify the best form of surface access transport intervention to assist with improving sustainable access to the airport, and the City Deal team built on them to develop a Business Case for a preferred option to deliver improved access. A list of these studies and City Deal Business Cases, together with a short summary of their findings, are included in Appendix A for information.

In December 2016, the Glasgow City Region Cabinet considered the Outline Business Case (OBC) for the project, which noted that tram-train has been identified as the option most suitable to be taken forward as the preferred option in this Outline Business Case and developed further through to Full Business Case. Cabinet agreed that the project should proceed to Full Business Case stage, with PRT the next best performing option and able to be delivered within budget.

**Audit of OBC**

Following the Cabinet's consideration of the OBC, the Scottish Ministers commissioned Jacobs to undertake an audit of the OBC on their behalf in February 2017, with the final audit report being provided to project partners on 21<sup>st</sup> November 2017. On 8 December 2017 the AAP Executive Steering Group met and agreed that all partners would work together collaboratively to close out the audit findings. This approach was noted by the Glasgow City Region Cabinet on 12 December 2017.

The main items identified in the audit included:

- (i) Options Appraisal
- (ii) Airport Demand
- (iii) Airport Accessibility
- (iv) Airport Benchmarking
- (v) Economic Case
- (vi) Rail Operational Issues

The issues raised by the audit and the outcomes of the 'audit close out' work are summarised below. It should be noted that the project team have fully involved all stakeholders and the Jacobs Audit team in the development of the audit responses.

### **Options Appraisal**

In response to comments in the Jacobs audit and discussion at the Executive Steering Group on 8 December 2017 it was agreed that previous or potential new options for meeting project objectives would be revisited. A workshop with all stakeholders identified and agreed a list of options which were to be taken forward for further/updated review and testing. These included:

- **Tram Train:** specification as per the OBC interim service (with 2 minutes added to Ayrshire and Inverclyde Services journey times to allow flexibility to accommodate tram train within timetable)
- **PRT:** specification as per the OBC (elevated people carrier system from Glasgow Airport to Paisley Gilmour Street)
- **LRT:** on road option from Central Station to the Airport following the Fastlink route (this cost £980m and was therefore discounted as being unaffordable).
- **Bus:** 2 variants were identified incorporating additional Fastlink Services to the airport as part of the bus solution (the First M8 Service 500 bus was a part of the 'do minimum' service specification).
  - Variant 1 - Fastlink Extension following surface roads between Glasgow City Centre and the Airport (including Pacific Quay, Govan, QEUH, Braehead, Renfrew and GAIA)
  - Variant 2 - Fastlink Extension following a similar route before joining the M8 at Braehead and then running on hard shoulder for part of the way to the Airport.

The Transport Planning Objectives were also reviewed and revised, this review mainly focussed on clarifying the need to make sure that the changed context arising from NMIS/AMIDS was included in considerations and that the potential demands on the wider transport network were taken into account.

#### *Glasgow Airport Access Project – Transport Planning Objectives*

- Increase the modal share of public and active transport modes for passengers and employees to and from Glasgow Airport;
- Improve public transport journey times and their reliability to and from Glasgow Airport such that they are increasingly competitive with the private car;
- Support sustainable growth of Glasgow Airport and business investment and regeneration of its surrounding area and the City Region;
- When unlocking the economic and development opportunities in and around Glasgow Airport mitigate any negative impacts on the operation and performance of the strategic transport network.

The revised TPO's together with a high level appraisal of the identified options are provided in Appendix B.

## Airport Demand

A comprehensive review of Glasgow Airport passenger forecast data has been carried out. This included an overview of available passenger demand forecasts, a review of historical evidence of passenger demand growth, consideration of passenger characteristics, resulting in defined forecast scenarios for airport demand which could then be used for the AAP transport modelling and economic appraisal.

In the original OBC, the core passenger growth scenario adopted was the 'BAA Low Growth forecast', which was viewed as a conservative approach and in line with the STAG work previously carried out. Following further consideration of future airport growth the most likely (core) growth scenario has been agreed as the 'BAA Central Growth forecast', which will form the basis of the Glasgow Airport Masterplan which is due to be published in early 2019. It should be noted that going forward sensitivity testing will be carried out to include low, central and high growth. The headline figures for these are:

Growth Forecast	2025	2040
BAA Low Growth	9.6m	11.9m
BAA Central Growth	11.5m	15.5m
BAA High Growth	11.9m	17.4m

\* Current Patronage (2017) – 9.895m

## Airport Accessibility

The Jacobs audit suggested more information was required on the origin and destination of passengers and associated accessibility benefits relative to each option. It was agreed that existing network journey time information, to and from Glasgow Airport, would be considered for each option and appraised against the current airport passenger demand profile and forecast airport passenger demand profiles. This would provide analysis on the level of provision and identify daily gaps in each option, assist estimates of unserved passenger demand and further inform airport accessibility. Following discussion between the project team and Jacobs it is felt that this will not be a material consideration in the decision made on the option chosen for further consideration within a revised OBC. Therefore, whilst this work has not been completed at this time, it is not a barrier to progressing with the project, but will be carried out and presented within a revised OBC.

