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| Prepared By: | James Rand (June 2024) |

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## 1. INTRODUCTION

1.1 This Rebuttal Proof of Evidence has been prepared in relation to matters raised in Dorset Council's Transport Proof of Evidence (CDG.4).
1.2 Many of the points in Dorset's proof either directly contradict previous responses from the council, raise new queries, or request information which has already been provided. Many of the points could be suitably addressed through planning conditions and the S106 agreement. Additional points have also since been raised by the council in the process of agreeing the topic paper. It is unclear from the proof where there are said to be highways issues which meet either threshold for refusal in paragraph 115 of the NPPF (unacceptable impact on safety, or severe residual cumulative impacts).
1.3 Although the production of rebuttals has been discouraged, it is considered that some of the points raised are best addressed in writing to save Inquiry time. The fact that I have not addressed each point raised does not mean I agree with it.

## Pedestrian \& Cycle improvements in Alderholt

1.4 Paragraph 4.3.1 relates to the proposed access points and states no Designer's Response to the Road Safety Audits has been submitted. This is not correct, with Designer's Responses appended to the TA (CDA.19) and the TAA (CDA.98).
1.5 Paragraphs 4.3.2-4.3.3 pertain to details of the spine road within the development. This is not being applied for in detail at this stage and can therefore be resolved through a future
reserved matters application. This is reflected in DC's first consultation response of May 2023 (CDB.19) which states, '... it is appreciated that the internal road layout is illustrative....'

Paragraphs 4.3.4-4.3.6 pertain to the existing Ringwood Road, which is proposed to be amended to provide improved pedestrian and cycle facilities following the implementation of the spine road. The Council's proof considers that details should be secured now, which directly contradicts the first consultation response to the application (CDB.19) which states, 'the submission of a suitable scheme could be conditioned should permission be granted.'
1.7 Paragraph 4.3.9 relates to a proposed link between the site boundary and Birchwood Drive, and that its delivery could not be secured by condition or S278. It is considered that this could be addressed through the S106, with a financial contribution to Dorset Council.
1.8 Paragraph 4.3.10 relates to the proposal to extend the existing footway on the northern side of Ringwood Road, up to the proposed development. The proof queries potential impact upon vegetation and trees, which was not raised in either of DC's consultation responses or in discussions since determination. The drawing in the TA shows that this is deliverable within the public highway, and various engineering options are possible to limit impact on trees, such as no dig solutions. Access in this location is not being applied for in detail and further details would therefore be required as part of a reserved matters application, as well as at S278 stage.

Paragraphs 4.3.15-4.3.20 relate to the proposals to improve cycle facilities on Ringwood Road and Station Road. The proof queries the principles and deliverability of advisory cycle lanes and removing the centre line. This directly contradicts DC's consultation response to the application (CDB.19), which states, 'the highway authority can confirm that this would be acceptable subject to details being agreed and secured through the appropriate agreement.' The appropriate agreements in this case are S278 and S106, through which the details could be agreed and secured.

## Highway Impact

1.10 The proof of evidence appends a new response dated 27/5/24 from Hampshire Country Council to the information contained within the TAA (CDA.98), with commentary provided in paragraphs 7.2.5-7.2.20
1.11 Paragraph 7.2.6 relates to the Personal Injury Analysis subheading of HCC's comments,
which confirm there are no specific existing accident patterns that require mitigation works. The comments go on to say that HCC are concerned about highway safety due to additional development traffic on narrow sections of carriageway. This is the opposite to HCC's written position of 24/4/24 attached at Appendix A, which states, 'it is therefore considered unlikely that the development and associated traffic generated by the development will significantly worsen the existing highway safety of the surrounding highway network.' There is no explanation for this change in position.
1.12 Paragraph 7.2.7 relates to HCC's request for an assessment of cycle provision and infrastructure on Ashford Road and Fordingbridge town centre. This is a new request not raised in Hampshire's consultation responses or in discussions since the refusal of planning permission. Nevertheless, an assessment has been carried out and is attached as Appendix B.
1.13 Paragraph 7.2.10 expresses agreement with HCC over further details requested in relation to the footway/cycleway scheme. A Stage 1 RSA is being undertaken. HCC state the guidance in TG10 table 5.2.6. is only applicable to cycle tracks, not shared use paths. However, the principle of reducing widths at constraints for cyclists is acceptable, and the forecast level of pedestrian / cycle use is such that a reduction in width at a constraint would be unlikely to materially affect the amenity or safety of the route for either user group.
1.14 Paragraph 7.2.12 expresses doubt over the long term commercial viability of public transport. The basis for this comment is unclear. Evidence is included in the TAA (CDA.98) to demonstrate the basis on which the contribution has been calculated, and the operator is willing to run the bus service on this basis. DC have provided no alternative evidence, and the appellant is willing to provide 7 years' worth of funding as requested by DC. No different funding request is made.
1.15 Paragraphs 7.2.13-7.2.15 concern use of sensitivity tests on the basis of greater levels of development trip generation. The principle of retaining reductions to existing vehicle trips (to reflect the reduced need for residents to travel arising from provision of new facilities in Alderholt) within the sensitivity tests was discussed with both Hampshire and Dorset Council since determination and was understood to have been agreed. In my view this is a reasonable approach, not least given that the methodology to quantify this was agreed with Dorset Council at pre-app stage. HCC accept a reduction is reasonable, but query the amount of reduction, on the basis that only 7\% of trips in the AM peak are for shopping /
leisure purposes according to the National Travel Survey. Local data in the TIR (appended to CDA.19) shows that this figure is actually $16 \%$, and moreover, HCC's approach is flawed, as it assumes the development would only meet shopping / leisure needs for existing residents, whereas the proposed facilities would reduce the need to travel outside of the settlement for employment, retail, leisure, personal business and social journey purposes, as agreed with DC at pre-app stage.
1.16 The proof sets out at 7.2 .15 a concern that the impact in Fordingbridge could be significantly underestimated on the basis that the sensitivity tests include reductions to existing flows. Regardless of whether it is appropriate, this overstates the magnitude of the effect, given the impact of the reduction on flows entering/exiting Fordingbridge is 19 in the AM peak and 24 in the PM peak. The flows dissipate further within Fordingbridge. In any case, the flows used in the modelling results in the TAA are robust, as they include both TEMPRO growth and Committed Development flows, and therefore an element of double counting, as set out in the TAA at para 6.10 (CDA.98).
1.17 Paragraph 7.2.17 refers to HCC's comments on trip distribution and assignment, which query the proportion of trips travelling through/to Fordingbridge. The distribution information was provided directly to HCC in January and despite repeated follow up emails and meetings, no comment has been forthcoming until now. The distribution and assignment was agreed with Dorset Council at pre-app stage, based on Census data and most likely travel routes bearing in mind the journey times for possible routes in peak periods. This is also agreed with National Highways.
1.18 The two specific assignment queries relate to trips to/from Southampton and Salisbury. The assignment agreed with Dorset Council and National Highways forecasts these trips to travel south to the A31 or north to the A354. These routes are faster and/or less variable than the alternative via Fordingbridge on a neutral day according to online mapping (see Appendix C), and are more direct. In my view, the forecast assignment is reasonable and in any case is agreed with Dorset Council and National Highways.
1.19 HCC raise a further assignment query in relation to trips ending in Fordingbridge. The total trips to Fordingbridge are 12.51\% (not the 9.4\% HCC suggest) and all are assumed to travel to/from Fordingbridge Car Park. The comments misinterpret the submitted flow diagrams in the TAA, which explain that trips ending in Fordingbridge are assumed to be $75 \%$ to Bartons Road, and $25 \%$ to Salisbury Street and therefore $9.4 \%$ and $3 \%$ of the total trips
respectively. The latter therefore travel through the Salisbury Street/Bridge Street/High Street junction and are included within the modelling of the junction. These assumptions are reasonable, given the Car Park's proximity to the main trip attractors in the town centre, shops, GP surgery and employment.
1.20 Paragraph 7.2.18 of the proof claims to identify errors in the modelling of Salisbury Street / Bridge Street and Station Road / Normandy Way. Referring to HCC's comments, these are reportedly 'missing' flows and a geometric query at the Salisbury Street junction, and the reported modelling of Normandy Way as having 2 lanes.
1.21 The claimed 'missing' flows are associated with committed development SS17 as detailed in paragraph 6.10 of the TAA (CDA.98). The TA for SS17 assigned their development trips without the link road between Whitsbury Road and the A338 being in place. Delivery of this link road is a planning policy requirement for both SS17 \& SS18 in the New Forest Local Plan, and both sites now have planning consent, accordingly it has been assumed to be in place for in the years modelled. The link road would deliver a more direct route to the A338 to / from SS17, such that they would no longer need to travel through the Salisbury Street / Bridge Street / High Street junction. This approach has been discussed and verbally agreed with HCC since determination.
1.22 As detailed in paragraph 6.13 of the TAA (CDA.98), the junction geometries for the Salisbury Street / Bridge Street / High Street junction are taken from a model that HCC approved for the SS18 planning application. Moreover, the junction model is calibrated against recorded queue lengths, so regardless of the geometries the model accurately reflects real life performance of the junction.
1.23 The final 'error' is the claim that Normandy Way has been modelled as having two lanes. The modelling outputs are in Appendix S of the TAA (CDA.98) and clearly show Normandy Way being modelled as 'one lane plus flare.' The basis for the claims of HCC and paragraph 7.2.18 of the proof is therefore unclear.
1.24 Paragraph 7.2.19 of the proof relates to deliverability of the carriageway widening, which is addressed in my proof. However, one further comment from HCC relates to construction traffic, which can be addressed through a CTMP secured by condition.
1.25 Finally, HCC's comments request modelling of the existing Provost St / High St junction layout with development sensitivity flows. Modelling of the future flows, before
development is added, is shown in Appendix $V$ of the TAA, with an RFC of 0.99 on Provost Street and delays of 152 seconds. Once development traffic is added, junction performance further worsens as per the results in Appendix D.
1.26 Hence, two alternative mitigation schemes are proposed -1) widening of the Provost Street approach or 2) the one way system. Modelling shows that either scheme would operate within theoretical capacity and queues and delays reduce compared to a future scenario without the development. In my view the residual cumulative impact would not be severe. Given the identification of two mitigation schemes, it is unclear why the detail of mitigation cannot be resolved through conditions and obligations.
1.27 For option 1, the relevant comparison of performance of the Provost Street / High Street / Shaftesbury Street junction is the future scenario without the development traffic (Appendix V of TAA, CDA.98), against the future scenario with the development traffic and mitigation scheme in place (Appendix T of TAA). Without the development in 2033, queues of 10 vehicles and delays of 152 seconds are forecast, with an RFC of 0.99 in the AM peak on Provost Street. With the development and mitigation scheme, the equivalent figures are queues of 4 vehicles, delays of 86 seconds and an RFC of 0.84 . Queues, delays and RFC all improve in comparison to the future scenario without the development. In my view the cumulative residual impact would not be severe.
1.28 For option 2, a similar exercise is necessary. In this instance, the relevant comparison is the performance of the Provost Street junction without development (Appendix $V$ of TAA) against the future scenario with development and one way system at the West Street / Shaftesbury Street junction (Appendix $V$ of TAA). Comparing the forecast performance of the minor arms, without the development, Provost Street in 2033 in the AM peak would have queues of 10 vehicles and delays of 152 seconds are forecast, with an RFC of 0.99. Post development and mitigation, West Street would have queues of 7 vehicles, delays of 88 seconds, with an RFC of 0.91. Queues, delays and RFC all improve in comparison to the future scenario without the development. In my view the cumulative residual impact would not be severe.
1.29 The appellant is willing to either provide a financial contribution to the value of the mitigation works, or if option 1) is preferred, deliver it via S278.
1.30 In the process of reaching agreement on the contents of the Highway Impact Topic Paper, DC's representatives have raised a further new matter on behalf of HCC, not covered in
their proof of evidence. This is in respect of the modelling of the original proposed mitigation scheme at the Provost Street junction, which HCC first commented upon in May 2023. The new comment, received $10^{\text {th }}$ June 2024, suggests the minor arm of the mitigation scheme should have been modelled as "one lane plus flare" rather than "two lanes." There is a technical explanation for this which would have been provided if the issue had been raised earlier. As detailed in the TA at para 9.13 (CDA.19), a stream intercept adjustment was applied to the base model to ensure that it replicated observed queues. The model was performing better than the real life junction, and the adjustment was to make the model perform worse. In order to be robust, it was considered appropriate to retain this adjustment for the modelling of the proposed mitigation scheme. As explained in the Junctions 9 User Guide at 13.9.4, intercepts can only be adjusted for simple T-junctions with no blocking or flares. As such, it is not possible to model the proposed layout as "one lane plus flare" whilst retaining the negative capacity adjustment. Therefore, the minor arm was modelled as having two lanes, which is more reflective than modelling it as having a single lane. Furthermore, 21.5 .1 of the Junctions 9 User Guide states that "if there are two full lanes extending back from the give-way line to beyond the normal maximum queue length, the arm should be modelled as having two lanes." Inspection of the modelling results shows that the forecast queue marginally exceeds the length over which there are two lanes for half of the modelled AM peak, and none of the PM peak. It is therefore considered that use of two lanes is appropriate. If "one lane plus flare" is used, the negative capacity adjustment cannot be applied, but model performance is significantly improved, with a max RFC of 0.65. That modelling is attached as Appendix E.
1.31 A further new issue raised during agreement of the Highway Impact Topic Paper is that "a suitable S106 contribution towards sustainable mode improvements in Fordingbridge has not been raised by the appellant, discussed or agreed." This is the first time that the need for such a contribution has been raised by HCC, 15 months after the planning application was submitted. At the time of writing, the highway authority's expectations in this regard are unclear, and it is therefore difficult to form a view on whether such a contribution would meet the obligation tests. However, the appellant is willing to consider this in the drafting of the S106 agreement.

## Alderholt Parish Council

1.32 I only wish to clarify one matter raised by APC in this rebuttal, which relates to section 4.7 of that proof, relating to junction capacity assessments. It is claimed that the A31 / B3081 junction mitigation is only modelled with the impact of 500 dwellings. This is not the case,
the mitigation design has been modelled with the whole development in place by 2027 as per 6.2 of TAA (CDA.98), as requested by NH in accordance with DfT Circular 01/2022.
1.33 I would also point out that the proposed development traffic generation has been calculated on the basis of 1700 private dwellings and 10,000 sqm employment. The 1700 dwellings includes $35 \%$ affordable housing ( 595 dwellings), and 80 bed care home, both of which generate fewer vehicle trips than private housing.
1.34 The TRICS sample of private housing sites includes an average of $10.2 \%$ affordable housing and this is effectively already factored in. However, the remaining $24.8 \%$ is not, which equates to 422 dwellings. Using the sensitivity trip rates, 422 dwellings are forecast to generate 234 trips in the AM peak, and 223 in the PM peak. To illustrate the point, using a trip rate for affordable housing derived from TRICS (Appendix F) shows these would more likely generate in the order of 133 trips in the AM peak, and 125 in the PM peak. Therefore, the trip generation used in the modelling analysis is robust, by these calculations overestimating trips by 101 in the AM peak and 98 in the PM peak.
1.35 This is further enhanced when considering the overestimate of trips generated by the 80 bed care home. In the modelling analysis, these units generate 44 trips in the AM peak, and 42 in the PM peak. To illustrate the point, applying a care home trip rate from TRICS (Appendix F) shows these would more likely generate in the order of 11 trips in the AM peak, and 6 in the PM peak. Therefore, the trip generation for these units is robust, by these calculations overestimating by 33 trips in the AM peak and 36 in the PM.
1.36 The total overestimate in trip generation by these calculations is therefore 134 in the AM peak and 134 in the PM peak. It is therefore considered that the modelling assessment is robust.
1.37 I trust these clarifications are useful in aiding understanding of the evidence before the inquiry.

Appendix A

From:
Sent:
To:

## Cc:

Subject:
sject.
Li, Anna $>$
Sent: $\quad 24$ April 2024 15:40
o: James Rand; Gammer, Nick
Li, Anna
24 April 2024 15:40
Rob Williams; Richard Fitter; Tom Peters
RE: Alderholt - footway/cycleway, carriageway widening, accident data

Hi James,

Thank you for sending through the information regarding the proposed footway/cycleway and road widening. Please see our comments below.

