



From: [redacted]  
Sent: Friday, 20 January 2021 11:51  
To: Kamaljeet Sanyal; Tunde Stefan; Catherine Amanda  
Cc: [redacted]; Brady Coles  
Subject: RE: L&A 2021

Sey an

I had further look into h's I don't think it would be worthwhile running the coding process as I don't think that will be of much benefit. The effects of crowding are a function of demand and actually demand doesn't change much away from the WLO scheme when compared to the Core 8ph scenario with the ph Homalw -> Hendon scheme. Therefore those alternative analysis shown in the attached document which I have long argued for but the other side what happens - has to be based on a comparison of the Core 8ph and the ph Homalw -> Hendon schemes.

The first figure shows differences in demand between the 8ph and the ph scenario. This illustrates that the ph scenario does not demand change much away from the WLO scheme and (b) more importantly shows logical differences between the scenarios. In the ph scenario higher demand on the central section and West Hampstead to much lower demand on the Hendon branch as the West Hampstead branch compensates for the extra demand on the Hendon branch as both scenarios are a ph and a reduced on most other lines to/from Central London.

How the odd lines appear when we look at changes in generalised times (weighted by demand) ending from the above changes in demand flows - refer to the 2nd and 3rd figures which show changes in and from zones respectively. Based on the above we would expect a mass to be lower in the 8ph scenario across the whole model except on the Hendon branch where the ph scenario provides better or even argue being better and other des also seen. In fact we find that the ph scenario provides small improvements in generalised time across the network as a result of the model away from the WLO scheme - is a combination of these improvements which outweigh the higher times along the route of WLO and therefore provides the odd outcome of higher benefits occurring in the ph scenario. This clearly counter-intuitive because we refer back to the effect of the 8ph scenario to provide additional demand (and therefore crowding) not of the majority of other lines so we should find only a crowding benefit in the 8ph scenario to reflect on all areas.

Based on the above analysis my new view is the same that we should screen benefits from Easting/Homalw/Brent/Barnet -> other to avoid the counter-intuitive effects which are occurring in the production of generalised times from the final assigned demand flows which look back at.

From: Kamaljeet Sanyal [mailto:kam@london.gov.uk]  
Sent: 01 January 2021 11:51  
To: Tunde Stefan; Catherine Amanda  
Cc: [redacted]; Brady Coles  
Subject: RE: L&A 2021

Thank you

We had some internal discussions and agree that there are oddities in the model and here may be a need to screen benefits. We would like to look into this a bit further to help decide reasonable boundaries for screening. What consequences are we using in the model? Can you compare crowding on links between the WLO reference case and test scenarios to see if we can work out where the changes in crowding between the WLO ref case and test scenarios occur e.g. cross-drain, he Hendon scheme.

ph Hendon -> Homalw

ph Hendon -> Homalw with Baseline De

If we do not come to an agreement hopefully we can agree reasonable screening (e.g. boroughs or GLA etc.) for the benefit to avoid the oddities.

Stefan has provided the attached spreadsheet macros which could be helpful for this. Please let me know if you'd like me to call to discuss this.

Regards

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Please see my comments below in red.

From: Kamaljeet Sanyal [mailto:kam@london.gov.uk]  
Sent: 01 January 2021 11:51  
To: Tunde Stefan; Catherine Amanda  
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Thank you for sending this through. It's good to see that the station coding updates have improved passenger at the stations. Can you please share with us the impact this has had at Brent Cross West station (5 splits Centre)? Total demand (including boardings and alightings) in cases from 137 to 528.

I have examined the benefits from previous emails to include Brent Cross West station. I'm wondering if the changes mean that perhaps we can include Brent Cross West with Homalw Brent and Easting? As Stefan mentioned in his email it would be challenging to explain why Brent Cross West in particular has been excluded. Are you able to provide equivalent benefits to Brent Cross West included (just for the scenario with station coding updates please). I agree it would be fair to include Brent Cross West station.

- ph Hendon -> Homalw = 1857.2 minutes benefit in the AM Peak period (Whole Model = 286.228 mins)
- ph Hendon -> Homalw with Baseline De = 185.20 minutes benefit in the AM Peak period (Whole Model = 96.976 mins)
- ph Hendon -> Homalw with Max De = 238.93 minutes benefit in the AM Peak period (Whole Model = 267.23 mins)
- Core 8ph (ph Hendon -> West Hampstead) = 222.669 minutes benefit in the AM Peak period (Whole Model = 233.862 mins)
- Core 8ph with Baseline De = 238.386 minutes benefit in the AM Peak period (Whole Model = 197.006 mins)
- Core 8ph with Max De = 265.58 minutes benefit in the AM Peak period (Whole Model = 197.006 mins)

Also in the table below the ph Max De alignment scenario benefits in the whole model goes up whereas the 8ph Max De alignment benefit goes down. Given that the growth scenario is the same this feels a bit odd. Do you think there is a reason for this? This will be linked to the model noise issue hence why it is sensible for us to screen the benefits. Note we get the same issue in the Baseline scenario as well.

With a station coding updates

Homalw/Brent/ Easting Benefits

Whole model

Whole model - selected boroughs

Homalw/Brent/ Easting Benefits

Whole model

Whole model - selected boroughs

ph Hendon -> Homalw

10 510

250 6.3

1 6133

157 577

286 128

124751

ph Hendon -> Homalw with Baseline De

102 299

5 121

57178

160 3.4

96 976

63370

ph Hendon -> Homalw with Max De

1 6 252

167 833

27581

207 070

267 2.3

40373

Core 8ph ( ph Hendon -> West Hampstead)

125 26

160 105

3 7 1

197 12

233 802

36390

Core 8ph with Baseline De

1 6 396

228 802

82 06

212 921

150 319

62402

Core 8ph with Max De

175 628

160 20

15208

256 886

197 006

59880

Looking forward to hearing from you.

Many thanks.

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We have now reproduced the benefits from the scenario with the updated station coding. The good news is that (a) the benefit has been boosted significantly and (b) key concern about logical when I added to Homalw/Eal-Ing/Brent. The boost to the benefits is mainly due to a significant number of passengers now using Harlesden (2 800 boardings or alightings in the Core 8ph scenario whereas previously we were not including) and a tripling of passengers on the Newland.

- ph Hendon -> Homalw = 157 577 minutes benefit in the AM Peak period (Whole Model = 286 328 mins)
- ph Hendon -> Homalw with Baseline De = 160 3 minutes benefit in the AM Peak period (Whole Model = 96 976 mins)
- ph Hendon -> Homalw with Max De = 207 070 minutes benefit in the AM Peak period (Whole Model = 267 23 mins)
- Core 8ph ( ph Hendon -> West Hampstead) = 197 12 minutes benefit in the AM Peak period (Whole Model = 233 862 mins)
- Core 8ph with Baseline De = 232 921 minutes benefit in the AM Peak period (Whole Model = 197 006 mins)
- Core 8ph with Max De = 256 886 minutes benefit in the AM Peak period (Whole Model = 197 006 mins)

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Happy New Year to you as well.

The coding has now been updated and we have run the 6 additional scenarios as agreed.