## Airport Benchmarking

A wide ranging benchmarking exercise was carried out building on the work done in the OBC. This exercise included 18 airports (incl Glasgow) which generally had comparable patronage and distance to city centre. Overall, the analysis has highlighted Glasgow Airport as having more limited surface access links than the vast majority of the benchmark airports and generally with a corresponding lower public transport share. Therefore, the ability of Glasgow Airport to compete with its competitor airports will be diminished if the public transport offer is not strengthened.

The impact of M8 congestion on airport patronage is difficult to model however there is a strong body of evidence (including industry reports and parliamentary reports) which suggests good surface access is required to support airport growth, therefore increasing M8 congestion will become a constraint to airport growth, and make non road based alternatives (or road based alternatives with built in priority) more attractive when considering surface access modes to support airport growth.

A recent report by Jacobs examined congestion on the M8 Glasgow Motorway Corridor. This showed that traffic flows on the M8 between Glasgow city centre and Glasgow Airport are increasing. Jacobs identified the opening of the M74 extension in 2011 as one of the main driving factors behind this trend. Analysis of journey time data also provides evidence that

the M8 between Glasgow city centre and Glasgow Airport suffers from recurring congestion in both directions at peak times. In addition, journey times have been increasing over recent years exacerbating the magnitude of these problems and their impact upon Glasgow Airport.

Analysis carried out by the project team has also shown that the First Bus Service 500 is suffering from journey time variability in both directions on a regular basis and that, at peak times, the doubling of the scheduled 15 minute journey time is not an unusual occurrence. As this analysis focuses entirely upon the section of the route on the M8 there is clear evidence that the performance of the strategic road network is impacting upon the reliability of journey times for the current main public transport link to Glasgow Airport.

### **Economic Case - Cost Estimation**

Scheme option costs (Capex and Opex) were developed for the additional options identified and together with Tram Train and PRT costs were shared with Jacobs.

Costs identified for each option are detailed below:

<b>Option</b>	<b>Tram Train<sup>1</sup></b>	<b>PRT</b>	<b>Bus - Fastlink via surface roads<sup>2</sup></b>	<b>Bus – Fastlink via M8<sup>3</sup></b>	<b>LRT<sup>4</sup></b>
Capital Costs	£138.8m	£138.4m	£48.9m	£48.1m	£980m

<sup>1</sup> Specification as per the OBC

<sup>2</sup> Variant 1 - Fastlink Services to the airport via local surface roads

<sup>3</sup> Variant 2 - Fastlink Service to the airport via M8

<sup>4</sup> Discounted as being unaffordable

It should be noted that costs include Construction Costs, Rolling Stock (or buses), Design, Project Management and Site Supervision Costs, Optimism Bias, Inflation, Land Costs, and Network Rail Costs (where applicable).

### **Economic Case - Core Economic Case**

The economic case for each option has been revisited taking account of revised airport patronage, use of the Strathclyde Regional Transport Model (which was not available when the OBC was being prepared), further discussion on the potential options with Jacobs, taking account of new information such as that relating to managed motorways, and the growing influence of NMIS/ AMIDS. The key economic metrics are outlined below in the section titled 'key metrics'.

### **Economic Case - Wider Economic Impacts**

After discussion with stakeholders and Jacobs it was agreed that the best way to build on the work contained within the OBC was to utilise the Strathclyde Regional Transport Model (SRTM) and the Transport / Economic/ Land-Use model of Scotland (TELMoS). This exercise will allow identification of where potential land use changes could occur with any of the identified options, providing a measure of increased/ reduced economic activity in the geographical area impacted by the options identified.

### **Rail Operational Issues**

Throughout the project development there have been numerous discussions between the project team, Transport Scotland and Network Rail in relation to the capacity of the existing rail network to accommodate tram train, particularly when considering the future competing priorities for rail capacity. It has been agreed that in the interest of moving the project forward and providing an improved public transport 'offer' for the airport by 2025 that an alternative option to tram train should be pursued. From an examination of the available evidence this would identify PRT as being the option which should be further developed as part of a revised OBC.

### **Key Metrics/ Commentary**

Key metrics associated with each option are identified in Table 1 below together with commentary identifying key issues worthy of noting. It should be noted that in order to keep the information presented as succinct as possible all metrics are based on the 'BAA Central Growth' forecasts, and a forecast year of 2037 in line with the information presented in the original OBC. The detailed background reports, which all stakeholders have access to, contain the information relating to low and high growth.