## Accident data

Having reviewed the PIA data, we agree that the majority of accidents recorded were attributed to factors such as poor driver judgement/error rather than any identified deficiency in the road layout itself. It is therefore considered unlikely that the development and associated traffic generated by the development will significantly worsen the existing highway safety of the surrounding highway network. However, any proposals to widen/ realign the carriageway should be assessed in terms of their impact on road safety; this should be considered on the route as a whole, as HCC as HA have concerns that the varying carriageway widths of the proposals may lead to driver confusion and hence safety concerns.

## Proposed cycle route

- We are concerned about the deliverability of the proposed upgrading and improvement works to the footpath E34/6 and BOAT 34/42. Dorset Council have raised significant issues with delivery of the footpath E34/6, in particular the narrow width of the western section, which would rely on procurement of private land to provide sufficient width meeting the standards. There are also other issues that could make the proposal unviable. It is not certain an acceptable solution can be found to connect the site to the shared use path. Without this, there is no guarantee that the proposals create a continuous route between the development site and Fordingbridge.
- Regarding the proposed speed limit reduction from 60mph to 40mph along the B3078 Fordingbrige Road, the required Traffic Regulation Order (TRO) process is open to public consultation and the outcome cannot be guaranteed. Given the measured speeds provided, HCC as HA would likely be willing to progress a speed limit reduction application; however, due to the short length within HCC's network, this could only be supported if Dorset Council are also in agreement to the proposed speed limit reduction on their network.
- Drawing 132.0024-P02 shows a safety margin of 0.5 m ; for a 40 mph speed limit, this safety margin width does comply with HCC's Technical Guidance TG10 (Section 5.3 ) for an absolute minimum width on a shared use route. However, the minimum for a soft safety margin, as proposed, is 1 m (TG10, 5.3.3); this also accords with a desirable minimum for a 40 mph . However, the absolute minimum safety margin width for a road with speed limit of 60 mph is 2 m . Unless confirmation is provided that the speed limit will be reduced to 40 mph prior to scheme delivery, the width of safety margin should be corrected on the drawing to 2 m . However, it does not appear possible to deliver the required 2 m safety margin within the highway boundary or land within the applicant's control. If the applicant believes otherwise, updated drawings should be submitted demonstrating deliverability.
- Drawing 132.0024-P02 also shows corduroy paving to be provided at both ends of the path. As this is a shared-use path, the crossing point and corduroy paving should comply with the requirements for a shared use facility.
- The proposed route crosses a private driveway on the northern side of the B3078. The arrangement here appears to be a bellmouth. Clarity should be provided, and the design should prioritise pedestrian and cycle movements. If the edge of carriageway or give way location is changing at this access, visibility splays in accordance with measured speeds should be provided.
- At the crossing point from the southern side of the B3078 to the northern side, visibility splays have been provided and are considered acceptable. There also appears to be sufficient highway land to construct the shared use paths on either side. This is however very limited and it is not clear if this can be constructed within highway land; for example if any regrading is required this would encroach on private land, as may footings or drainage associated with the works proposed in this location. The applicant should demonstrate the works can be constructed in this location.
- In places, vegetation is immediately off the carriageway edge and some well-established trees may require removal. The vegetation clearance to implement the works and to maintaining the pedestrian visibility splays is likely to have a significant impact on trees and hedgerow, with associated ecological and amenity impacts. Further details should be provided to ascertain the required vegetation removal and whether these are highway or private assets and if any Tree Preservation Orders are present.
- No Stage 1 Road Safety Audit (RSA1) has been provided. In the absence of this, even if the proposals are deliverable (which appears unlikely), it is not possible for the HA to confirm the proposals are safe and therefore acceptable in principle.
- The proposals involve realignment if the carriageway edge throughout. However, neither carriageway width dimensions nor vehicle tracking has been provided to demonstrate the proposed carriageway alignment/ geometry can accommodate the forecast traffic volumes. Both of these omissions should be addressed and presented for review, noting any changes to the existing carriageway widths.
- The onward route to Fordingbridge proposes using Ashford Road as a mixed traffic cycle route. Although LTN1/20 suggest that Ashford Road is suitable for mixed traffic based on the recorded traffic flows and speeds, due to the nature of this road with a narrow carriageway and poor forward visibility on the bends, some cyclists, especially children and inexperienced cyclists, may not feel comfortable using this route. They may feel intimidated by approaching or following vehicles as there is little room to pass each other and, because the road is unlit, cyclists may not be comfortable to use this route during hours of darkness. For these reasons, we don't consider this route to be suitable for all cyclists.

In summary, regarding the section of proposed shared use footway/ cycleway on the B3078, further information is required regarding the design, deliverability, safety and impacts of the proposals; it appears unlikely an acceptable and deliverable solution can be found within the existing highway boundary. Regarding the onward route via Ashford Road, this is not considered suitable for all cyclists; while the route as a whole does offer some benefits, it does not in our opinion fully meet the NPPF criteria in terms of promoting walking and cycling, provide an attractive or well-designed walking and cycling route or providing safe and suitable access to the site for all users.

## Carriageway widening

Firstly, it has not been demonstrated that the proposed widening as proposed is adequate to accommodate the forecast additional traffic. Tracking of appropriate vehicles (including refuse vehicles passing) should be provided to ensure the proposed widening along the route is adequate.

Secondly, the HA are concerned about the lack of information regarding the construction details of the widening of the carriageway with the Hampshire boundary. In order to assess the proposal properly, following information needs to be submitted:

- Drawings should clearly show all relevant features - including but not necessarily limited to: ditches/ drainage/ gullies/ attenuation/ watercourses, trees, hedgerows, embankments, carriageway condition, street furniture, private driveways, indicative/ problematic statutory undertaker plant (both above and below ground) etc. - so the deliverability of the widening works can be assessed.
- The specific widening details on a General Arrangement drawing for each location proposed, noting the features above where relevant and providing additional information to demonstrate deliverability where needed.
- It would appear that some highway vegetation / hedgerow will be lost due to the proposed road widening. Any loss of Highway stock should be clearly indicated on the drawings; an Arboricultural report should therefore be submitted. The loss of vegetation / hedgerow would also have effect on the landscape and character of the area and CAVAT fees would apply where highway trees are lost. Please note Highway trees can only be removed if payment of CAVAT fees is complete and a S278 legal agreement in place.
- It has not been demonstrated the design of the proposed highway works has taken account of the potential impact to the adjacent private properties/ land, boundary fences/ walls and vegetation. In some instances, these could make the widening works undeliverable, as the delivery may rely on third party land. This must be considered and demonstrated on the requested construction drawings.
- Forward visibility at bends should be shown on the drawings (based on measured speeds as per TG3). Where the re-align/ widening works affect private accesses, visibility splays at those accesses should be shown on the drawing. All visibility splays (including forward visibility splays) must be within the Highway boundary for a design to be considered acceptable.
- An individual location is noted where a structure is present on a corner that's being widened. Careful consideration of the widening proposals will be required in this location.
- No Stage 1 Road Safety Audit (RSA1) has been provided. In the absence of this it is not possible for the HA to confirm the proposals are safe and therefore acceptable in principle.
- As above, vehicle tracking for an HGV passing a refuse vehicle should be provided, especially for the sections near/ at the bends to show these vehicles can pass each other.
- It is not clear whether the B3078 or Hillbury Road / Harbridge Drove will be used as bus route as part of the development. Should this be the case, the required width of these roads should comply with HCC's Technical Guidance documents TG1 and TG2.
- Please confirm that whether these roads are used by abnormal load vehicles or large agricultural vehicles including combine harvesters.
- Some narrow sections of these roads have not been included in the widening proposal. It seems that operation of these sections would rely on "give and take" (to be confirmed by the tracking requested above). However, there are no forward visibility splays nor road markings on the drawings to support the signing such as edge lining to mark out the narrowing to approaching divers and slow road markings etc. This should be shown on the drawing. It could be necessary to provide formal narrowings to one lane in some instances, depending upon the outcome of the tracking review and RSA1.
- We are concerned about the increased HGVs/Buses using these roads especially during construction phase, which given the scale of the development, is likely to last for a decade or more. Therefore, the impact of construction vehicles on these roads should be considered.
- The requirements above will impact the highway cross-section and should therefore be carefully considered early in the design process before the highway layout and corridor widths are fixed.

In summary, in the absence of the information above, we are unable to confirm the widening proposals presented are either acceptable to mitigate the development impact or deliverable.

Best regards,
Anna Li MSc MCIHT
Senior Transport Planner
Highways Development Planning


Subject: RE: Alderholt - footway/cycleway, carriageway widening, accident data

Caution: This is an external email and could contain malicious content. Do not open any links or attachments if you were not expecting them. If the e-mail looks suspicious, please report via the 'Report Phishing' Button found on your toolbar.

Hi Nick and Anna,

Further to the below, we have obtained Hampshire Constabulary data to cover Ashford Road and Harbridge Drove between 1/1/19-31/12/23.

There was one accident on Ashford Road causing slight injuries, involving two cars where one was travelling 'at speed'.

There were two accidents on Harbridge Drove causing slight injuries. One occurred when a car swerved to avoid a deer and collided with a tree. The other occurred at the junction with Verwood Road, where a vehicle travelling along Verwood Road braked sharply as a vehicle pulled out of Alderholt Road and two cars collided with the rear of the vehicle in front.

There are fewer accidents on Harbridge Drove in this data set compared to the analysis in the TA (most likely because of the differing time periods). The accidents outlined above at least partly a result of driver behaviour and/or circumstance, and I would not interpret this data as demonstrating a particular existing road safety issue at any one location.

I hope this additional information is useful and look forward to your response.

Kind regards,

James Rand

## Associate

Transport Planning

## Central Region


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From: James Rand
Sent: Wednesday, April 3, 2024 2:18 PM


Subject: Alderholt - footway/cycleway, carriageway widening, accident data

Hi Nick and Anna,

Further to recent conversations, I write to provide an update on cycling links to Fordingbridge, carriageway widening within Hampshire and the accident data.

## Accident data

Accident data has been obtained from Hampshire Constabulary (1/6/18-31/5/23) and is attached. The accident record is consistent with the crashmap data presented in the TA.


There were 19 collisions which occurred in the time period. These included 13 collisions which resulted in slight injuries, and 6 which resulted in serious injuries. The majority of these collisions occurred at isolated locations along the search area. Specifically, there were 5 collisions which occurred along B3078 Fordingbridge Road towards Fordingbridge, all of which resulted in slight injuries only.

Within Fordingbridge High Street a two serious collisions occurred during the time period. Of these collisions the first occurred when a cyclist collided with a shop wall and lost control and collided with a vehicle in the road, resulting in serious injuries to the cyclist. The second occurred when a pedestrian crossed the High Street and because they emerged from between two parked cars was not seen by an oncoming vehicle. The pedestrian suffered serious resulting injuries. Both of these collisions occurred through driver or user error and so no highway safety concern is identified.

At the Salisbury Street/Bridge Street mini roundabout a collision occurred when a cyclist entered the roundabout and lost control causing them to fall off and suffer serious injuries.

A further cluster of collisions occurred along Shaftesbury Street to the west of the Provost Street junction. These collisions included a slight and serious incident. The slight collision occurred when a car failed to notice the car in front had stopped and collided with the rear of the vehicle. The serious collision occurred when a driver impaired with alcohol was driving on the wrong side of the carriageway and collided with an oncoming vehicle. Both of these collisions are attributed to driver error and do not identify a road safety issue.

A further cluster occurred along Salisbury Road north of the mini roundabout junction. In this location 4 collisions occurred, including 3 slight and 1 serious casualties. The slight collisions included one where a pedestrian was struck by a car pulling out of their driveway, a pedestrian on the footway was struck by a car, and a third where a pedestrian was struck by a car which ignored the road works traffic management and struck the road work barriers in the process. The serious collision occurred when a van turned right out of a
driveway and collided with a pedestrian at a Zebra crossing causing serious injuries. These appear to have all occurred as a result of driver error and not attributed to a specific road safety issue.

A final cluster occurred at the A338 northbound slip road where 2 collisions occurred resulting in 1 serious and 1 slight injury. The serious collision occurred at the Pelican crossing where a pedestrian crossed the road despite the vehicular traffic having green time. The other collision occurred when a driver pulled out of Ringwood Road into the path of an oncoming motorcycle, with the motorcyclist suffering serious injuries.

Beyond Fordingbridge 4 collisions occurred along the B3078 resulting in 4 slight injuries, all involving cars (not goods vehicles). The first occurred when a vehicle turned left out of Ashford Road into the path of a motorcyclist. The other 3 collisions occurred when a vehicle failed to negotiate the bends along the B3078, one of which was because the driver was impaired by alcohol, the other two purely down to driver error.

## Drawings

The drawings submitted with the application were based on OS mapping and highway boundary mapping (itself based on OS mapping). Since then, the applicant commissioned a survey of the local highway network using a mobile LiDAR system, which is accurate to $<20 \mathrm{~mm}$. The attached drawings are based on this survey data, and the highway boundary mapping. Both are georeferenced but because of the lower accuracy of the OS there are inevitably areas where the two do not align and a degree of interpretation for the highway boundary is necessary.

## Cycle link

Since the TA, an opportunity to provide an off-road cycle route between Hillbury Road to Ashford Road has been identified. Financial contributions would be provided to Dorset Council to improve and upgrade footpath E34/6 \& BOAT E34/42 to make them suitable for cycling. At the point where the BOAT meets the B3078, a dedicated footway/cycleway would be provided alongside the carriageway, providing an offroad route to Ashford Road. This is shown in attached drawing 132.0001-0024 with dimensions of 3 m offset 0.5 m from the carriageway.

LTN $1 / 20$ recognises that alongside interurban roads with few pedestrians or building frontages, shared pedestrian/cycle facilities can be adequate. It is considered that shared use is appropriate in this case. Alongside this, the applicant will make a financial contribution towards a TRO to reduce the speed limit from 60 mph to 40 mph . A speed survey in the centre of the link shows that existing $85^{\text {th }}$ percentile speeds are 46.6 mph EB and 44.3 mph WB, and that mean speeds are below 40 mph so a reduction is considered reasonable. Approximately halfway along the link, a crossing is proposed and visibility in accordance with the existing speeds is achievable.

As you'll be aware, the cycle link crosses the Dorset/Hampshire border. Within Hampshire, the proposed cycleway is on the northern side of Fordingbridge Road and ties into Ashford Road. At Ashford Road it is proposed to transition cyclists onto the carriageway, which then provides a route into Fordingbridge. Signage and on road markings would be provided to indicate the presence of cyclists to drivers.

A traffic survey has been undertaken on Ashford Road just northeast of "Ashford House Camping" which identified $85^{\text {th }}$ percentile speeds of 25 mph . Speeds will fluctuate along Ashford Road but given this part is straight with good forward visibility, it is likely that speeds are lower in other locations. The survey identified a
weekday peak average of 18 movements (AM), 19 movements (PM). The daily average vehicle flow on Ashford Road is 187.

The low speed and lightly trafficked nature supports the proposed use of the road as a cycle route. The survey shows the road is already used by some cyclists. LTN $1 / 20$ Figure 4.1 note 3 explains that in rural areas, shared routes with speeds of up to 30 mph will be generally acceptable with motor vehicle flows of up to 1000 pcu per day, and both criteria are met here. It is considered that it the road could therefore be designated as a Quiet Lane.

## Carriageway widening

The TA included drawings showing carriageway widening within Hampshire, based on OS mapping. The need for this has been reviewed in light of the more accurate LIDAR survey. In general, any areas in excess of 5.5 m width have not been widened, given this is generally sufficient for two HGVs to pass according to Manual for Streets. Areas of between $4.8 \mathrm{~m}-5.5 \mathrm{~m}$ width have been assessed on a case by case basis, depending on the forecast number and type of vehicles likely to use them, and the specific local circumstances. Areas of less than 4.8 m width have generally been widened to achieve a minimum of at least 4.8 m width, on the basis that this is sufficient for a car to pass an HGV.

The drawings include large scale colour grading to indicate at a glance existing widths (red $<4.8 \mathrm{~m}$, amber $4.8 \mathrm{~m}-5.5 \mathrm{~m}$, green $>5.5 \mathrm{~m}$ ) and proposed widening in cyan. The widening has been carefully reviewed in each location to determine whether it is deliverable within the public highway. Drawing 0030 provides an overview and location plan for each of the other widening drawings.