**Table 1(a) Patronage Summary**

Option	Tram Train	PRT	Bus via Fastlink	Bus via M8 hard shoulder/Fastlink
Journey Time to/from City Centre	18 mins	17 mins**	52 mins	45 mins
AAP Patronage: Airport Users*	1.37m	1.16m	0.21m	0.14m
Airport AAP Service Mode Share*	7.8%	6.2%	~1%	~1%

\*2037 forecast year

\*\* interchange included within economic assessment

**Table 1(b) Economics Summary**

Option	Tram Train	PRT	Bus via Fastlink	Bus via M8 hard shoulder/Fastlink
Capital Costs	£138,812,542	£138,394,866	£48,965,404	£48,095,138
NPV	217,464,000	219,041,000	-31,989,000	-22,924,000
BCR	3.4	3.3	-0.2	0.1

\*2037 forecast year

\*\* interchange included within economic assessment

**Table 1 (c) OBC Patronage Comparison**

Option	OBC Tram Train	Updated Tram Train	OBC PRT	Updated PRT
Journey Time to/from City Centre	16.5 mins	18 mins	17 mins**	17 mins**
AAP Patronage: Airport Users*	1,471,000	1,372,000	1,186,000	1,161,000
Airport AAP Service Mode Share*	9%	7.8%	7%	6.2%

\*2037 forecast

\*\* interchange included within economic assessment

**Table 1(d) OBC Economics Comparison**

Option	OBC Tram Train	Updated Tram Train	OBC PRT	Updated PRT
Capital Costs	£132,083,775	£138,812,542	£144,236,052	£138,394,866
NPV	206,562,000	217,464,000	169,049,000	219,041,000
BCR	3.3	3.4	2.7	3.3

***Commentary***

There have been a number of changes made to key assumptions on patronage and modelling parameters, some as a result of responding to the Jacobs Audit, others due to the changing landscape of activity at the airport and its surrounding area, and others due to changing thoughts on transport modelling 'good practice'. However, the key headline comment is that the Business Case key metrics are of a similar order to that identified at the previous SBC and OBC work.

From a review of the above table, and the assessment of performance of options against TPO's (see Appendix B), it can be seen that in terms of ranking the options that tram train and PRT are the best performing options both in terms of qualitative assessment of options against TPO's, and the key metrics including patronage/ mode share and BCR, re confirming work previously done.

With a mode share of 6.2% for PRT and 7.8% for tram train the modelling would suggest that mode share is not as high as other benchmark airports, as typically airports with similar characteristics to Glasgow Airport with light rail or heavy rail links having 13-19% mode share (with the exception being Edinburgh which has a mode share of 8%). Therefore it is not unreasonable to assume that the mode share predictions are an underestimate. However, both still have healthy business cases with annual patronage well in excess of 1 million passengers per annum, and BCR's in excess of 3.

PRT, tram train, and bus option costs can be contained within the £144.3m budget.

If it accepted that there is insufficient capacity available on the rail network to accommodate tram train, then given its key metrics, PRT would become the most deliverable and preferred option for development in a revised OBC.

The added value any link brings to improved accessibility to the NMIS/ AMIDS development cannot be overstated. The exact nature of how the link to NMIS/ AMIDS will be achieved will further reviewed as part of a revised OBC (and further ongoing project development). Such a link will significantly improve access to NMIS/ AMIDS, add patronage to the system, and contribute to the inclusive growth agenda by improving linkage to the airport and NMIS/ AMIDS from Ayrshire and Inverclyde. The Business Case will therefore almost certainly be strengthened from both a qualitative and quantitative perspective. This will be explored as part of a revised OBC.

Should PRT become the preferred option, and considered as part of a revised OBC, then PRT and other similar modes such as driverless shuttles would be further considered. The revised OBC would reconsider issues such as:

- wait time and headway,
- interchange opportunities,
- passenger capacity,
- availability of system providers,
- current technology developments (incl developments on autonomous vehicles),
- station configuration at Paisley Gilmour Street, and
- Potential for interfacing with NMIS/ AMIDS

Further review of these issues will assist in better understanding key risks associated with the PRT option, particularly in reviewing the interface with Paisley Gilmour Street Station and seeking to minimise any major construction activity within the footprint of the station. Equally, it needs to be recognised that should PRT be adopted as the preferred option, that all partners and stakeholders require to get fully behind the project and use all of their combined skills and efforts to assist in ensuring the best possible interface experience for users at Paisley Gilmour Street and the Airport, that the NMIS/ AMIDS developments are integrated into the project development, and that statutory processes are progressed expeditiously to assist in meeting project timelines.

It should also be recognised that M8 Journey times between Glasgow City Centre and the airport have been increasing over recent years, and their variability between peak and off peak has also been growing. Airport passengers and staff are consequently subject to increasing delays and uncertainty regarding their journeys. Whilst it is difficult to reflect this in the modelling which derives the metrics associated with the Bus option it is an issue worth consideration for any road based mode, particularly those using the M8.

Additionally, it should be recognised that transfer to public transport modes not reliant on the M8 can only be helpful in terms of reducing the number of M8 trips. Whilst it could never be claimed that this would be a panacea for the congestion issues on the M8 it will help to reduce traffic levels on the M8, with 517,000 person trips and 335,000 person trips removed from the M8 in 2037 on tram train and PRT modes respectively.

The enhanced bus option (i.e Fastlink extension) has been considered in association with the existing M8 bus as it is not considered that the M8 bus would be withdrawn under the current deregulated bus regime. Both services deliver different journey times with the M8 bus having a journey time of 25 minutes and the Fastlink bus having a journey time of circa 50 minutes. Most of the airport patronage associated with bus would be attracted to the M8 bus as it has the shorter journey time. This should not detract from the Fastlink solution as a means of servicing developments in the Clyde corridor, but it is clearly not an option worth pursuing for delivering direct access to Glasgow Airport.

### **Way Forward**

Having reviewed the available options and worked with Jacobs to progress issues raised in the audit, it is suggested that the way is open to move forward with the project. The information available at this time would suggest PRT to be the most deliverable option, displaying strong key metrics, and should therefore be considered as the preferred option. As this is a different option from that recommended in the original OBC then a revised OBC will be required. The process for moving forward would therefore be:

January 2019	Executive Steering Group recommends PRT as the preferred option
April 2019	Cabinet consider request to develop revised OBC
Autumn 2019	Revised OBC approved by City Deal Cabinet
Autumn 2022	FBC approved by City Deal Cabinet (includes approval of Works tender)
Early 2023	Works start
Early 2025	Project completion

### **Conclusions and Recommendations**

The project team believe most of the areas of concern raised by the Jacobs audit have been closed out, and that PRT has emerged as the most deliverable and preferred option for the Airport Access Project.

It is therefore recommended that the Executive Steering Group:

- (i) Notes the content of this report and the progress made in closing out the Jacobs Audit.
- (ii) Note the timetable to delivery and the need for all stakeholders to collectively work together to ensure the project is progressed to this timetable.
- (iii) Agree that PRT is recommended to the City Deal Cabinet as the new preferred option for the Airport Access Project which should be further examined within a revised OBC

## **APPENDIX A: LIST OF AAP STUDIES AND REPORTS**

- (i) **Glasgow Airport Strategic Transport Network Study (2011)** carried out by MVA Consultants, commissioned by Glasgow Airport
- (ii) **Glasgow Airport Strategic Transport Appraisal (STAG Part 1) (June 2013)** jointly commissioned by Transport Scotland, Glasgow Airport Renfrewshire Council and Glasgow City Council and undertaken by consultants Aecom. (This study considered a long-list of over 80 potential transport interventions, with 7 options taken forward to the STAG Part 2)
- (iii) **Glasgow Airport Strategic Transport Appraisal (STAG Part 2) (March 2014)** carried out by Aecom and jointly commissioned by Transport Scotland, Glasgow Airport, Renfrewshire Council and Glasgow City Council. (This study carried out a detailed analysis of the 7 options identified at STAG1. It should be noted that the STAG methodology does not recommend a preferred option, rather it allows the relative merits of options to be understood when assessed against a multi-criteria framework. The appraisal results were accepted by the client group, and all agreed to use the findings in future studies.)
- (iv) **Glasgow Airport Surface Access Tram–Train Feasibility Study (January 2015)** carried out by Transport Scotland. (This study allowed Transport Scotland to better understand the Tram Train option – one of the 7 options identified in the STAG work)
- (v) **Glasgow Airport Access Project – Strategic Business Case (December 2015)** prepared by Glasgow City Council and Renfrewshire Council with external technical support from Aecom & PBA. (This study assessed the Business Case of the 7 options identified by the STAG process and identified tram-train and PRT as being suitable for further consideration at OBC stage)
- (vi) **Glasgow Airport Access Project – Outline Business Case (December 2016)** prepared by external technical consultants Aecom on behalf of Glasgow City Council and Renfrewshire Council with further consultancy support on the economic benefits of an airport rail link from PBA. The Councils then commissioned two further audits of the OBC from Turner & Townsend (costs) & KPMG (economics/ operating model). (Further detailed analysis of the 2 remaining options led to the conclusion that tram train should be taken forward as the preferred option for further development in the Full Business Case)

## **APPENDIX B: OPTION APPRAISAL AGAINST TPO's**

**Job Name:** Glasgow Airport Access Project

**Subject:** Option Appraisal Against TPOs

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### **Introduction**

As part of the work to revisit the Strategic Business Case for the Glasgow Airport Access Project (AAP), a high-level appraisal of the options against the agreed Transport Planning Objectives (TPOs) has been undertaken.

The AAP options have been revisited and confirmed following the findings of the Audit and subsequent Stakeholder Working Group discussions. This identified the following four options to be taken forward for more detailed analysis and assessment:

- Tram Train
- PRT
- Bus via Fastlink;
- Bus via M8 Hard Shoulder / Fastlink

This Note sets out the findings of the appraisal of each of these options against the TPOs. It should be noted that the appraisal draws on the evidence available from the work undertaken to date, including the option modelling assessment and economics, and that no additional analysis has been carried out of the purposes of this exercise. Where referenced, the option modelling assessment data refers to the 2037 Central forecast scenario, which provides an indication of broad impacts.

### **Transport Planning Objectives**

1.1.1 As part of the Glasgow Airport Access Project appraisal process, a Mission Statement and set of SMART TPOs were developed. This process was informed by consultation with Glasgow Airport, Glasgow City Council, Renfrewshire Council, and Transport Scotland with further information available in Table 8.1 of the STAG Part 2 report.