The number of HGVs forecast to use each route has been calculated using:

- ATC data on the B3078 and Hillbury Road
- OGV trip rate for residential development (no internalisation, distributed as per TA)
- OGV trip rate for employment use (no internalisation, distributed as per TA)
- Proposed bus frequency (half hourly peaks + hourly otherwise following route outlined by transpora)

|  | Existing daily | Per hour <br> (over 12 <br> hours) | Proposed <br> Development <br> daily | Existing + <br> proposed <br> daily | Total per <br> hour (over 12 <br> hours) |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Hillbury Road | 249 | 21 | 44 | 293 | 24 |
| B3078 | 276 | 23 | 67 | 343 | 29 |

## Hillbury Road / Harbridge Drove

To the south of Alderholt, the extent of road network reviewed within Hampshire is Harbridge Drove, becoming Alderholt Road towards the A31. The existing road width in this area is generally between $4.8 \mathrm{~m}-$ 5.5 m in the northern part, and in excess of 5.5 m in the southern part. Some widening is proposed as shown on drawings 0039-0044. The widening is not significant, generally less than 0.5 m . There are some locations where widening could be delivered, but is not considered necessary on the basis that there is good forward visibility over short distances that are only marginally narrower than 5.5 m . The forecast increase in HGV movements is c 3 per hour.

B3078

To the east of Alderholt, the extent of road network reviewed is the B3078 between the Hampshire border and Fordingbridge. In general, the road is at least 5.5 m in width, with the exception of the area shown in drawing 0046. Widening is proposed in the western half of the area covered by the drawing to achieve 5.5 m width and similarly in the easternmost part. There is a stretch of road in the centre of the drawing that is constrained, however, minor widening is achievable to provide at least 4.8 m width. Post widening, there would remain a length of 150 m over which the width would be 4.8 m , where two HGVs would remain unable to pass. Road markings and signage can be provided to advise HGV/PSV drivers of this although given the existing situation and lack of accidents, it appears to work without issue. With vegetation maintenance within the highway, forward visibility is available from one end of this stretch to the other.

As per the table above, the number of HGV/PSVs per hour is currently 23 and forecast to increase to 29. Given the nature of HGV and PSV trips these are more consistently spread across the day than car trips which are more tidal. On average, the HGV/PSV equate to c. 15 trips per direction per hour, or one every 4 minutes in each direction. The increase arising from the development represents an average of 1 extra in each direction every 20 minutes. At 20 mph , it would take 16 seconds to travel 150 m and thus the delay to vehicles would not be significant. Moreover, there is no accident record involving large vehicles, the increase in HGVs / PSVs arising from the development is not substantial and the widening would represent an improvement over the existing situation.

I hope the above and attached are clear but please let me know if clarification is required and I will be happy to discuss.

I have also copied in Rob \& Richard from entran for their awareness.

Kind regards,
James Rand
Associate
Transport Planning
MSc MCIHT

Central Region


Appendix B

Anna Li
Hampshire County Council
The Castle
Winchester
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The Lambourn, Wyndyke Furlong, Abingdon, Oxfordshire, OX14 1UJ

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Anna,

Alderholt Meadows, Alderholt - APP/D1265/W/23/3336518
Hampshire Cycling Assessment

Further to your request contained in your written comments of $23^{\text {rd }}$ May 2024, I write to set out a review of the conditions of cycling provisions / infrastructure along Ashford Road and within the town centre of Fordingbridge. Much of this information has previously been provided to HCC but is repeated here for reference.

## Ashford Road

Ashford Road connects the B3078 to Station Road in Fordingbridge. It could be characterised as a rural lane, with no parking restrictions, footways or street lighting. The road varies in width and alignment, with passing places in several locations. There are no existing cycling facilities on the road.

There are two recorded accidents on Ashford Road in the last five year period for which data is available from Hampshire Constabulary (1/1/19-31/12/23). Both were slight in nature and neither involved cyclists.

A 7 day traffic survey undertaken on Ashford Road in March 2024 recorded 11 cyclists using the road. General traffic flows are low, with a daily average of 187 movements. $85^{\text {th }}$ percentile traffic speeds were recorded as 25 mph .

In terms of cycling specific opportunities, Ashford Road is considered to be suitable for on-street cycling, as it meets the vehicle speed and volume criteria set out in LTN 1/20. There is an opportunity to provide signage and road markings to advise drivers of the presence of cyclists, which is proposed as part of the off-site highway works.

## Fordingbridge town centre

For the purposes of this assessment, Fordingbridge town centre is generally defined as the area extending from Normandy Way in the west to Bridge Street in the east, Salisbury Street in north, and to Brook Street in the south. Parking is restricted in much of the area with restrictions operating Mon-Sat 0800-1800, although on-street parking is permitted on West Street and in a layby on Station Road. The main roads benefit from footways on at least one side of the carriageway, with street lighting in most areas. Existing cycling facilities are limited to several Sheffield stands on High Street, Salisbury Street and adjacent to the library.

As part of an approved planning application, there is a scheme to improve cycle facilities along Station Road (drawing enclosed). This includes widening of a footway adjacent to the Normandy Way junction, designating the existing footway as a footway / cycleway, crossing of Mill Court and then a transition to on-carriageway cycling with relevant road markings.

Cont.

There are twelve recorded accidents on Ashford Road in the last five year period for which data is available from Hampshire Constabulary ( $1 / 1 / 19-31 / 12 / 23$ ). Of these, two involved cyclists and were serious. The first accident report records 'loss of control' as the causation factor, and no other vehicles were involved. The second accident report records no causation factor, however the description explains the cycle bumped up onto a kerb, the handlebar clipped a wall and the cycle re-entered the road and collided with a car. Neither accident is considered to be a result of a deficiency in the highway layout.

There are several pairs of bus stops in the town centre along Station Road / Shaftesbury Street / Salisbury Street. The principal bus service is the X3, Salisbury to Bournemouth, that travels along Salisbury Street and Bridge Street. This generally has a twice hourly frequency.

Given the town centre nature of the assessed area, there are a variety of uses that could attract trips via cycle, including employment, retail and healthcare facilities. The principal schools in Fordingbridge are located approx. 1k north of the town centre.

A series of turning counts were carried out in Fordingbridge as part of the planning application, between 0700-1000 and 1600-1900. A low level of cycling activity was generally recorded, with the most being at the Salisbury Street / Bridge Steet / High Street junction, with 13 turning movements recorded 0700-1000 and 21 between 1600-1900.

There are no obvious major opportunities to improve cycling in the town centre. There is a modest level of use, with cycle parking provided adjacent to trip attractors, with a small number of accidents due to non-design factors. Additional on-road markings to highlight the presence of cyclists to other users could be of benefit, which the applicant would be willing to fund.

I trust this assessment provides you with the requested information.

## James Rand

James Rand
Associate
Paul Basham Associates
T: 01235352150
E:

Enclosed Plan of approved Station Road Cycle Improvements

Appendix C

## 0800 on a Tuesday in September <br> Alderholt to Southampton



## 1700 Southampton to Alderholt



0800 on a Tuesday in September
Alderholt to Salisbury



Appendix D

## Junctions 9

## PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
© Copyright TRL Limited, 2017
For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344770558 software@trl.co.uk www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Provost Street Shaftesbury Street B3078 Junction_One Way(Capacity Reduction).j9
Path: P:ISouthern\130-139\132 Intelligent Land\132.0001 South Alderholt Strategic Site\Modelling\2023 Post-App\Provost
Street
Report generation date: 5/31/2024 11:41:22 AM

```
»Existing Layout - F'bridge 2033 Forecast + CD, AM
»Existing Layout - F'bridge 2033 Forecast + CD, PM
»Existing Layout - F'bridge 2033 Forecast + CD + PD (Sensitivity), AM
»Existing Layout - F'bridge 2033 Forecast + CD + PD (Sensitivity), PM
»Existing Layout - F'bridge 2033 Forecast + CD + PD, AM
»Existing Layout - F'bridge 2033 Forecast + CD + PD, PM
»Implemented One-Way System - F'bridge 2033 Forecast + CD With One Way, AM
»Implemented One-Way System - F'bridge 2033 Forecast + CD With One Way, PM
»Implemented One-Way System - F'bridge 2033 Forecast + CD + PD With One Way, AM
»Implemented One-Way System - F'bridge 2033 Forecast + CD + PD With One Way, PM
»Implemented One-Way System - F'bridge 2033 Forecast + CD + PD (Sensitivity) With One Way, AM
»Implemented One-Way System - F'bridge 2033 Forecast + CD + PD (Sensitivity) With One Way, PM
```

THE FUTURE

Summary of junction performance

|  | AM |  |  |  | PM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Queue (Veh) | Delay (s) | RFC | LOS | Queue (Veh) | Delay (s) | RFC | LOS |
|  | Existing Layout - F'bridge 2033 Forecast + CD |  |  |  |  |  |  |  |
| Stream B-AC | 9.9 | 152.74 | 0.99 | F | 1.6 | 32.60 | 0.62 | D |
| Stream C-AB | 0.4 | 6.18 | 0.19 | A | 0.3 | 7.13 | 0.18 | A |
|  | Existing Layout - F'bridge 2033 Forecast + CD + PD |  |  |  |  |  |  |  |
| Stream B-AC | 60.0 | 685.94 | 1.39 | F | 6.8 | 103.79 | 0.92 | F |
| Stream C-AB | 0.8 | 7.34 | 0.32 | A | 1.0 | 10.27 | 0.43 | B |
|  | Existing Layout - F'bridge 2033 Forecast + CD + PD (Sensitivity) |  |  |  |  |  |  |  |
| Stream B-AC | 71.9 | 823.02 | 1.47 | F | 7.4 | 110.20 | 0.93 | F |
| Stream C-AB | 1.0 | 8.06 | 0.37 | A | 1.0 | 10.11 | 0.42 | B |


|  | AM |  |  |  | PM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Queue (Veh) | Delay (s) | RFC | Los | Queue (Veh) | Delay (s) | RFC | Los |
|  | Implemented One-Way System - F'bridge 2033 Forecast + CD With One Way |  |  |  |  |  |  |  |
| Stream B-AC | 0.0 | 0.00 | 0.00 | A | 0.0 | 0.00 | 0.00 | A |
| Stream C-AB | 1.4 | 7.65 | 0.43 | A | 0.9 | 8.33 | 0.37 | A |
|  | Implemented One-Way System - F'bridge 2033 Forecast + CD + PD With One Way |  |  |  |  |  |  |  |
| Stream B-AC | 0.0 | 0.00 | 0.00 | A | 0.0 | 0.00 | 0.00 | A |
| Stream C-AB | 2.7 | 10.71 | 0.60 | B | 2.6 | 14.59 | 0.64 | B |
|  | Implemented One-Way System - F'bridge 2033 Forecast + CD + PD (Sensitivity) With One Way |  |  |  |  |  |  |  |
| Stream B-AC | 0.0 | 0.00 | 0.00 | A | 0.0 | 0.00 | 0.00 | A |
| Stream C-AB | 3.3 | 12.53 | 0.65 | B | 2.5 | 14.17 | 0.63 | B |

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

## File summary

File Description

| Title | Provost Street/Shaftesbury Street/B3078 |
| :--- | :--- |
| Location | Fordinbridge |
| Site number |  |
| Date | $3 / 9 / 2022$ |
| Version |  |
| Status | Preliminary |
| Identifier |  |
| Client |  |
| Jobnumber | 132.0001 |
| Enumerator | Paul Basham |
| Description |  |

## Units

| Distance units | Speed units | Traffic units input | Traffic units results | Flow units | Average delay units | Total delay units | Rate of delay units |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| m | kph | Veh | Veh | perHour | s | -Min | perMin |

## Analysis Options

| Vehicle length <br> $(\mathbf{m})$ | Calculate Queue <br> Percentiles | Calculate detailed queueing <br> delay | Calculate residual <br> capacity | RFC <br> Threshold | Average Delay <br> threshold (s) | Queue threshold <br> (PCU) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.75 |  |  |  | 0.85 | 36.00 |  |

## Demand Set Summary

| ID | Scenario name | Time Period name | Description | Traffic profile type | Start time (HH:mm) | $\begin{aligned} & \text { Finish } \\ & \text { time } \\ & \text { (HH:mm) } \end{aligned}$ | Time segment length (min) | Run automatically |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D1 | F'bridge 2033 Forecast + CD | AM | Existing Road Network (notoneway) | ONE HOUR | 07:45 | 09:15 | 15 | $\checkmark$ |
| D2 | F'bridge 2033 Forecast + CD | PM | Existing Road Network (notoneway) | ONE HOUR | 16:45 | 18:15 | 15 | $\checkmark$ |
| D3 | F'bridge 2033 Forecast + CD With One Way | AM |  | ONE HOUR | 07:45 | 09:15 | 15 | $\checkmark$ |
| D4 | F'bridge 2033 Forecast + CD With One Way | PM |  | ONE HOUR | 16:45 | 18:15 | 15 | $\checkmark$ |
| D5 | F'bridge 2033 Forecast + CD + PD With One Way | AM |  | ONE HOUR | 07:45 | 09:15 | 15 | $\checkmark$ |
| D6 | F'bridge 2033 Forecast + CD + PD With One Way | PM |  | ONE <br> HOUR | 16:45 | 18:15 | 15 | $\checkmark$ |
| D7 | F'bridge 2033 Forecast + CD + PD (Sensitivity) With One Way | AM |  | ONE HOUR | 07:45 | 09:15 | 15 | $\checkmark$ |
| D8 | F'bridge 2033 Forecast + CD + PD (Sensitivity) With One Way | PM |  | $\begin{aligned} & \hline \text { ONE } \\ & \text { HOUR } \end{aligned}$ | 16:45 | 18:15 | 15 | $\checkmark$ |
| D9 | F'bridge 2033 Forecast + CD + PD (Sensitivity) | AM |  | ONE HOUR | 07:45 | 09:15 | 15 | $\checkmark$ |
| D10 | F'bridge 2033 Forecast + CD + PD (Sensitivity) | PM |  | ONE HOUR | 16:45 | 18:15 | 15 | $\checkmark$ |
| D11 | F'bridge 2033 Forecast + CD + PD | AM |  | ONE HOUR | 07:45 | 09:15 | 15 | $\checkmark$ |
| D12 | F'bridge 2033 Forecast + CD + PD | PM |  | ONE HOUR | 16:45 | 18:15 | 15 | $\checkmark$ |

THE FUTURE
OF TRANSPORT

## Existing Layout - F'bridge 2033 Forecast + CD, AM

## Data Errors and Warnings

No errors or warnings
Analysis Set Details

| ID | Name | Include in <br> report | Use specific Demand Set <br> (s) | Specific Demand Set(s) | Network flow scaling factor <br> (\%) | Network capacity scaling factor <br> (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A1 | Existing <br> Layout | $\checkmark$ | $\checkmark$ | D1,D2,D11,D12,D9,D10 | 100.000 | 100.000 |

## Junction Network

## Junctions

| Junction | Name | Junction Type | Major road direction | Junction Delay (s) | Junction LOS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Provost Street/Shaftesbury Street/B3078 | T-Junction | Two-way | 29.06 | D |

## Junction Network Options

| Driving side | Lighting |
| :---: | :---: |
| Left | Normal/unknown |

## Arms

## Arms

| Arm | Name | Description | Arm type |
| :---: | :--- | :--- | :--- |
| A | B3078 |  | Major |
| B | Provost Street |  | Minor |
| C | Shaftesbury Street |  | Major |

Major Arm Geometry

| Arm | Width of carriageway <br> $(\mathbf{m})$ | Has kerbed central <br> reserve | Has right turn <br> bay | Visibility for right turn <br> $(\mathbf{m})$ | Blocks? | Blocking queue <br> $($ PCU $)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C - Shaftesbury Street | 6.00 |  |  | 50.0 | $\checkmark$ |  |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
| :---: | :---: | :---: | :---: | :---: |
| B - Provost Street | One lane | 4.00 | 15 | 100 |

## Slope / Intercept / Capacity

Stream Intercept Adjustments

| Stream intercept adjustment | Use adjustment | Reason | Direct intercept adjustment (PCU/hr) |
| :---: | :---: | :---: | :---: |
| B-AC | $\checkmark$ | To reflect observed | -160 |

Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept <br> (Veh/hr) | Slope <br> for <br> AB | Slope <br> for <br> AC | Slope <br> for <br> C-A | Slope <br> for <br> C-B |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | B-A | 584 | 0.106 | 0.269 | 0.169 | 0.384 |
| $\mathbf{1}$ | B-C | 756 | 0.116 | 0.293 | - | - |
| $\mathbf{1}$ | C-B | 603 | 0.234 | 0.234 | - | - |