#### **Mission Statement**

“To support the nationally significant economic and social contribution of Glasgow Airport by maintaining and improving sustainable access for passengers and staff”

1.1.2 The STAG process initially identified four TPOs. Through the original SBC development process these were reviewed against the evidence base and City Deal objectives and it was determined the proposed TPOs should be retained. However, stakeholder engagement as part of the SBC re-visit led to the refinement of the TPOs to reflect the most current issues and evidence. The final TPOs are outlined below.

#### **Glasgow Airport Access Project Objectives**

- A. Increase the modal share of public and active transport modes for passengers and employees to and from Glasgow Airport;
- B. Improve public transport journey times and their reliability to and from Glasgow Airport such that they are increasingly competitive with the private car;
- C. Support sustainable growth of Glasgow Airport and business investment and regeneration of its surrounding area and the City Region;
- D. When unlocking the economic and development opportunities in and around Glasgow Airport mitigate any negative impacts on the operation and performance of the strategic transport network

1.1.3 Subsequent work has sought to make these objectives SMART by defining indicators, a baseline situation and associated targets, which will be finalised at the appropriate stage.

1.1.4 The remainder of this Note describes the assessment of the performance of each option against the TPOs to support the SBC revisit.

## Option: Tram Train

TPO	Appraisal Score	Rationale
A. Mode Share	✓✓- ✓✓✓	<p>Modelling indicates that public transport mode share for airport passengers is forecast to increase from 12.1% in the Do Minimum to 15.2%. This represents a 25.6% increase in public transport passengers compared with the Do Minimum representing a moderate to major positive benefit.</p> <p>Airport staff public transport mode share is forecast to increase from 8.6% to 9.7% which is a 13.0% increase in public transport passengers representing a moderate positive benefit.</p>
B. Public Transport Journey Times	✓✓	<p>This option is expected to offer an overall moderate improvement to existing public transport links to Paisley town centre and Glasgow city centre which will be directly served by the proposed service as well as reducing journey times to other locations via connecting services.</p> <p>Paisley would achieve a moderate positive impact from a direct service that is least ten minutes faster than the existing bus service. This would also provide direct connections with existing rail services to Inverclyde and Ayrshire, which would benefit from a reduction in total journey times.</p> <p>Tram Train would offer an 18-minute journey time to Glasgow Central and onward connections. This compares with the existing First 500 bus service, which it is expected would be retained, and it has a timetabled journey time of between 15 to 25 minutes depending on the boarding and alighting point within the city centre. This means some locations may be quicker by bus than tram-train. However, the bus service is subject to extensive variability in journey time caused by peak period congestion on the M8 and Tram Train would be expected to be more reliable.</p> <p>Overall, there is expected to be a moderate benefit in comparison with car and taxi journey times taking into account the increased journey time reliability that Tram Train offers in comparison to road-based modes that utilise the M8.</p>
C. Economic and Land-use Development	✓-✓✓	<p>Whilst this option would provide no direct connectivity to the Glasgow Airport Investment Area (GAIA) sites it does offer potential to provide a minor positive impact on these developments due to its close proximity.</p> <p>It is anticipated that Tram Train would have a moderate positive impact on economic activity and development at Glasgow Airport and its important function in the wider economy, which would be facilitated through an increase in jobs and economic output.</p>
D. Strategic Transport Network Performance	xx-✓	<p>There are a number of future competing demands on the rail network between Paisley and Glasgow and at Glasgow Central Station. Tram Train would place an additional demand on this infrastructure, and it has been difficult to reach agreement that tram-train could be accommodated.</p> <p>Overall, the implications of this option for the rail network may be a moderate negative impact although it should be noted that the forecast modal shift may have a minor positive impact on the strategic road network by reducing traffic on the M8.</p>

KEY    ✓    Minor Positive    ✓✓    Moderate Positive    ✓✓✓    Major Positive    ○    Neutral  
           ×    Minor Negative    xx    Moderate Negative    \*\*\*    Major Negative