[^0]Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period <br> name | Description | Traffic <br> profile type | Start time <br> (HH:mm) | Finish time <br> (HH:mm) | Time segment <br> length (min) | Run <br> automatically |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D1 | F'bridge 2033 Forecast + CD | AM | Existing Road Network <br> (not-oneway) | ONE HOUR | $07: 45$ | $09: 15$ | 15 | $\checkmark$ |


| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
| :---: | :---: | :---: | :---: |
| $\checkmark$ | $\checkmark$ | HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (\%) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A- B3078 |  | ONE HOUR | $\checkmark$ | 557 | 100.000 |
| B - Provost Street |  | ONE HOUR | $\checkmark$ | 222 | 100.000 |
| C - Shaftesbury Street |  | ONE HOUR | $\checkmark$ | 395 | 100.000 |

## Origin-Destination Data

Demand (Veh/hr)

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 121 | 436 |
|  | B - Provost Street | 138 | 0 | 84 |
|  | C - Shaftesbury Street | 336 | 59 | 0 |

## Vehicle Mix

Heavy Vehicle Percentages

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 4 | 3 |
|  | B - Provost Street | 1 | 0 | 2 |
|  | C - Shaftesbury Street | 3 | 3 | 0 |

## Results

Results Summary for whole modelled period

| Stream | Max RFC | Max delay (s) | Max Queue (Veh) | Max LOS | Average Demand <br> $($ Veh/hr) | Total Junction <br> Arrivals (Veh) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0.99 | 152.74 | 9.9 | F | 204 | 306 |
| C-AB | 0.19 | 6.18 | 0.4 | A | 100 | 151 |
| C-A |  |  |  |  | 262 | 393 |
| AB |  |  |  |  | 111 | 167 |
| AC |  |  |  |  | 400 | 600 |

## Main Results for each time segment

07:45-08:00

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $(\mathbf{V e h} / \mathbf{h r})$ | Start queue <br> $($ Veh $)$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 167 | 42 | 321 | 0.520 | 163 | 0.0 | 1.0 | 22.198 | C |
| C-AB | 71 | 18 | 670 | 0.107 | 71 | 0.0 | 0.2 | 6.003 | A |
| C-A | 226 | 56 |  |  | 226 |  |  |  |  |
| AB | 91 | 23 |  |  | 91 |  |  |  |  |
| AC | 328 | 82 |  |  | 328 |  |  |  |  |

08:00-08:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 200 | 50 | 291 | 0.686 | 196 | 1.0 | 2.0 | 36.478 | E |
| C-AB | 95 | 24 | 689 | 0.138 | 94 | 0.2 | 0.3 | 6.058 | A |
| C-A | 260 | 65 |  |  | 260 |  |  |  |  |
| AB | 109 | 27 |  |  | 109 |  |  |  |  |
| AC | 392 | 98 |  |  | 392 |  |  |  |  |

08:15-08:30

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 244 | 61 | 248 | 0.985 | 223 | 2.0 | 7.2 | 100.716 |  |
| C-AB | 135 | 34 | 719 | 0.187 | 134 | 0.3 | 0.4 | 6.168 | A |
| C-A | 300 | 75 |  |  | 300 |  |  |  |  |
| AB | 133 | 33 |  |  | 133 |  |  |  |  |
| AC | 480 | 120 |  |  | 480 |  |  |  |  |

08:30-08:45

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 244 | 61 | 248 | 0.985 | 234 | 7.2 | 9.9 | 152.745 | F |
| C-AB | 135 | 34 | 719 | 0.188 | 135 | 0.4 | 0.4 | 6.180 | A |
| C-A | 300 | 75 |  |  | 300 |  |  |  |  |
| AB | 133 | 33 |  |  | 133 |  |  |  |  |
| AC | 480 | 120 |  |  | 480 |  |  |  |  |

08:45-09:00

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 200 | 50 | 291 | 0.687 | 229 | 9.9 | 2.5 | 71.907 | F |
| C-AB | 95 | 24 | 690 | 0.138 | 96 | 0.4 | 0.3 | 6.073 | A |
| C-A | 260 | 65 |  |  | 260 |  |  |  |  |
| AB | 109 | 27 |  |  | 109 |  |  |  |  |
| AC | 392 | 98 |  |  | 392 |  |  |  |  |

09:00-09:15

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $(\mathbf{V e h} / \mathbf{h r})$ | Start queue <br> $($ Veh $)$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 167 | 42 | 321 | 0.520 | 173 | 2.5 | 1.1 | 25.066 |  |
| C-AB | 72 | 18 | 670 | 0.107 | 72 | 0.3 | 0.2 | 6.030 | A |
| C-A | 226 | 56 |  |  | 226 |  |  |  |  |
| AB | 91 | 23 |  |  | 91 |  |  |  |  |
| AC | 328 | 82 |  |  | 328 |  |  |  |  |

THE FUTURE
OF TRANSPORT

## Existing Layout - F'bridge 2033 Forecast + CD, PM

## Data Errors and Warnings

No errors or warnings
Analysis Set Details

| ID | Name | Include in <br> report | Use specific Demand Set <br> (s) | Specific Demand Set(s) | Network flow scaling factor <br> (\%) | Network capacity scaling factor <br> (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A1 | Existing <br> Layout | $\checkmark$ | $\checkmark$ | D1,D2,D11,D12,D9,D10 | 100.000 | 100.000 |

## Junction Network

## Junctions

| Junction | Name | Junction Type | Major road direction | Junction Delay (s) | Junction LOS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Provost Street/Shaftesbury Street/B3078 | T-Junction | Two-way | 5.73 | A |

## Junction Network Options

| Driving side | Lighting |
| :---: | :---: |
| Left | Normal/unknown |

## Arms

## Arms

| Arm | Name | Description | Arm type |
| :---: | :--- | :--- | :--- |
| A | B3078 |  | Major |
| B | Provost Street |  | Minor |
| C | Shaftesbury Street |  | Major |

Major Arm Geometry

| Arm | Width of carriageway <br> $(\mathbf{m})$ | Has kerbed central <br> reserve | Has right turn <br> bay | Visibility for right turn <br> $(\mathbf{m})$ | Blocks? | Blocking queue <br> $($ PCU $)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C - Shaftesbury Street | 6.00 |  |  | 50.0 | $\checkmark$ |  |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
| :---: | :---: | :---: | :---: | :---: |
| B - Provost Street | One lane | 4.00 | 15 | 100 |

## Slope / Intercept / Capacity

Stream Intercept Adjustments

| Stream intercept adjustment | Use adjustment | Reason | Direct intercept adjustment (PCU/hr) |
| :---: | :---: | :---: | :---: |
| B-AC | $\checkmark$ | To reflect observed | -160 |

Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept <br> (Veh/hr) | Slope <br> for <br> AB | Slope <br> for <br> AC | Slope <br> for <br> C-A | Slope <br> for <br> C-B |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | B-A | 584 | 0.106 | 0.269 | 0.169 | 0.384 |
| $\mathbf{1}$ | B-C | 756 | 0.116 | 0.293 | - | - |
| $\mathbf{1}$ | C-B | 603 | 0.234 | 0.234 | - | - |

[^1]Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period <br> name | Description | Traffic <br> profile type | Start time <br> (HH:mm) | Finish time <br> (HH:mm) | Time segment <br> length (min) | Run <br> automatically |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D2 | F'bridge 2033 Forecast + CD | PM | Existing Road Network <br> (not-oneway) | ONE HOUR | $16: 45$ | $18: 15$ | 15 | $\checkmark$ |


| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
| :---: | :---: | :---: | :---: |
| $\checkmark$ | $\checkmark$ | HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (\%) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A- B3078 |  | ONE HOUR | $\checkmark$ | 602 | 100.000 |
| B - Provost Street |  | ONE HOUR | $\checkmark$ | 162 | 100.000 |
| C - Shaftesbury Street |  | ONE HOUR | $\checkmark$ | 277 | 100.000 |

## Origin-Destination Data

Demand (Veh/hr)

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 195 | 407 |
|  | B - Provost Street | 88 | 0 | 74 |
|  | C - Shaftesbury Street | 213 | 64 | 0 |

## Vehicle Mix

Heavy Vehicle Percentages

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 0 | 1 |
|  | B - Provost Street | 1 | 0 | 0 |
|  | C - Shaftesbury Street | 0 | 1 | 0 |

## Results

Results Summary for whole modelled period

| Stream | Max RFC | Max delay (s) | Max Queue (Veh) | Max LOS | Average Demand <br> (Veh/hr) | Total Junction <br> Arrivals (Veh) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0.62 | 32.60 | 1.6 | $D$ | 149 | 223 |
| C-AB | 0.18 | 7.13 | 0.3 | A | 88 | 132 |
| C-A |  |  |  |  | 166 | 250 |
| AB |  |  |  |  | 179 | 268 |
| AC |  |  |  |  | 373 | 560 |

## Main Results for each time segment

16:45-17:00

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 122 | 30 | 353 | 0.346 | 120 | 0.0 | 0.5 | 15.316 | C |
| C-AB | 65 | 16 | 608 | 0.108 | 65 | 0.0 | 0.2 | 6.624 | A |
| C-A | 143 | 36 |  |  | 143 |  |  |  |  |
| AB | 147 | 37 |  |  | 147 |  |  |  |  |
| AC | 306 | 77 |  |  | 306 |  |  |  |  |

17:00-17:15

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $(\mathbf{V e h} / \mathbf{h r})$ | Start queue <br> $(\mathbf{V e h})$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 146 | 36 | 326 | 0.447 | 145 | 0.5 | 0.8 | 19.738 | C |
| C-AB | 84 | 21 | 612 | 0.137 | 84 | 0.2 | 0.2 | 6.815 | A |
| C-A | 165 | 41 |  |  | 165 |  |  |  |  |
| AB | 175 | 44 |  |  | 175 |  |  |  |  |
| AC | 366 | 91 |  |  | 366 |  |  |  |  |

17:15-17:30

| Stream | Total Demand <br> $($ Veh $/ \mathbf{h r})$ | Junction <br> Arrivals (Veh) | Capacity <br> $(\mathbf{V e h} / \mathbf{h r )}$ | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> $($ Veh $)$ | End queue <br> $($ Veh $)$ | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 178 | 45 | 288 | 0.619 | 175 | 0.8 | 1.5 | 31.203 |  |
| C-AB | 114 | 28 | 620 | 0.184 | 113 | 0.2 | 0.3 | 7.120 | A |
| C-A | 191 | 48 |  |  | 191 |  |  |  |  |
| AB | 215 | 54 |  |  | 215 |  |  |  |  |
| AC | 448 | 112 |  |  | 448 |  |  |  |  |

## 17:30-17:45

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 178 | 45 | 288 | 0.620 | 178 | 1.5 | 1.6 | 32.605 |  |
| C-AB | 114 | 28 | 620 | 0.184 | 114 | 0.3 | 0.3 | 7.130 | A |
| C-A | 191 | 48 |  |  | 191 |  |  |  |  |
| AB | 215 | 54 |  |  | 215 |  |  |  |  |
| AC | 448 | 112 |  |  | 448 |  |  |  |  |

17:45-18:00

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 146 | 36 | 326 | 0.447 | 149 | 1.6 | 0.8 | 20.626 |  |
| C-AB | 84 | 21 | 613 | 0.137 | 85 | 0.3 | 0.2 | 6.825 | A |
| C-A | 165 | 41 |  |  | 165 |  |  |  |  |
| AB | 175 | 44 |  |  | 175 |  |  |  |  |
| AC | 366 | 91 |  |  | 366 |  |  |  |  |

18:00-18:15

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> $(\mathbf{V e h} / \mathbf{h r})$ | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 122 | 30 | 353 | 0.346 | 123 | 0.8 | 0.5 | 15.757 |  |
| C-AB | 66 | 16 | 608 | 0.108 | 66 | 0.2 | 0.2 | 6.643 | A |
| C-A | 143 | 36 |  |  | 143 |  |  |  |  |
| AB | 147 | 37 |  |  | 147 |  |  |  |  |
| AC | 306 | 77 |  |  | 306 |  |  |  |  |

THE FUTURE
OF TRANSPORT

# Existing Layout - F'bridge 2033 Forecast + CD + PD (Sensitivity), AM 

## Data Errors and Warnings

No errors or warnings
Analysis Set Details

| ID | Name | Include in <br> report | Use specific Demand Set <br> (s) | Specific Demand Set(s) | Network flow scaling factor <br> (\%) | Network capacity scaling factor <br> (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A1 | Existing <br> Layout | $\checkmark$ | $\checkmark$ | D1,D2,D11,D12,D9,D10 | 100.000 |  |

## Junction Network

## Junctions

| Junction | Name | Junction Type | Major road direction | Junction Delay (s) | Junction LOS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Provost Street/Shaftesbury Street/B3078 | T-Junction | Two-way | 205.75 | F |

## Junction Network Options

| Driving side | Lighting |
| :---: | :---: |
| Left | Normal/unknown |

## Arms

## Arms

| Arm | Name | Description | Arm type |
| :---: | :--- | :--- | :--- |
| A | B3078 |  | Major |
| B | Provost Street |  | Minor |
| C | Shaftesbury Street |  | Major |

## Major Arm Geometry

| Arm | Width of carriageway <br> $(\mathrm{m})$ | Has kerbed central <br> reserve | Has right turn <br> bay | Visibility for right turn <br> $(\mathbf{m})$ | Blocks? | Blocking queue <br> $($ PCU $)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C - Shaftesbury Street | 6.00 |  |  | 50.0 | $\checkmark$ |  |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
| :---: | :---: | :---: | :---: | :---: |
| B - Provost Street | One lane | 4.00 | 15 | 100 |

## Slope / Intercept / Capacity

Stream Intercept Adjustments

| Stream intercept adjustment | Use adjustment | Reason | Direct intercept adjustment (PCU/hr) |
| :---: | :---: | :---: | :---: |
| B-AC | $\checkmark$ | To reflect observed | -160 |

Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept <br> (Veh/hr) | Slope <br> for <br> AB | Slope <br> for <br> AC | Slope <br> for <br> C-A | Slope <br> for <br> C-B |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | B-A | 584 | 0.106 | 0.269 | 0.169 | 0.384 |
| $\mathbf{1}$ | B-C | 756 | 0.116 | 0.293 | - | - |
| $\mathbf{1}$ | C-B | 603 | 0.234 | 0.234 | - | - |

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period <br> name | Traffic profile <br> type | Start time <br> (HH:mm) | Finish time <br> (HH:mm) | Time segment length <br> (min) | Run <br> automatically |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D9 | F'bridge 2033 Forecast + CD + PD (Sensitivity) | AM | ONE HOUR | $07: 45$ | $09: 15$ | 15 | $\checkmark$ |


| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
| :---: | :---: | :---: | :---: |
| $\checkmark$ | $\checkmark$ | HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (\%) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A- B3078 |  | ONE HOUR | $\checkmark$ | 578 | 342 |
| B - Provost Street |  | ONE HOUR | $\checkmark$ | 100.000 |  |
| C - Shaftesbury Street |  | ONE HOUR | $\checkmark$ | 453 | 100.000 |

## Origin-Destination Data

Demand (Veh/hr)

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 142 | 436 |
|  | B - Provost Street | 169 | 0 | 173 |
|  | C - Shaftesbury Street | 336 | 117 | 0 |

## Vehicle Mix

Heavy Vehicle Percentages

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 4 | 0 |
|  | B - Provost Street | 1 | 0 | 2 |
|  | C - Shaftesbury Street | 3 | 3 | 0 |

## Results

Results Summary for whole modelled period

| Stream | Max RFC | Max delay (s) | Max Queue (Veh) | Max LOS | Average Demand <br> (Veh/hr) | Total Junction <br> Arrivals (Veh) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 1.47 | 823.02 | 71.9 | F | 314 | 471 |
| C-AB | 0.37 | 8.06 | 1.0 | A | 200 | 300 |
| C-A |  |  |  |  | 216 | 324 |
| AB |  |  |  |  | 130 | 195 |
| AC |  |  |  |  | 400 | 600 |

## Main Results for each time segment

07:45-08:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 257 | 64 | 335 | 0.768 | 246 | 0.0 | 2.8 | 37.020 | E |
| C-AB | 142 | 35 | 668 | 0.212 | 140 | 0.0 | 0.4 | 6.808 | A |
| C-A | 199 | 50 |  |  | 199 |  |  |  |  |
| AB | 107 | 27 |  |  | 107 |  |  |  |  |
| AC | 328 | 82 |  |  | 328 |  |  |  |  |

08:00-08:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 307 | 77 | 302 | 1.017 | 280 | 2.8 | 9.5 | 105.460 | F |
| C-AB | 188 | 47 | 688 | 0.274 | 188 | 0.4 | 0.6 | 7.203 | A |
| C-A | 219 | 55 |  |  | 219 |  |  |  |  |
| AB | 128 | 32 |  |  | 128 |  |  |  |  |
| AC | 392 | 98 |  |  | 392 |  |  |  |  |

08:15-08:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 377 | 94 | 256 | 1.470 | 255 | 9.5 | 40.0 | 376.223 | F |
| C-AB | 268 | 67 | 717 | 0.373 | 266 | 0.6 | 1.0 | 8.008 | A |
| C-A | 231 | 58 |  |  | 231 |  |  |  |  |
| AB | 156 | 39 |  |  | 156 |  |  |  |  |
| AC | 480 | 120 |  |  | 480 |  |  |  |  |

08:30-08:45

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 377 | 94 | 256 | 1.471 | 256 | 40.0 | 70.2 | 738.303 | F |
| C-AB | 269 | 67 | 718 | 0.374 | 268 | 1.0 | 1.0 | 8.061 | A |
| C-A | 230 | 58 |  |  | 230 |  |  |  |  |
| AB | 156 | 39 |  |  | 156 |  |  |  |  |
| AC | 480 | 120 |  |  | 480 |  |  |  |  |

08:45-09:00

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> $(\mathbf{V e h} / \mathbf{h r})$ | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 307 | 77 | 302 | 1.018 | 301 | 70.2 | 71.9 | 823.023 | F |
| C-AB | 189 | 47 | 689 | 0.274 | 191 | 1.0 | 0.6 | 7.265 | A |
| C-A | 218 | 55 |  |  | 218 |  |  |  |  |
| AB | 128 | 32 |  |  | 128 |  |  |  |  |
| AC | 392 | 98 |  |  | 392 |  |  |  |  |

09:00-09:15

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 257 | 64 | 335 | 0.769 | 330 | 71.9 | 53.8 | 687.475 |  |
| C-AB | 143 | 36 | 669 | 0.213 | 143 | 0.6 | 0.4 | 6.873 | A |
| C-A | 198 | 50 |  |  | 198 |  |  |  |  |
| AB | 107 | 27 |  |  | 107 |  |  |  |  |
| AC | 328 | 82 |  |  | 328 |  |  |  |  |

THE FUTURE
OF TRANSPORT

# Existing Layout - F'bridge 2033 Forecast + CD + PD (Sensitivity), PM 

## Data Errors and Warnings

No errors or warnings
Analysis Set Details

| ID | Name | Include in <br> report | Use specific Demand Set <br> (s) | Specific Demand Set(s) | Network flow scaling factor <br> $(\%)$ | Network capacity scaling factor <br> $(\%)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A1 | Existing <br> Layout | $\checkmark$ | $\checkmark$ | D1,D2,D11,D12,D9,D10 | 100.000 |  |

## Junction Network

Junctions

| Junction | Name | Junction Type | Major road direction | Junction Delay (s) | Junction LOS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Provost Street/Shaftesbury Street/B3078 | T-Junction | Two-way | 22.99 | C |

## Junction Network Options

| Driving side | Lighting |
| :---: | :---: |
| Left | Normal/unknown |

## Arms

## Arms

| Arm | Name | Description | Arm type |
| :---: | :--- | :--- | :--- |
| A | B3078 |  | Major |
| B | Provost Street |  | Minor |
| C | Shaftesbury Street |  | Major |

Major Arm Geometry

| Arm | Width of carriageway <br> $(\mathbf{m})$ | Has kerbed central <br> reserve | Has right turn <br> bay | Visibility for right turn <br> $(\mathbf{m})$ | Blocks? | Blocking queue <br> $($ PCU $)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C-Shaftesbury Street | 6.00 |  |  | 50.0 | $\checkmark$ |  |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
| :---: | :---: | :---: | :---: | :---: |
| B - Provost Street | One lane | 4.00 | 15 | 100 |

## Slope / Intercept / Capacity

Stream Intercept Adjustments

| Stream intercept adjustment | Use adjustment | Reason | Direct intercept adjustment (PCU/hr) |
| :---: | :---: | :---: | :---: |
| B-AC | $\checkmark$ | To reflect observed | -160 |

Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept <br> (Veh/hr) | Slope <br> for <br> AB | Slope <br> for <br> AC | Slope <br> for <br> C-A | Slope <br> for <br> C-B |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | B-A | 584 | 0.106 | 0.269 | 0.169 | 0.384 |
| $\mathbf{1}$ | B-C | 756 | 0.116 | 0.293 | - | - |
| $\mathbf{1}$ | C-B | 603 | 0.234 | 0.234 | - | - |

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period <br> name | Traffic profile <br> type | Start time <br> (HH:mm) | Finish time <br> (HH:mm) | Time segment <br> length (min) | Run <br> automatically |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D10 | F'bridge 2033 Forecast + CD + PD (Sensitivity) | PM | ONE HOUR | $16: 45$ | $18: 15$ | 15 |  |


| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
| :---: | :---: | :---: | :---: |
| $\checkmark$ | $\checkmark$ | HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (\%) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A- B3078 |  | ONE HOUR | $\checkmark$ | 629 | 235 |
| B - Provost Street |  | ONE HOUR | $\checkmark$ | 356 | 100.000 |
| C - Shaftesbury Street |  | ONE HOUR | $\checkmark$ | 100.000 |  |

## Origin-Destination Data

Demand (Veh/hr)

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 222 | 407 |
|  | B - Provost Street | 107 | 0 | 128 |
|  | C - Shaftesbury Street | 213 | 143 | 0 |

## Vehicle Mix

Heavy Vehicle Percentages

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 0 | 1 |
|  | B - Provost Street | 1 | 0 | 0 |
|  | C - Shaftesbury Street | 0 | 1 | 0 |

## Results

Results Summary for whole modelled period

| Stream | Max RFC | Max delay (s) | Max Queue (Veh) | Max LOS | Average Demand <br> (Veh/hr) | Total Junction <br> Arrivals (Veh) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0.93 | 110.20 | 7.4 | F | 216 |  |
| C-AB | 0.42 | 10.11 | 1.0 | B | 197 | 223 |
| C-A |  |  |  |  | 129 | 194 |
| AB |  |  |  |  | 204 | 306 |
| AC |  |  |  | 373 | 560 |  |

## Main Results for each time segment

16:45-17:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 177 | 44 | 353 | 0.502 | 173 | 0.0 | 1.0 | 19.651 | C |
| C-AB | 147 | 37 | 604 | 0.243 | 145 | 0.0 | 0.4 | 7.835 | A |
| C-A | 121 | 30 |  |  | 121 |  |  |  |  |
| AB | 167 | 42 |  |  | 167 |  |  |  |  |
| AC | 306 | 77 |  |  | 306 |  |  |  |  |

17:00-17:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 211 | 53 | 322 | 0.657 | 208 | 1.0 | 1.8 | 30.858 | D |
| C-AB | 188 | 47 | 608 | 0.310 | 188 | 0.4 | 0.6 | 8.585 | A |
| C-A | 132 | 33 |  |  | 132 |  |  |  |  |
| AB | 200 | 50 |  |  | 200 |  |  |  |  |
| AC | 366 | 91 |  |  | 366 |  |  |  |  |

17:15-17:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 259 | 65 | 278 | 0.931 | 242 | 1.8 | 5.8 | 78.819 | F |
| C-AB | 256 | 64 | 614 | 0.417 | 254 | 0.6 | 1.0 | 10.027 | B |
| C-A | 136 | 34 |  |  | 136 |  |  |  |  |
| AB | 244 | 61 |  |  | 244 |  |  |  |  |
| AC | 448 | 112 |  |  | 448 |  |  |  |  |

17:30-17:45

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 259 | 65 | 277 | 0.933 | 252 | 5.8 | 7.4 | 110.195 | F |
| C-AB | 256 | 64 | 615 | 0.417 | 256 | 1.0 | 1.0 | 10.107 | B |
| C-A | 136 | 34 |  |  | 136 |  |  |  |  |
| AB | 244 | 61 |  |  | 244 |  |  |  |  |
| AC | 448 | 112 |  |  | 448 |  |  |  |  |

17:45-18:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 211 | 53 | 321 | 0.658 | 232 | 7.4 | 2.1 | 47.207 | E |
| C-AB | 189 | 47 | 608 | 0.311 | 190 | 1.0 | 0.6 | 8.663 | A |
| C-A | 131 | 33 |  |  | 131 |  |  |  |  |
| AB | 200 | 50 |  |  | 200 |  |  |  |  |
| AC | 366 | 91 |  |  | 366 |  |  |  |  |

18:00-18:15

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> $($ Veh $)$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 177 | 44 | 352 | 0.502 | 181 | 2.1 | 1.1 | 21.550 | C |
| C-AB | 147 | 37 | 604 | 0.244 | 148 | 0.6 | 0.4 | 7.913 | A |
| C-A | 121 | 30 |  |  | 121 |  |  |  |  |
| AB | 167 | 42 |  |  | 167 |  |  |  |  |
| AC | 306 | 77 |  |  | 306 |  |  |  |  |

THE FUTURE

## Existing Layout - F'bridge 2033 Forecast + CD + PD, AM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| ID | Name | Include in <br> report | Use specific Demand Set <br> (s) | Specific Demand Set(s) | Network flow scaling factor <br> (\%) | Network capacity scaling factor <br> (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A1 | Existing <br> Layout | $\checkmark$ | $\checkmark$ | D1,D2,D11,D12,D9,D10 | 100.000 |  |

## Junction Network

Junctions

| Junction | Name | Junction Type | Major road direction | Junction Delay (s) | Junction LOS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Provost Street/Shaftesbury Street/B3078 | T-Junction | Two-way | 170.81 | F |

## Junction Network Options

| Driving side | Lighting |
| :---: | :---: |
| Left | Normal/unknown |

## Arms

## Arms

| Arm | Name | Description | Arm type |
| :---: | :--- | :--- | :--- |
| A | B3078 |  | Major |
| B | Provost Street |  | Minor |
| C | Shaftesbury Street |  | Major |

## Major Arm Geometry

| Arm | Width of carriageway <br> $(\mathrm{m})$ | Has kerbed central <br> reserve | Has right turn <br> bay | Visibility for right turn <br> $(\mathbf{m})$ | Blocks? | Blocking queue <br> $($ PCU $)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C - Shaftesbury Street | 6.00 |  |  | 50.0 | $\checkmark$ |  |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
| :---: | :---: | :---: | :---: | :---: |
| B - Provost Street | One lane | 4.00 | 15 | 100 |

## Slope / Intercept / Capacity

Stream Intercept Adjustments

| Stream intercept adjustment | Use adjustment | Reason | Direct intercept adjustment (PCU/hr) |
| :---: | :---: | :---: | :---: |
| B-AC | $\checkmark$ | To reflect observed | -160 |

Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept <br> (Veh/hr) | Slope <br> for <br> AB | Slope <br> for <br> AC | Slope <br> for <br> C-A | Slope <br> for <br> C-B |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | B-A | 584 | 0.106 | 0.269 | 0.169 | 0.384 |
| $\mathbf{1}$ | B-C | 756 | 0.116 | 0.293 | - | - |
| $\mathbf{1}$ | C-B | 603 | 0.234 | 0.234 | - | - |

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period <br> name | Traffic profile <br> type | Start time <br> $(H H: m m)$ | Finish time <br> (HH:mm) | Time segment length <br> (min) | Run <br> automatically |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D11 | F'bridge 2033 Forecast + CD + PD | AM | ONE HOUR | $07: 45$ | $09: 15$ | 15 |  |


| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
| :---: | :---: | :---: | :---: |
| $\checkmark$ | $\checkmark$ | HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (\%) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A- B3078 |  | ONE HOUR | $\checkmark$ | 571 | 100.000 |
| B - Provost Street |  | ONE HOUR | $\checkmark$ | 332 | 100.000 |
| C - Shaftesbury Street |  | ONE HOUR | $\checkmark$ | 435 | 100.000 |

## Origin-Destination Data

Demand (Veh/hr)

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 135 | 436 |
|  | B - Provost Street | 166 | 0 | 166 |
|  | C - Shaftesbury Street | 336 | 99 | 0 |

## Vehicle Mix

Heavy Vehicle Percentages

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 4 | 0 |
|  | B - Provost Street | 1 | 0 | 2 |
|  | C - Shaftesbury Street | 3 | 3 | 0 |

## Results

Results Summary for whole modelled period

| Stream | Max RFC | Max delay (s) | Max Queue (Veh) | Max LOS | Average Demand <br> (Veh/hr) | Total Junction <br> Arrivals (Veh) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 1.39 | 685.94 | 60.0 | F | 305 | 457 |
| C-AB | 0.32 | 7.34 | 0.8 | A | 169 | 253 |
| C-A |  |  |  |  | 231 | 346 |
| AB |  |  |  |  | 124 | 186 |
| AC |  |  |  |  | 400 | 600 |

## Main Results for each time segment

07:45-08:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 250 | 62 | 338 | 0.739 | 240 | 0.0 | 2.4 | 33.949 | D |
| C-AB | 120 | 30 | 669 | 0.179 | 118 | 0.0 | 0.3 | 6.540 | A |
| C-A | 208 | 52 |  |  | 208 |  |  |  |  |
| AB | 102 | 25 |  |  | 102 |  |  |  |  |
| AC | 328 | 82 |  |  | 328 |  |  |  |  |

08:00-08:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 298 | 75 | 307 | 0.973 | 278 | 2.4 | 7.6 | 88.989 | F |
| C-AB | 159 | 40 | 689 | 0.231 | 159 | 0.3 | 0.5 | 6.791 | A |
| C-A | 232 | 58 |  |  | 232 |  |  |  |  |
| AB | 121 | 30 |  |  | 121 |  |  |  |  |
| AC | 392 | 98 |  |  | 392 |  |  |  |  |

08:15-08:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 366 | 91 | 262 | 1.394 | 260 | 7.6 | 34.0 | 315.221 | F |
| C-AB | 226 | 57 | 719 | 0.315 | 225 | 0.5 | 0.8 | 7.313 | A |
| C-A | 253 | 63 |  |  | 253 |  |  |  |  |
| AB | 149 | 37 |  |  | 149 |  |  |  |  |
| AC | 480 | 120 |  |  | 480 |  |  |  |  |

08:30-08:45

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 366 | 91 | 262 | 1.395 | 262 | 34.0 | 60.0 | 626.838 | F |
| C-AB | 227 | 57 | 719 | 0.315 | 227 | 0.8 | 0.8 | 7.344 | A |
| C-A | 252 | 63 |  |  | 252 |  |  |  |  |
| AB | 149 | 37 |  |  | 149 |  |  |  |  |
| AC | 480 | 120 |  |  | 480 |  |  |  |  |

08:45-09:00

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> $(\mathbf{V e h} / \mathbf{h r})$ | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 298 | 75 | 306 | 0.974 | 303 | 60.0 | 58.9 | 685.944 | F |
| C-AB | 160 | 40 | 690 | 0.231 | 161 | 0.8 | 0.5 | 6.836 | A |
| C-A | 231 | 58 |  |  | 231 |  |  |  |  |
| AB | 121 | 30 |  |  | 121 |  |  |  |  |
| AC | 392 | 98 |  |  | 392 |  |  |  |  |

09:00-09:15

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 250 | 62 | 338 | 0.739 | 332 | 58.9 | 38.3 | 529.822 |  |
| C-AB | 121 | 30 | 670 | 0.180 | 121 | 0.5 | 0.3 | 6.575 | A |
| C-A | 207 | 52 |  |  | 207 |  |  |  |  |
| AB | 102 | 25 |  |  | 102 |  |  |  |  |
| AC | 328 | 82 |  |  | 328 |  |  |  |  |