## Option: PRT

TPO	Appraisal Score	Rationale
A. Mode Share	✓✓	<p>Modelling indicates that public transport mode share for airport passengers is forecast to increase from 12.1% in the Do Minimum to 13.9%. This represents a 14.8% increase in public transport passengers compared with the Do Minimum representing a moderate benefit.</p> <p>Airport staff public transport mode share is forecast to increase from 8.6% to 10.3% which is a 19.9% increase in public transport passengers representing a moderate positive benefit.</p>
B. Public Transport Journey Times	✓✓	<p>This option is expected to offer an overall moderate improvement to existing public transport links to Paisley town centre which will be directly served by the proposed service as well as reducing journey times to other locations, including Glasgow city centre, via connecting services.</p> <p>Paisley would achieve a moderate positive impact from a direct service that is least ten minutes faster than the existing bus service. There would also be a notable reduction in passenger wait time where the proposed PRT is a turn up and go service. The PRT service would also provide direct connections with existing rail services to Inverclyde and Ayrshire, which would benefit from a reduction in total journey times.</p> <p>PRT plus connecting rail would offer a 17-minute journey time to Glasgow Central and onward connections. This compares with the existing First 500 bus service, which it is expected would be retained, and it has a timetabled journey time of between 15 to 25 minutes depending on the boarding and alighting point within the city centre. This means some locations may be quicker by bus than PRT. The PRT would also require interchange at Paisley Gilmour Street which could be a perceived disincentive to passengers choosing this option. However, the bus service is subject to extensive variability in journey time caused by peak period congestion on the M8 and PRT + Rail would be expected to be more reliable.</p> <p>Overall, there is expected to be a moderate benefit in comparison with car and taxi journey times taking into account the increased journey time reliability that PRT offers in comparison to road-based modes that utilise the M8.</p>
C. Economic and Land-use Development	✓-✓✓	<p>This option would provide an opportunity to improve connectivity to the GAIA site and therefore it offers a minor to moderate positive impact.</p> <p>It is anticipated that PRT would also have a minor to moderate positive impact on economic activity and development at Glasgow Airport and its important function in the wider economy which would be facilitated through an increase in jobs and economic output. In particular, PRT is forecast to result in a higher public transport mode share for airport staff than any other option due to the distribution of residential locations of existing employees. In future, greater economic growth at Glasgow Airport could be achieved by facilitating easier public transport access to locations south and west of Paisley as PRT would offer very frequent interchange opportunities with trains at Paisley Gilmour Street. This would consequently assist in opening up the labour market of Inverclyde and Ayrshire in particular.</p>
D. Strategic Transport Network Performance	✓	<p>As this option would link to existing rail services at Paisley Gilmour Street it is not expected to have an impact on rail infrastructure capacity. It would lead to additional passengers on existing rail services which may have implications for capacity and overcrowding at peak times. Overall, it is anticipated that there would be a neutral impact on the rail network.</p> <p>PRT is forecast to facilitate a modal shift which would create a minor positive impact on the strategic road network by reducing traffic on the M8.</p>

KEY    ✓    Minor Positive    ✓✓    Moderate Positive    ✓✓✓    Major Positive    ○    Neutral  
          \*    Minor Negative    \*\*    Moderate Negative    \*\*\*    Major Negative

## Option: Bus via Fastlink

TPO	Appraisal Score	Rationale
A. Mode Share	✓	<p>Modelling indicates that public transport mode share for airport passengers is forecast to increase from 12.1% in the Do Minimum to 12.5%. This is a minor positive benefit with a 3.4% increase in public transport passengers compared with the Do Minimum.</p> <p>Airport staff public transport mode share is forecast to increase from 8.6% to 9.0% which is a 4.8% increase in public transport passengers representing a minor positive benefit.</p>
B. Public Transport Journey Times	✓	<p>This option is expected to offer a minor positive impact on journey times in comparison to existing public transport links to locations in the wider south west Glasgow conurbation, including GAIA, Renfrew, Braehead and Govan.</p> <p>Journey times to other locations to the north and east are unlikely to be materially impacted. The First 500 bus service, which it is expected would be retained, has a timetabled journey time of between 15 and 25 minutes depending on the boarding and alighting point within the city centre whereas the Fastlink service would have a journey time of ~52 minutes. The First 500 service is subject to extensive variability in journey time caused by peak period congestion on the M8 and the Fastlink service would be expected to be more reliable due to the bus priority infrastructure along the route. However, the overall journey time would be at least double the First 500 journey time making it unattractive for journeys to Glasgow city centre and beyond.</p> <p>This option would have no impact on journeys to the south and west of the airport to locations such as Paisley, Inverclyde and Ayrshire.</p> <p>Overall, there is expected to be a minor benefit in comparison with car and taxi journey times.</p>
C. Economic and Land-use Development	✓✓	<p>This option would provide direct connectivity between Glasgow Airport and GAIA and is therefore expected to make a moderate positive impact on business investment and regeneration of the surrounding area.</p> <p>This option would also provide direct connectivity between Glasgow Airport and the wider south west Glasgow conurbation including Renfrew, Braehead shopping centre, Queen Elizabeth University Hospital and Govan. This is expected to make a minor positive impact on economic activity and land-use development with some improvements to public transport accessibility and access to labour markets. However, this is relatively limited with no change in accessibility to the wider region and labour markets.</p>
D. Strategic Transport Network Performance	○	<p>As this option is expected to have a minimal impact on the modal split of demand for travel to and from the airport it is anticipated that the impact on the strategic transport network would be neutral.</p>

KEY    ✓    Minor Positive    ✓✓    Moderate Positive    ✓✓✓    Major Positive    ○    Neutral  
           ×    Minor Negative    ××    Moderate Negative    ×××    Major Negative