THE FUTURE

## Existing Layout - F'bridge 2033 Forecast + CD + PD, PM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| ID | Name | Include in <br> report | Use specific Demand Set <br> (s) | Specific Demand Set(s) | Network flow scaling factor <br> (\%) | Network capacity scaling factor <br> (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A1 | Existing <br> Layout | $\checkmark$ | $\checkmark$ | D1,D2,D11,D12,D9,D10 | 100.000 |  |

## Junction Network

## Junctions

| Junction | Name | Junction Type | Major road direction | Junction Delay (s) | Junction LOS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Provost Street/Shaftesbury Street/B3078 | T-Junction | Two-way | 21.35 | C |

## Junction Network Options

| Driving side | Lighting |
| :---: | :---: |
| Left | Normal/unknown |

## Arms

Arms

| Arm | Name | Description | Arm type |
| :---: | :--- | :--- | :--- |
| A | B3078 |  | Major |
| B | Provost Street |  | Minor |
| C | Shaftesbury Street |  | Major |

Major Arm Geometry

| Arm | Width of carriageway <br> $(\mathbf{m})$ | Has kerbed central <br> reserve | Has right turn <br> bay | Visibility for right turn <br> $(\mathbf{m})$ | Blocks? | Blocking queue <br> $($ PCU $)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C - Shaftesbury Street | 6.00 |  |  | 50.0 | $\checkmark$ |  |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
| :---: | :---: | :---: | :---: | :---: |
| B - Provost Street | One lane | 4.00 | 15 | 100 |

## Slope / Intercept / Capacity

Stream Intercept Adjustments

| Stream intercept adjustment | Use adjustment | Reason | Direct intercept adjustment (PCU/hr) |
| :---: | :---: | :---: | :---: |
| B-AC | $\checkmark$ | To reflect observed | -160 |

Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept <br> (Veh/hr) | Slope <br> for <br> AB | Slope <br> for <br> AC | Slope <br> for <br> C-A | Slope <br> for <br> C-B |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | B-A | 584 | 0.106 | 0.269 | 0.169 | 0.384 |
| $\mathbf{1}$ | B-C | 756 | 0.116 | 0.293 | - | - |
| $\mathbf{1}$ | C-B | 603 | 0.234 | 0.234 | - | - |

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period <br> name | Traffic profile <br> type | Start time <br> $(\mathbf{H H : m m})$ | Finish time <br> (HH:mm) | Time segment length <br> (min) | Run <br> automatically |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D12 | F'bridge 2033 Forecast + CD + PD | PM | ONE HOUR | $16: 45$ | $18: 15$ | 15 |  |


| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
| :---: | :---: | :---: | :---: |
| $\checkmark$ | $\checkmark$ | HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (\%) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A- B3078 |  | ONE HOUR | $\checkmark$ | 630 | 229 |
| B - Provost Street |  | ONE HOUR | $\checkmark$ | 100.000 |  |
| C - Shaftesbury Street |  | ONE HOUR | $\checkmark$ | 359 | 100.000 |

## Origin-Destination Data

Demand (Veh/hr)

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 223 | 407 |
|  | B - Provost Street | 106 | 0 | 123 |
|  | C - Shaftesbury Street | 213 | 146 | 0 |

## Vehicle Mix

Heavy Vehicle Percentages

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 0 | 1 |
|  | B - Provost Street | 1 | 0 | 0 |
|  | C - Shaftesbury Street | 0 | 1 | 0 |

## Results

Results Summary for whole modelled period

| Stream | Max RFC | Max delay (s) | Max Queue (Veh) | Max LOS | Average Demand <br> (Veh/hr) | Total Junction <br> Arrivals (Veh) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0.92 | 103.79 | 6.8 | F | 210 |  |
| C-AB | 0.43 | 10.27 | 1.0 | B | 201 |  |
| C-A |  |  |  |  | 128 | 192 |
| AB |  |  |  |  | 205 | 307 |
| AC |  |  |  | 373 | 560 |  |

## Main Results for each time segment

16:45-17:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 172 | 43 | 350 | 0.492 | 169 | 0.0 | 0.9 | 19.458 | C |
| C-AB | 150 | 37 | 604 | 0.248 | 148 | 0.0 | 0.4 | 7.888 | A |
| C-A | 121 | 30 |  |  | 121 |  |  |  |  |
| AB | 168 | 42 |  |  | 168 |  |  |  |  |
| AC | 306 | 77 |  |  | 306 |  |  |  |  |

17:00-17:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 206 | 51 | 319 | 0.646 | 203 | 0.9 | 1.7 | 30.250 | D |
| C-AB | 192 | 48 | 607 | 0.317 | 192 | 0.4 | 0.6 | 8.667 | A |
| C-A | 130 | 33 |  |  | 130 |  |  |  |  |
| AB | 200 | 50 |  |  | 200 |  |  |  |  |
| AC | 366 | 91 |  |  | 366 |  |  |  |  |

17:15-17:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 252 | 63 | 275 | 0.918 | 237 | 1.7 | 5.4 | 75.826 | F |
| C-AB | 261 | 65 | 614 | 0.426 | 260 | 0.6 | 1.0 | 10.187 | B |
| C-A | 134 | 33 |  |  | 134 |  |  |  |  |
| AB | 246 | 61 |  |  | 246 |  |  |  |  |
| AC | 448 | 112 |  |  | 448 |  |  |  |  |

17:30-17:45

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 252 | 63 | 274 | 0.919 | 247 | 5.4 | 6.8 | 103.787 | F |
| C-AB | 262 | 65 | 614 | 0.426 | 262 | 1.0 | 1.0 | 10.269 | B |
| C-A | 133 | 33 |  |  | 133 |  |  |  |  |
| AB | 246 | 61 |  |  | 246 |  |  |  |  |
| AC | 448 | 112 |  |  | 448 |  |  |  |  |

17:45-18:00

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> $(\mathbf{V e h} / \mathbf{h r )}$ | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> $(\mathbf{V e h})$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 206 | 51 | 318 | 0.647 | 225 | 6.8 | 2.0 | 44.133 |  |
| C-AB | 193 | 48 | 608 | 0.317 | 194 | 1.0 | 0.6 | 8.754 | A |
| C-A | 130 | 32 |  |  | 130 |  |  |  |  |
| AB | 200 | 50 |  |  | 200 |  |  |  |  |
| AC | 366 | 91 |  |  | 366 |  |  |  |  |

18:00-18:15

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> $($ Veh $)$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 172 | 43 | 350 | 0.493 | 176 | 2.0 | 1.0 | 21.219 | C |
| C-AB | 150 | 38 | 604 | 0.249 | 151 | 0.6 | 0.4 | 7.971 | A |
| C-A | 120 | 30 |  |  | 120 |  |  |  |  |
| AB | 168 | 42 |  |  | 168 |  |  |  |  |
| AC | 306 | 77 |  |  | 306 |  |  |  |  |

THE FUTURE

# Implemented One-Way System - F'bridge 2033 Forecast + CD With One Way, AM 

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| ID | Name | Include in <br> report | Use specific Demand <br> Set(s) | Specific Demand Set <br> (s) | Network flow scaling <br> factor (\%) | Network capacity scaling <br> factor (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A2 | Implemented One-Way <br> System | $\checkmark$ | $\checkmark$ | D3,D4,D5,D6,D7,D8 | 100.000 |  |

## Junction Network

## Junctions

| Junction | Name | Junction Type | Major road direction | Junction Delay (s) | Junction LOS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Provost Street/Shaftesbury Street/B3078 | T-Junction | Two-way | 1.86 | A |

## Junction Network Options

| Driving side | Lighting |
| :---: | :---: |
| Left | Normal/unknown |

## Arms

Arms

| Arm | Name | Description | Arm type |
| :---: | :--- | :--- | :--- |
| A | B3078 |  | Major |
| B | Provost Street |  | Minor |
| C | Shaftesbury Street |  | Major |

Major Arm Geometry

| Arm | Width of carriageway <br> $(\mathbf{m})$ | Has kerbed central <br> reserve | Has right turn <br> bay | Visibility for right turn <br> $(\mathbf{m})$ | Blocks? | Blocking queue <br> $($ PCU $)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C - Shaftesbury Street | 6.00 |  |  | 50.0 | $\checkmark$ |  |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
| :---: | :---: | :---: | :---: | :---: |
| B - Provost Street | One lane | 5.00 | 15 | 100 |

## Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept <br> (Veh/hr) | Slope <br> for <br> AB | Slope <br> for <br> AC | Slope <br> for <br> C-A | Slope <br> for <br> C-B |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | B-A | 638 | 0.116 | 0.294 | 0.185 | 0.419 |
| $\mathbf{1}$ | B-C | 824 | 0.126 | 0.319 | - | - |
| $\mathbf{1}$ | C-B | 603 | 0.234 | 0.234 | - | - |

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period <br> name | Traffic profile <br> type | Start time <br> (HH:mm) | Finish time <br> (HH:mm) | Time segment length <br> (min) | Run <br> automatically |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D3 | F'bridge 2033 Forecast + CD With One Way | AM | ONE HOUR | $07: 45$ | $09: 15$ | 15 |  |


| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
| :---: | :---: | :---: | :---: |
| $\checkmark$ | $\checkmark$ | HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (\%) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A- B3078 |  | ONE HOUR | $\checkmark$ | 557 | 100.000 |
| B - Provost Street |  | ONE HOUR | $\checkmark$ | 0 | 100.000 |
| C - Shaftesbury Street |  | ONE HOUR | $\checkmark$ | 594 | 100.000 |

## Origin-Destination Data

Demand (Veh/hr)

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 143 | 414 |
|  | B - Provost Street | 0 | 0 | 0 |
|  | C - Shaftesbury Street | 474 | 120 | 0 |

## Vehicle Mix

Heavy Vehicle Percentages

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 4 | 3 |
|  | B - Provost Street | 1 | 0 | 2 |
|  | C - Shaftesbury Street | 3 | 3 | 0 |

## Results

Results Summary for whole modelled period

| Stream | Max RFC | Max delay (s) | Max Queue (Veh) | Max LOS | Average Demand <br> (Veh/hr) | Total Junction <br> Arrivals (Veh) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-AB | 0.43 | 7.65 | 1.4 | A | 257 | 386 |
| C-A |  |  |  |  | 288 | 432 |
| AB |  |  |  |  | 131 | 197 |
| AC |  |  |  |  | 380 | 570 |

## Main Results for each time segment

07:45-08:00

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $(\mathbf{V e h} / \mathbf{h r})$ | Start queue <br> $($ Veh $)$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 522 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 174 | 43 | 745 | 0.233 | 171 | 0.0 | 0.5 | 6.279 | A |
| C-A | 274 | 68 |  |  | 274 |  |  |  |  |
| AB | 108 | 27 |  |  | 108 |  |  |  |  |
| AC | 312 | 78 |  |  | 312 |  |  |  |  |

08:00-08:15

| Stream | Total Demand <br> $(\mathbf{V e h} / \mathrm{hr})$ | Junction <br> Arrivals (Veh) | Capacity <br> $(\mathbf{V e h} / \mathbf{h r})$ | RFC | Throughput <br> $(\mathbf{V e h} / \mathbf{h r})$ | Start queue <br> $(\mathbf{V e h})$ | End queue <br> $(\mathbf{V e h})$ | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 483 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 239 | 60 | 781 | 0.306 | 238 | 0.5 | 0.8 | 6.651 | A |
| C-A | 295 | 74 |  |  | 295 |  |  |  |  |
| AB | 129 | 32 |  |  | 129 |  |  |  |  |
| AC | 372 | 93 |  |  | 372 |  |  |  |  |

08:15-08:30

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 426 | 0.000 | 0 | 0.0 | 0.0 | 0.000 |  |
| C-AB | 357 | 89 | 833 | 0.429 | 355 | 0.8 | 1.4 | 7.570 | A |
| C-A | 297 | 74 |  |  | 297 |  |  |  |  |
| AB | 157 | 39 |  |  | 157 |  |  |  |  |
| AC | 456 | 114 |  |  | 456 |  |  |  |  |

08:30-08:45

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> $($ Veh $)$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 426 | 0.000 | 0 | 0.0 | 0.0 | 0.000 |  |
| C-AB | 359 | 90 | 834 | 0.430 | 359 | 1.4 | 1.4 | 7.648 | A |
| C-A | 295 | 74 |  |  | 295 |  |  |  |  |
| AB | 157 | 39 |  |  | 157 |  |  |  |  |
| AC | 456 | 114 |  |  | 456 |  |  |  |  |

08:45-09:00

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 482 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 241 | 60 | 783 | 0.307 | 243 | 1.4 | 0.8 | 6.737 | A |
| C-A | 293 | 73 |  |  | 293 |  |  |  |  |
| AB | 129 | 32 |  |  | 129 |  |  |  |  |
| AC | 372 | 93 |  |  | 372 |  |  |  |  |

09:00-09:15

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> $(\mathbf{V e h} / \mathbf{h r})$ | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 521 | 0.000 | 0 | 0.0 | 0.0 | 0.000 |  |
| C-AB | 175 | 44 | 746 | 0.235 | 176 | 0.8 | 0.5 | 6.351 | A |
| C-A | 272 | 68 |  |  | 272 |  |  |  |  |
| AB | 108 | 27 |  |  | 108 |  |  |  |  |
| AC | 312 | 78 |  |  | 312 |  |  |  |  |

THE FUTURE

# Implemented One-Way System - F'bridge 2033 Forecast + CD With One Way, PM 

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| ID | Name | Include in <br> report | Use specific Demand <br> Set(s) | Specific Demand Set <br> (s) | Network flow scaling <br> factor (\%) | Network capacity scaling <br> factor (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A2 | Implemented One-Way <br> System | $\checkmark$ | $\checkmark$ | D3,D4,D5,D6,D7,D8 | 100.000 |  |

## Junction Network

## Junctions

| Junction | Name | Junction Type | Major road direction | Junction Delay (s) | Junction LOS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Provost Street/Shaftesbury Street/B3078 | T-Junction | Two-way | 1.73 | A |

## Junction Network Options

| Driving side | Lighting |
| :---: | :---: |
| Left | Normal/unknown |

## Arms

Arms

| Arm | Name | Description | Arm type |
| :---: | :--- | :--- | :--- |
| A | B3078 |  | Major |
| B | Provost Street |  | Minor |
| C | Shaftesbury Street |  | Major |

Major Arm Geometry

| Arm | Width of carriageway <br> $(\mathbf{m})$ | Has kerbed central <br> reserve | Has right turn <br> bay | Visibility for right turn <br> $(\mathbf{m})$ | Blocks? | Blocking queue <br> $($ PCU $)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C - Shaftesbury Street | 6.00 |  |  | 50.0 | $\checkmark$ |  |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
| :---: | :---: | :---: | :---: | :---: |
| B - Provost Street | One lane | 5.00 | 15 | 100 |

## Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept <br> (Veh/hr) | Slope <br> for <br> AB | Slope <br> for <br> AC | Slope <br> for <br> C-A | Slope <br> for <br> C-B |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | B-A | 638 | 0.116 | 0.294 | 0.185 | 0.419 |
| $\mathbf{1}$ | B-C | 824 | 0.126 | 0.319 | - | - |
| $\mathbf{1}$ | C-B | 603 | 0.234 | 0.234 | - | - |

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period <br> name | Traffic profile <br> type | Start time <br> (HH:mm) | Finish time <br> (HH:mm) | Time segment length <br> (min) | Run <br> automatically |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D4 | F'bridge 2033 Forecast + CD With One Way | PM | ONE HOUR | $16: 45$ | $18: 15$ | 15 |  |


| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
| :---: | :---: | :---: | :---: |
| $\checkmark$ | $\checkmark$ | HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (\%) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A- B3078 |  | ONE HOUR | $\checkmark$ | 602 | 100.000 |
| B - Provost Street |  | ONE HOUR | $\checkmark$ | 0 | 100.000 |
| C - Shaftesbury Street |  | ONE HOUR | $\checkmark$ | 424 | 100.000 |

## Origin-Destination Data

Demand (Veh/hr)

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 223 | 379 |
|  | B - Provost Street | 0 | 0 | 0 |
|  | C - Shaftesbury Street | 302 | 122 | 0 |

## Vehicle Mix

Heavy Vehicle Percentages

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 0 | 1 |
|  | B - Provost Street | 1 | 0 | 0 |
|  | C - Shaftesbury Street | 0 | 1 | 0 |