## Option: Bus via M8 Hard Shoulder / Fastlink

TPO	Appraisal Score	Rationale
A. Mode Share	✓	<p>Modelling indicates that public transport mode share for airport passengers is forecast to increase from 12.1% in the Do Minimum to 12.5%. This is a minor positive benefit with a 3.7% increase in public transport passengers compared with the Do Minimum.</p> <p>Airport staff public transport mode share is forecast to increase from 8.6% to 8.8% which is a 2.3% increase in public transport passengers representing a minor positive benefit.</p>
B. Public Transport Journey Times	✓	<p>This option is expected to offer a minor positive impact on journey times in comparison to existing public transport links to locations in the south west Glasgow conurbation, including Braehead and Govan.</p> <p>Journey times to other locations to the north and east may have a minor improvement where the provision of hard shoulder running for buses on the M8 may provide a minor benefit for existing airport bus services such as the First service 500. This service, which it is expected would be retained, has a timetabled journey time of between 15 and 25 minutes depending on the boarding and alighting point within the city centre, whereas the Fastlink service would have a journey time of ~45 minutes making it unattractive for journeys to Glasgow city centre and beyond. The First 500 service is subject to extensive variability in journey time caused by peak period congestion on the M8 and the hard shoulder running may have a minor positive impact on this. Whilst the Fastlink service would be expected to be more reliable due to the bus priority infrastructure along the route the overall journey time would be almost double the First 500 journey time. Therefore, the overall impact is expected to be minor positive.</p> <p>This option would have no impact on journeys to the south and west of the airport to locations such as Paisley, Inverclyde and Ayrshire.</p> <p>Overall, there is expected to be a minor benefit in comparison with car and taxi journey times.</p>
C. Economic and Land-use Development	✓	<p>This option would provide direct connectivity between Glasgow Airport and the wider south west Glasgow conurbation including Braehead shopping centre, Queen Elizabeth University Hospital and Govan. It is therefore expected to make a minor positive impact on economic activity and land-use development with some improvements to public transport access bility and access to labour markets. However, this is relatively limited with no change in access bility to the wider region and labour markets.</p>
D. Strategic Transport Network Performance	✓	<p>The provision of hard shoulder running for buses on M8 may provide a minor benefit for existing bus services. Otherwise, this option is expected to have a minimal impact on the modal split of demand for travel to and from the airport and it is anticipated that the impact on the strategic transport network would be minimal.</p>

KEY    ✓    Minor Positive    ✓✓    Moderate Positive    ✓✓✓    Major Positive    ○    Neutral  
           ×    Minor Negative    \*\*    Moderate Negative    \*\*\*    Major Negative

## Summary

The following tables summarises the performance of each option against the TPOs.

TPO	Tram Train	PRT	Bus via Fastlink	Bus via M8 Hard Shoulder / Fastlink
A. Mode Share	✓✓-✓✓✓	✓✓	✓	✓
B. Public Transport Journey Times	✓✓	✓✓	✓	✓
C. Economic and Land-use Development	✓-✓✓	✓-✓✓	✓✓	✓
D. Strategic Transport Network Performance	xx-✓	✓	○	✓

KEY    ✓    Minor Positive    ✓✓    Moderate Positive    ✓✓✓    Major Positive    ○    Neutral  
       \*    Minor Negative    \*\*    Moderate Negative    \*\*\*    Major Negative

# GLASGOW AIRPORT ACCESS PROJECT

Executive Steering Group  
30th January 2019



# GLASGOW AIRPORT ACCESS PROJECT

## NEED FOR PROJECT

- Airport is heavily dependant on road based (M8) access
  - M8 increasingly becoming more congested (Jacobs report)
  - First bus 500 increasingly subject to disrupted journey times
- Airport has circa 10m passengers per annum now (15.5m by 2040)
- Major employer in the area(4,500 (now)/ 7,200 (by 2040))
- NMIS / AMIDS - major new economic development
- Benchmarking exercise has shown that airport is almost unique in Europe in that it does not have a fixed link
- Airport & NMIS/ AMIDS require improved PT links to support long term growth



# GLASGOW AIRPORT ACCESS PROJECT

## JACOBS AUDIT

- AAP OBC (2016) identified tram train as preferred option
- Jacobs Audit (2017) identified key areas for further study:
  - Options Appraisal
  - Airport Demand
  - Airport Accessibility
  - Airport Benchmarking
  - Economic Case
  - Rail Operational Issues
- Work Plan developed and agreed with Stakeholders
- Most issues closed out (some deferred for addressing in future revised OBC)



# GLASGOW AIRPORT ACCESS PROJECT REVISED TPO's

## *Glasgow Airport Access Project – Revised Transport Planning Objectives*

- Increase the modal share of public and active transport modes for passengers and employees to and from Glasgow Airport;
- Improve public transport journey times and their reliability to and from Glasgow Airport such that they are increasingly competitive with the private car;
- Support sustainable growth of Glasgow Airport and business investment and regeneration of its surrounding area and the City Region;
- When unlocking the economic and development opportunities in and around Glasgow Airport mitigate any negative impacts on the operation and performance of the strategic transport network.



# GLASGOW AIRPORT ACCESS PROJECT OPTIONS REVISIT

- Tram Train (specification as per the OBC): £138.8m
- PRT (specification as per the OBC): £138.4m
- Bus:
  - Variant 1 (Fastlink Services to the airport via local surface roads): £49m
  - Variant 2 (Fastlink Service to the airport via M8) £48m
- LRT (following Fastlink route from Central Station to the airport) £980m  
(LRT discounted as being unaffordable)
- Costs include Construction Costs, Rolling Stock (or buses), Design, Project Management and Site Supervision Costs, Optimism Bias, Inflation, Land Costs, and Network Rail Costs (where applicable)



# GLASGOW AIRPORT ACCESS PROJECT

## KEY METRICS/ TPO ASSESSMENT

Option	Tram Train***	PRT***	Bus via Fastlink	Bus via Fastlink and M8
Patronage (pa)	1.37m	1.16m	0.21m	0.14m
Mode Share	7.8%	6.2%	~1%	~1%
BCR*	3.4	3.3	-0.5	-0.3
Journey Time	18 mins	17mins	52 mins**	45 mins**
Cost	£139m	£138m	£49m	£48m

\* Benefits calculated using non-standard Values of Time

\*\* Compare to 25 mins for First Service 500

\*\*\* Tram Train and PRT are best performing options on key metrics

- Tram Train and PRT best performing options in qualitative assessment of TPO's



# GLASGOW AIRPORT ACCESS PROJECT

## RAIL CAPACITY

- numerous discussions in relation to the capacity of the existing rail network and its ability to accommodate tram train
- competing priorities for rail capacity.
  - 7 No capacity enhancements (TS/ NWR) and tram train
- In the interest of moving the project forward and providing an improved public transport 'offer' for the airport by 2025 an alternative option to tram train should be pursued.
- PRT is next best performing option



# GLASGOW AIRPORT ACCESS PROJECT

## WAY FORWARD

- PRT is most attractive, deliverable option
- Develop a revised OBC for PRT
- Timescales:

January 2019

Executive Steering Group recommend PRT as preferred option

April 2019

City Deal Cabinet considers request to develop revised OBC

Autumn 2019

Revised OBC approved by City Deal Cabinet

Autumn 2022

FBC approved by City Deal Cabinet (incl tender approval)

Early 2023

Works Start

Early 2025

Project Completion



# GLASGOW AIRPORT ACCESS PROJECT RECOMMENDATIONS

- Notes the content of the progress update and the progress made in closing out the Jacobs Audit.
- Note the timetable to delivery and the need for all stakeholders to collectively work together to ensure the project is progressed to this timetable.
- Agree that PRT is recommended to the City Deal Cabinet as the new preferred option for the Airport Access Project which should be further examined within a revised OBC



**Agenda**  
**Glasgow Airport Access Project**  
**Executive Steering Group**  
**30th January 2019, 3.15pm**  
**St Andrew's House, Edinburgh EH1 3DG**

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**Executive Steering Group**

Chair - Michael Matheson, Cabinet Secretary for Transport, Infrastructure and Connectivity  
Susan Aitken, Leader of the Glasgow City Council  
Annemarie O'Donnell, Chief Executive, Glasgow City Council  
Iain Nicolson, Leader of Renfrewshire Council  
Sandra Black, Chief Executive, Renfrewshire Council  
Mark Johnston, Managing Director, Glasgow Airport  
Jonathan Pugh, Strategy & Planning Director, Network Rail

**Additional attendees**

Alison Irvine, Transport Scotland, Director Transport Strategy and Analysis  
[REDACTED], Transport Scotland, Head of Strategic Transport Planning  
[REDACTED], Scottish Government, Cities Team Leader  
George Vincent, Glasgow City Council, Senior Project Manager  
Graeme Dodds, Jacobs Consultancy, Independent Auditor  
Ross Nimmo, Glasgow Airport, Head of Planning

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- 1. Welcome & Introductions**
- 2. Overview of Aim and Objective of the Group/ this meeting**
- 3. Audit Close Out Summary Report – Presentation led by George Vincent**
- 4. Discussion**
- 5. Way Forward (including Comms Handing)**

**Problem 1** - What are the implications of this problem, the 'so what'? Why is dependence on the strategic road network a problem? What evidence is there to support that?

**Problem 2** – What is the context here? How does this road compare to other parts of Motorway in Scotland or other roads serving Airports?

**Problem 3** – See comments on problem 1. This section mentions “negative impacts” of car dependency, what are they?

**Rational for Intervention** – if robust evidence can be provided for the above problems, the rationale should be clearer. At the moment the rationale mentions “increasingly suffer” however the evidence does not demonstrate that the Airport is suffering as growth in passenger numbers and PT use continue to grow. Within the counterfactual there is a statement, “increased congestion and delays may curtail passenger growth...”, however there has not been a demonstration of that i.e. what evidence is there that this has been the case to date, experience of this at airports elsewhere or is there evidence that this will be the case in future?

**Transport Planning Objectives** – these rely on the evidence above and if can be demonstrated TPOs A-C are suitable. TPO D is not currently an obvious objective however the intention is understood. If there is an opportunity of growth (evidenced) and problem of strategic transport network at capacity (evidenced), then an objective could be for ‘the problem’ not to be exacerbated by ‘the opportunity’. E.g. minimise the potential negative impact of the economic opportunities in and around Glasgow Airport on the operation and performance of the STN.

**Benefits** – with the evidence update and revision of the SBC, TS would reiterate our previous comments. An SBC should consider and quantify the impacts of the options, benefits and dis-benefits.