## Results

Results Summary for whole modelled period

| Stream | Max RFC | Max delay (s) | Max Queue (Veh) | Max LOS | Average Demand <br> (Veh/hr) | Total Junction <br> Arrivals (Veh) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-AB | 0.37 | 8.33 | 0.9 | A | 195 | 293 |
| C-A |  |  |  |  | 194 | 291 |
| AB |  |  |  |  | 205 | 307 |
| AC |  |  |  |  | 348 | 522 |

## Main Results for each time segment

16:45-17:00

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 550 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 140 | 35 | 657 | 0.214 | 139 | 0.0 | 0.4 | 6.945 | A |
| C-A | 179 | 45 |  |  | 179 |  |  |  |  |
| AB | 168 | 42 |  |  | 168 |  |  |  |  |
| AC | 285 | 71 |  |  | 285 |  |  |  |  |

17:00-17:15

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $(\mathbf{V e h} / \mathbf{h r})$ | Start queue <br> $(\mathbf{V e h})$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 516 | 0.000 | 0 | 0.0 | 0.0 | 0.000 |  |
| C-AB | 185 | 46 | 672 | 0.275 | 184 | 0.4 | 0.6 | 7.397 | A |
| C-A | 196 | 49 |  |  | 196 |  |  |  |  |
| AB | 200 | 50 |  |  | 200 |  |  |  |  |
| AC | 341 | 85 |  |  | 341 |  |  |  |  |

17:15-17:30

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> $($ Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> $($ Veh $)$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 469 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 259 | 65 | 694 | 0.374 | 258 | 0.6 | 0.9 | 8.279 | A |
| C-A | 207 | 52 |  |  | 207 |  |  |  |  |
| AB | 246 | 61 |  |  | 246 |  |  |  |  |
| AC | 417 | 104 |  |  | 417 |  |  |  |  |

17:30-17:45

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 468 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 260 | 65 | 695 | 0.374 | 260 | 0.9 | 0.9 | 8.328 | A |
| C-A | 207 | 52 |  |  | 207 |  |  |  |  |
| AB | 246 | 61 |  |  | 246 |  |  |  |  |
| AC | 417 | 104 |  |  | 417 |  |  |  |  |

17:45-18:00

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 516 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 186 | 46 | 673 | 0.276 | 187 | 0.9 | 0.6 | 7.452 | A |
| C-A | 196 | 49 |  |  | 196 |  |  |  |  |
| AB | 200 | 50 |  |  | 200 |  |  |  |  |
| AC | 341 | 85 |  |  | 341 |  |  |  |  |

18:00-18:15

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $(\mathbf{V e h} / \mathbf{h r})$ | Start queue <br> $($ Veh $)$ | End queue <br> $($ Veh $)$ | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 550 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 141 | 35 | 657 | 0.215 | 142 | 0.6 | 0.4 | 7.005 | A |
| C-A | 178 | 44 |  |  | 178 |  |  |  |  |
| AB | 168 | 42 |  |  | 168 |  |  |  |  |
| AC | 285 | 71 |  |  | 285 |  |  |  |  |

THE FUTURE

# Implemented One-Way System - F'bridge 2033 Forecast + CD + PD With One Way, AM 

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| ID | Name | Include in <br> report | Use specific Demand <br> Set(s) | Specific Demand Set <br> (s) | Network flow scaling <br> factor (\%) | Network capacity scaling <br> factor (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A2 | Implemented One-Way <br> System | $\checkmark$ | $\checkmark$ | D3,D4,D5,D6,D7,D8 | 100.000 |  |

## Junction Network

## Junctions

| Junction | Name | Junction Type | Major road direction | Junction Delay (s) | Junction LOS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Provost Street/Shaftesbury Street/B3078 | T-Junction | Two-way | 3.44 | A |

## Junction Network Options

| Driving side | Lighting |
| :---: | :---: |
| Left | Normal/unknown |

## Arms

Arms

| Arm | Name | Description | Arm type |
| :---: | :--- | :--- | :--- |
| A | B3078 |  | Major |
| B | Provost Street |  | Minor |
| C | Shaftesbury Street |  | Major |

Major Arm Geometry

| Arm | Width of carriageway <br> $(\mathbf{m})$ | Has kerbed central <br> reserve | Has right turn <br> bay | Visibility for right turn <br> $(\mathbf{m})$ | Blocks? | Blocking queue <br> $($ PCU $)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C - Shaftesbury Street | 6.00 |  |  | 50.0 | $\checkmark$ |  |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
| :---: | :---: | :---: | :---: | :---: |
| B - Provost Street | One lane | 5.00 | 15 | 100 |

## Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept <br> (Veh/hr) | Slope <br> for <br> AB | Slope <br> for <br> AC | Slope <br> for <br> C-A | Slope <br> for <br> C-B |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | B-A | 638 | 0.116 | 0.294 | 0.185 | 0.419 |
| $\mathbf{1}$ | B-C | 824 | 0.126 | 0.319 | - | - |
| $\mathbf{1}$ | C-B | 603 | 0.234 | 0.234 | - | - |

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D5 | F'bridge 2033 Forecast + CD + PD With One Way | AM | ONE HOUR | 07:45 | 09:15 | 15 | $\checkmark$ |


| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
| :---: | :---: | :---: | :---: |
| $\checkmark$ | $\checkmark$ | HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (\%) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A- B3078 |  | ONE HOUR | $\checkmark$ | 571 | 100.000 |
| B - Provost Street |  | ONE HOUR | $\checkmark$ | 0 | 100.000 |
| C - Shaftesbury Street |  | ONE HOUR | $\checkmark$ | 663 | 100.000 |

## Origin-Destination Data

Demand (Veh/hr)

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 157 | 414 |
|  | B - Provost Street | 0 | 0 | 0 |
|  | C - Shaftesbury Street | 502 | 161 | 0 |

## Vehicle Mix

Heavy Vehicle Percentages

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 4 | 3 |
|  | B - Provost Street | 1 | 0 | 2 |
|  | C - Shaftesbury Street | 3 | 3 | 0 |

## Results

Results Summary for whole modelled period

| Stream | Max RFC | Max delay (s) | Max Queue (Veh) | Max LOS | Average Demand <br> (Veh/hr) | Total Junction <br> Arrivals (Veh) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-AB | 0.60 | 10.71 | 2.7 | B | 364 | 546 |
| C-A |  |  |  |  | 244 | 367 |
| AB |  |  |  |  | 144 | 216 |
| AC |  |  |  |  | 380 | 570 |

## Main Results for each time segment

07:45-08:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 507 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 242 | 60 | 758 | 0.319 | 239 | 0.0 | 0.8 | 6.927 | A |
| C-A | 257 | 64 |  |  | 257 |  |  |  |  |
| AB | 118 | 30 |  |  | 118 |  |  |  |  |
| AC | 312 | 78 |  |  | 312 |  |  |  |  |

08:00-08:15

| Stream | Total Demand <br> $(\mathbf{V e h} / \mathrm{hr})$ | Junction <br> Arrivals (Veh) | Capacity <br> $(\mathbf{V e h} / \mathbf{h r})$ | RFC | Throughput <br> $(\mathbf{V e h} / \mathbf{h r})$ | Start queue <br> $(\mathbf{V e h})$ | End queue <br> $(\mathbf{V e h})$ | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 464 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 336 | 84 | 797 | 0.422 | 334 | 0.8 | 1.2 | 7.810 | A |
| C-A | 260 | 65 |  |  | 260 |  |  |  |  |
| AB | 141 | 35 |  |  | 141 |  |  |  |  |
| AC | 372 | 93 |  |  | 372 |  |  |  |  |

08:15-08:30

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | Los |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 401 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 509 | 127 | 854 | 0.596 | 504 | 1.2 | 2.6 | 10.369 | B |
| C-A | 221 | 55 |  |  | 221 |  |  |  |  |
| AB | 173 | 43 |  |  | 173 |  |  |  |  |
| AC | 456 | 114 |  |  | 456 |  |  |  |  |

08:30-08:45

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 400 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 513 | 128 | 857 | 0.598 | 513 | 2.6 | 2.7 | 10.710 | B |
| C-A | 217 | 54 |  |  | 217 |  |  |  |  |
| AB | 173 | 43 |  |  | 173 |  |  |  |  |
| AC | 456 | 114 |  |  | 456 |  |  |  |  |

08:45-09:00

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 462 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 340 | 85 | 801 | 0.424 | 345 | 2.7 | 1.3 | 8.062 | A |
| C-A | 256 | 64 |  |  | 256 |  |  |  |  |
| AB | 141 | 35 |  |  | 141 |  |  |  |  |
| AC | 372 | 93 |  |  | 372 |  |  |  |  |

09:00-09:15

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> $(\mathbf{V e h} / \mathbf{h r})$ | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 506 | 0.000 | 0 | 0.0 | 0.0 | 0.000 |  |
| C-AB | 244 | 61 | 760 | 0.321 | 246 | 1.3 | 0.8 | 7.073 | A |
| C-A | 255 | 64 |  |  | 255 |  |  |  |  |
| AB | 118 | 30 |  |  | 118 |  |  |  |  |
| AC | 312 | 78 |  |  | 312 |  |  |  |  |

THE FUTURE

# Implemented One-Way System - F'bridge 2033 Forecast + CD + PD With One Way, PM 

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| ID | Name | Include in <br> report | Use specific Demand <br> Set(s) | Specific Demand Set <br> (s) | Network flow scaling <br> factor (\%) | Network capacity scaling <br> factor (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A2 | Implemented One-Way <br> System | $\checkmark$ | $\checkmark$ | D3,D4,D5,D6,D7,D8 | 100.000 |  |

## Junction Network

## Junctions

| Junction | Name | Junction Type | Major road direction | Junction Delay (s) | Junction LOS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Provost Street/Shaftesbury Street/B3078 | T-Junction | Two-way | 4.66 | A |

## Junction Network Options

| Driving side | Lighting |
| :---: | :---: |
| Left | Normal/unknown |

## Arms

Arms

| Arm | Name | Description | Arm type |
| :---: | :--- | :--- | :--- |
| A | B3078 |  | Major |
| B | Provost Street |  | Minor |
| C | Shaftesbury Street |  | Major |

Major Arm Geometry

| Arm | Width of carriageway <br> $(\mathbf{m})$ | Has kerbed central <br> reserve | Has right turn <br> bay | Visibility for right turn <br> $(\mathbf{m})$ | Blocks? | Blocking queue <br> $($ PCU $)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C - Shaftesbury Street | 6.00 |  |  | 50.0 | $\checkmark$ |  |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
| :---: | :---: | :---: | :---: | :---: |
| B - Provost Street | One lane | 5.00 | 15 | 100 |

## Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept <br> (Veh/hr) | Slope <br> for <br> AB | Slope <br> for <br> AC | Slope <br> for <br> C-A | Slope <br> for <br> C-B |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | B-A | 638 | 0.116 | 0.294 | 0.185 | 0.419 |
| $\mathbf{1}$ | B-C | 824 | 0.126 | 0.319 | - | - |
| $\mathbf{1}$ | C-B | 603 | 0.234 | 0.234 | - | - |

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D6 | F'bridge 2033 Forecast + CD + PD With One Way | PM | ONE HOUR | 16:45 | 18:15 | 15 | $\checkmark$ |


| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
| :---: | :---: | :---: | :---: |
| $\checkmark$ | $\checkmark$ | HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (\%) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A- B3078 |  | ONE HOUR | $\checkmark$ | 631 | 100.000 |
| B - Provost Street |  | ONE HOUR | $\checkmark$ | 0 | 100.000 |
| C - Shaftesbury Street |  | ONE HOUR | $\checkmark$ | 522 | 100.000 |

## Origin-Destination Data

Demand (Veh/hr)

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 252 | 379 |
|  | B - Provost Street | 0 | 0 | 0 |
|  | C - Shaftesbury Street | 319 | 203 | 0 |

## Vehicle Mix

Heavy Vehicle Percentages

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 0 | 1 |
|  | B - Provost Street | 1 | 0 | 0 |
|  | C - Shaftesbury Street | 0 | 1 | 0 |

## Results

Results Summary for whole modelled period

| Stream | Max RFC | Max delay (s) | Max Queue (Veh) | Max LOS | Average Demand <br> (Veh/hr) | Total Junction <br> Arrivals (Veh) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-AB | 0.64 | 14.59 | 2.6 | B | 337 | 506 |
| C-A |  |  |  |  | 142 | 212 |
| AB |  |  |  |  | 231 | 347 |
| AC |  |  |  |  | 348 | 522 |

## Main Results for each time segment

16:45-17:00

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 526 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 240 | 60 | 662 | 0.363 | 237 | 0.0 | 0.8 | 8.446 | A |
| C-A | 153 | 38 |  |  | 153 |  |  |  |  |
| AB | 190 | 47 |  |  | 190 |  |  |  |  |
| AC | 285 | 71 |  |  | 285 |  |  |  |  |

17:00-17:15

| Stream | Total Demand (Veh/hr) | $\begin{aligned} & \text { Junction } \\ & \text { Arrivals (Veh) } \end{aligned}$ | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 486 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 318 | 79 | 678 | 0.469 | 316 | 0.8 | 1.2 | 9.965 | A |
| C-A | 151 | 38 |  |  | 151 |  |  |  |  |
| AB | 227 | 57 |  |  | 227 |  |  |  |  |
| AC | 341 | 85 |  |  | 341 |  |  |  |  |

17:15-17:30

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> $($ Veh $)$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 428 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 451 | 113 | 703 | 0.641 | 446 | 1.2 | 2.5 | 14.042 | B |
| C-A | 124 | 31 |  |  | 124 |  |  |  |  |
| AB | 277 | 69 |  |  | 277 |  |  |  |  |
| AC | 417 | 104 |  |  | 417 |  |  |  |  |

17:30-17:45

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 427 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 453 | 113 | 705 | 0.643 | 453 | 2.5 | 2.6 | 14.593 | B |
| C-A | 121 | 30 |  |  | 121 |  |  |  |  |
| AB | 277 | 69 |  |  | 277 |  |  |  |  |
| AC | 417 | 104 |  |  | 417 |  |  |  |  |

17:45-18:00

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 484 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 321 | 80 | 682 | 0.470 | 326 | 2.6 | 1.3 | 10.346 | B |
| C-A | 149 | 37 |  |  | 149 |  |  |  |  |
| AB | 227 | 57 |  |  | 227 |  |  |  |  |
| AC | 341 | 85 |  |  | 341 |  |  |  |  |

18:00-18:15

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> $(\mathbf{V e h} / \mathbf{h r})$ | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 525 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 242 | 60 | 663 | 0.364 | 244 | 1.3 | 0.8 | 8.651 | A |
| C-A | 151 | 38 |  |  | 151 |  |  |  |  |
| AB | 190 | 47 |  |  | 190 |  |  |  |  |
| AC | 285 | 71 |  |  | 285 |  |  |  |  |

THE FUTURE

# Implemented One-Way System - F'bridge 2033 Forecast + CD + PD (Sensitivity) With One Way, AM 

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| ID | Name | Include in <br> report | Use specific Demand <br> Set(s) | Specific Demand Set <br> (s) | Network flow scaling <br> factor (\%) | Network capacity scaling <br> factor (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A2 | Implemented One-Way <br> System | $\checkmark$ | $\checkmark$ | D3,D4,D5,D6,D7,D8 | 100.000 |  |

## Junction Network

## Junctions

| Junction | Name | Junction Type | Major road direction | Junction Delay (s) | Junction LOS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Provost Street/Shaftesbury Street/B3078 | T-Junction | Two-way | 4.33 | A |

## Junction Network Options

| Driving side | Lighting |
| :---: | :---: |
| Left | Normal/unknown |

## Arms

Arms

| Arm | Name | Description | Arm type |
| :---: | :--- | :--- | :--- |
| A | B3078 |  | Major |
| B | Provost Street |  | Minor |
| C | Shaftesbury Street |  | Major |

Major Arm Geometry

| Arm | Width of carriageway <br> $(\mathbf{m})$ | Has kerbed central <br> reserve | Has right turn <br> bay | Visibility for right turn <br> $(\mathbf{m})$ | Blocks? | Blocking queue <br> $($ PCU $)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C - Shaftesbury Street | 6.00 |  |  | 50.0 | $\checkmark$ | 0.00 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
| :---: | :---: | :---: | :---: | :---: |
| B - Provost Street | One lane | 5.00 | 15 | 100 |

## Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept <br> (Veh/hr) | Slope <br> for <br> AB | Slope <br> for <br> AC | Slope <br> for <br> C-A | Slope <br> for <br> C-B |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | B-A | 638 | 0.116 | 0.294 | 0.185 | 0.419 |
| $\mathbf{1}$ | B-C | 824 | 0.126 | 0.319 | - | - |
| $\mathbf{1}$ | C-B | 603 | 0.234 | 0.234 | - | - |

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period <br> name | Traffic <br> profile type | Start time <br> (HH:mm) | Finish time <br> (HH:mm) | Time segment <br> length (min) | Run <br> automatically |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D7 | F'bridge 2033 Forecast + CD + PD (Sensitivity) With One Way | AM | ONE HOUR | $07: 45$ | $09: 15$ | 15 |  |


| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
| :---: | :---: | :---: | :---: |
| $\checkmark$ | $\checkmark$ | HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (\%) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A- B3078 |  | ONE HOUR | $\checkmark$ | 576 | 100.000 |
| B - Provost Street |  | ONE HOUR | $\checkmark$ | 0 | 100.000 |
| C - Shaftesbury Street |  | ONE HOUR | $\checkmark$ | 680 | 100.000 |

## Origin-Destination Data

Demand (Veh/hr)

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 162 | 414 |
|  | B - Provost Street | 0 | 0 | 0 |
|  | C - Shaftesbury Street | 505 | 175 | 0 |

## Vehicle Mix

Heavy Vehicle Percentages

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 4 | 3 |
|  | B - Provost Street | 1 | 0 | 2 |
|  | C - Shaftesbury Street | 3 | 3 | 0 |

## Results

Results Summary for whole modelled period

| Stream | Max RFC | Max delay (s) | Max Queue (Veh) | Max LOS | Average Demand <br> (Veh/hr) | Total Junction <br> Arrivals (Veh) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-AB | 0.65 | 12.53 | 3.3 | B | 399 | 598 |
| C-A |  |  |  |  | 225 | 338 |
| AB |  |  |  |  | 149 | 223 |
| AC |  |  |  |  | 380 | 570 |

## Main Results for each time segment

07:45-08:00

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> $($ Veh/hr) | RFC | Throughput <br> $(\mathbf{V e h} / \mathbf{h r})$ | Start queue <br> $($ Veh $)$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 503 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 264 | 66 | 759 | 0.348 | 261 | 0.0 | 0.9 | 7.217 | A |
| C-A | 248 | 62 |  |  | 248 |  |  |  |  |
| AB | 122 | 30 |  |  | 122 |  |  |  |  |
| AC | 312 | 78 |  |  | 312 |  |  |  |  |

08:00-08:15

| Stream | Total Demand <br> $(\mathbf{V e h} / \mathrm{hr})$ | Junction <br> Arrivals (Veh) | Capacity <br> $(\mathbf{V e h} / \mathbf{h r})$ | RFC | Throughput <br> $(\mathbf{V e h} / \mathrm{hr})$ | Start queue <br> $(\mathbf{V e h})$ | End queue <br> $(\mathbf{V e h})$ | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 458 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 368 | 92 | 799 | 0.460 | 366 | 0.9 | 1.4 | 8.354 | A |
| C-A | 244 | 61 |  |  | 244 |  |  |  |  |
| AB | 146 | 36 |  |  | 146 |  |  |  |  |
| AC | 372 | 93 |  |  | 372 |  |  |  |  |

08:15-08:30

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 393 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 558 | 139 | 856 | 0.652 | 551 | 1.4 | 3.2 | 11.933 | B |
| C-A | 191 | 48 |  |  | 191 |  |  |  |  |
| AB | 178 | 45 |  |  | 178 |  |  |  |  |
| AC | 456 | 114 |  |  | 456 |  |  |  |  |

08:30-08:45

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 391 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 563 | 141 | 860 | 0.655 | 563 | 3.2 | 3.3 | 12.528 | B |
| C-A | 186 | 46 |  |  | 186 |  |  |  |  |
| AB | 178 | 45 |  |  | 178 |  |  |  |  |
| AC | 456 | 114 |  |  | 456 |  |  |  |  |

08:45-09:00

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> $(\mathbf{V e h} / \mathbf{h r})$ | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> $($ Veh $)$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 456 | 0.000 | 0 | 0.0 | 0.0 | 0.000 |  |
| C-AB | 373 | 93 | 804 | 0.464 | 380 | 3.3 | 1.5 | 8.734 | A |
| C-A | 239 | 60 |  |  | 239 |  |  |  |  |
| AB | 146 | 36 |  |  | 146 |  |  |  |  |
| AC | 372 | 93 |  |  | 372 |  |  |  |  |

09:00-09:15

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> $(\mathbf{V e h} / \mathbf{h r})$ | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 501 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 267 | 67 | 761 | 0.351 | 270 | 1.5 | 0.9 | 7.398 | A |
| C-A | 245 | 61 |  |  | 245 |  |  |  |  |
| AB | 122 | 30 |  |  | 122 |  |  |  |  |
| AC | 312 | 78 |  |  | 312 |  |  |  |  |

THE FUTURE

# Implemented One-Way System - F'bridge 2033 Forecast + CD + PD (Sensitivity) With One Way, PM 

## Data Errors and Warnings

No errors or warnings
Analysis Set Details

| ID | Name | Include in <br> report | Use specific Demand <br> Set(s) | Specific Demand Set <br> (s) | Network flow scaling <br> factor (\%) | Network capacity scaling <br> factor (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A2 | Implemented One-Way <br> System | $\checkmark$ | $\checkmark$ | D3,D4,D5,D6,D7,D8 | 100.000 |  |

## Junction Network

## Junctions

| Junction | Name | Junction Type | Major road direction | Junction Delay (s) | Junction LOS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Provost Street/Shaftesbury Street/B3078 | T-Junction | Two-way | 4.48 | A |

## Junction Network Options

| Driving side | Lighting |
| :---: | :---: |
| Left | Normal/unknown |

## Arms

## Arms

| Arm | Name | Description | Arm type |
| :---: | :--- | :--- | :--- |
| A | B3078 |  | Major |
| B | Provost Street |  | Minor |
| C | Shaftesbury Street |  | Major |

Major Arm Geometry

| Arm | Width of carriageway <br> $(\mathbf{m})$ | Has kerbed central <br> reserve | Has right turn <br> bay | Visibility for right turn <br> $(\mathbf{m})$ | Blocks? | Blocking queue <br> $($ PCU $)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C - Shaftesbury Street | 6.00 |  |  | 50.0 | $\checkmark$ | 0.00 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
| :---: | :---: | :---: | :---: | :---: |
| B - Provost Street | One lane | 5.00 | 15 | 100 |

## Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept <br> (Veh/hr) | Slope <br> for <br> AB | Slope <br> for <br> AC | Slope <br> for <br> C-A | Slope <br> for <br> C-B |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | B-A | 638 | 0.116 | 0.294 | 0.185 | 0.419 |
| $\mathbf{1}$ | B-C | 824 | 0.126 | 0.319 | - | - |
| $\mathbf{1}$ | C-B | 603 | 0.234 | 0.234 | - | - |

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period <br> name | Traffic <br> profile type | Start time <br> (HH:mm) | Finish time <br> (HH:mm) | Time segment <br> length (min) | Run <br> automatically |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D8 | F'bridge 2033 Forecast + CD + PD (Sensitivity) With One Way | PM | ONE HOUR | $16: 45$ | $18: 15$ | 15 |  |


| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
| :---: | :---: | :---: | :---: |
| $\checkmark$ | $\checkmark$ | HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (\%) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A- B3078 |  | ONE HOUR | $\checkmark$ | 629 | 100.000 |
| B - Provost Street |  | ONE HOUR | $\checkmark$ | 0 | 100.000 |
| C - Shaftesbury Street |  | ONE HOUR | $\checkmark$ | 521 | 100.000 |

## Origin-Destination Data

Demand (Veh/hr)

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 250 | 379 |
|  | B - Provost Street | 0 | 0 | 0 |
|  | C - Shaftesbury Street | 321 | 200 | 0 |

## Vehicle Mix

Heavy Vehicle Percentages

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 0 | 1 |
|  | B - Provost Street | 1 | 0 | 0 |
|  | C - Shaftesbury Street | 0 | 1 | 0 |

## Results

Results Summary for whole modelled period

| Stream | Max RFC | Max delay (s) | Max Queue (Veh) | Max LOS | Average Demand <br> (Veh/hr) | Total Junction <br> Arrivals (Veh) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-AB | 0.63 | 14.17 | 2.5 | B | 333 | 500 |
| C-A |  |  |  |  | 145 | 217 |
| AB |  |  |  |  | 229 | 344 |
| AC |  |  |  |  | 348 | 522 |

## Main Results for each time segment

16:45-17:00

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 527 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 237 | 59 | 663 | 0.357 | 234 | 0.0 | 0.8 | 8.363 | A |
| C-A | 155 | 39 |  |  | 155 |  |  |  |  |
| AB | 188 | 47 |  |  | 188 |  |  |  |  |
| AC | 285 | 71 |  |  | 285 |  |  |  |  |

17:00-17:15

| Stream | Total Demand (Veh/hr) | $\begin{aligned} & \text { Junction } \\ & \text { Arrivals (Veh) } \end{aligned}$ | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 487 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 314 | 79 | 680 | 0.462 | 312 | 0.8 | 1.2 | 9.817 | A |
| C-A | 154 | 39 |  |  | 154 |  |  |  |  |
| AB | 225 | 56 |  |  | 225 |  |  |  |  |
| AC | 341 | 85 |  |  | 341 |  |  |  |  |

17:15-17:30

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 430 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 446 | 111 | 705 | 0.632 | 441 | 1.2 | 2.4 | 13.671 | B |
| C-A | 128 | 32 |  |  | 128 |  |  |  |  |
| AB | 275 | 69 |  |  | 275 |  |  |  |  |
| AC | 417 | 104 |  |  | 417 |  |  |  |  |

17:30-17:45

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 428 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 448 | 112 | 707 | 0.633 | 448 | 2.4 | 2.5 | 14.170 | B |
| C-A | 126 | 31 |  |  | 126 |  |  |  |  |
| AB | 275 | 69 |  |  | 275 |  |  |  |  |
| AC | 417 | 104 |  |  | 417 |  |  |  |  |

17:45-18:00

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 485 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 317 | 79 | 683 | 0.464 | 322 | 2.5 | 1.3 | 10.170 | B |
| C-A | 152 | 38 |  |  | 152 |  |  |  |  |
| AB | 225 | 56 |  |  | 225 |  |  |  |  |
| AC | 341 | 85 |  |  | 341 |  |  |  |  |

18:00-18:15

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> $(\mathbf{V e h} / \mathbf{h r})$ | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-AC | 0 | 0 | 526 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-AB | 239 | 60 | 665 | 0.359 | 241 | 1.3 | 0.8 | 8.557 | A |
| C-A | 154 | 38 |  |  | 154 |  |  |  |  |
| AB | 188 | 47 |  |  | 188 |  |  |  |  |
| AC | 285 | 71 |  |  | 285 |  |  |  |  |

Appendix E

## Junctions 9

## PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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For sales and distribution information, program advice and maintenance, contact TRL:
+44(0)1344770558 software@trl.co.uk www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Provost St - mit - 1 + Flare.j9
Path: C:\Userslacmodelling\Desktop
Report generation date: 6/12/2024 6:24:12 PM

```
»Mitigation - 2033 Forecast + Com Dev + Prop Dev (Sens), AM
»Mitigation - 2033 Forecast + Com Dev + Prop Dev (Sens), PM
```


## Summary of junction performance

|  | AM |  |  |  |  | PM |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Queue (Veh) | Delay (s) | RFC | LOS | Queue (Veh) | Delay (s) | RFC | LOS |  |  |
|  | Mitigation - 2033 Forecast + Com Dev + Prop Dev (Sens) |  |  |  |  |  |  |  |  |  |
| Stream B-C | 0.9 | 16.92 | 0.47 | C | 0.4 | 9.82 | 0.28 | A |  |  |
| Stream B-A | 1.8 | 35.74 | 0.65 | E | 0.6 | 19.57 | 0.39 | C |  |  |
| Stream C-AB | 0.9 | 7.93 | 0.36 | A | 1.0 | 10.11 | 0.42 | B |  |  |

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

## File summary

File Description

| Title | Provost Street/Shaftesbury Street/B3078 |
| :--- | :--- |
| Location | Fordingbridge |
| Site number |  |
| Date | $3 / 9 / 2022$ |
| Version |  |
| Status | Preliminary |
| Identifier |  |
| Client |  |
| Jobnumber | 132.0001 |
| Enumerator | Paul Basham |
| Description |  |

## Units

| Distance units | Speed units | Traffic units input | Traffic units results | Flow units | Average delay units | Total delay units | Rate of delay units |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| m | kph | Veh | Veh | perHour | s | perMin |  |

## Analysis Options

| Vehicle length <br> $(\mathbf{m})$ | Calculate Queue <br> Percentiles | Calculate detailed queueing <br> delay | Calculate residual <br> capacity | RFC <br> Threshold | Average Delay <br> threshold (s) | Queue threshold <br> (PCU) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.75 |  |  |  | 0.85 | 36.00 |  |

## Demand Set Summary

| ID | Scenario name | Time Period <br> name | Traffic profile <br> type | Start time <br> (HH:mm) | Finish time <br> (HH:mm) | Time segment length <br> (min) | Run <br> automatically |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D1 | 2033 Forecast + Com Dev + Prop Dev (Sens) | AM | ONE HOUR | $07: 45$ | $09: 15$ | 15 |  |
| D2 | 2033 Forecast + Com Dev + Prop Dev (Sens) | PM | ONE HOUR | $16: 45$ | $18: 15$ |  |  |

THE FUTURE

# Mitigation - 2033 Forecast + Com Dev + Prop Dev (Sens), AM 

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| ID | Name | Include in report | Use specific Demand Set(s) | Specific Demand Set(s) | Network flow scaling factor (\%) | Network capacity scaling factor (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A2 | Mitigation | $\checkmark$ | $\checkmark$ | D1,D2 | 100.000 | 100.000 |

## Junction Network

## Junctions

| Junction | Name | Junction Type | Major road direction | Junction Delay (s) | Junction LOS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Provost Street/Shaftesbury Street/B3078 | T-Junction | Two-way | 7.74 | A |

## Junction Network Options

| Driving side | Lighting |
| :---: | :---: |
| Left | Normal/unknown |

## Arms

## Arms

| Arm | Name | Description | Arm type |
| :---: | :--- | :--- | :--- |
| A | B3078 |  | Major |
| B | Provost Street |  | Minor |
| C | Shaftesbury Street |  | Major |

Major Arm Geometry

| Arm | Width of carriageway <br> $(\mathbf{m})$ | Has kerbed central <br> reserve | Has right turn <br> bay | Visibility for right turn <br> $(\mathbf{m})$ | Blocks? | Blocking queue <br> $($ PCU $)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C - Shaftesbury Street | 6.00 |  |  | 50.0 | $\checkmark$ | 0.00 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor arm <br> type | Width at <br> give-way $(\mathbf{m})$ | Width at <br> $\mathbf{5 m}(\mathbf{m})$ | Width at <br> $\mathbf{1 0 m}(\mathbf{m})$ | Width at <br> $\mathbf{1 5 m}(\mathbf{m})$ | Width at <br> $\mathbf{2 0 m}(\mathbf{m})$ | Estimate flare <br> length | Flare <br> length <br> (PCU) | Visibility to <br> left $(\mathbf{m})$ | Visibility to <br> right $(\mathbf{m})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B - Provost Street | One lane <br> plus flare | 8.90 | 7.00 | 6.20 | 4.60 | 3.20 | $\checkmark$ | 2.00 | 15 | 100 |

## Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept <br> (Veh/hr) | Slope <br> for <br> AB | Slope <br> for <br> AC | Slope <br> for <br> C-A | Slope <br> for <br> C-B |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | B-A | 548 | 0.100 | 0.252 | 0.159 | 0.360 |
| $\mathbf{1}$ | B-C | 712 | 0.109 | 0.276 | - | - |
| $\mathbf{1}$ | C-B | 603 | 0.234 | 0.234 | - | - |

[^2]
## Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period <br> name | Traffic profile <br> type | Start time <br> $($ HH:mm $)$ | Finish time <br> (HH:mm) | Time segment length <br> (min) | Run <br> automatically |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D1 | 2033 Forecast + Com Dev + Prop Dev (Sens) | AM | ONE HOUR | $07: 45$ | $09: 15$ | 15 |  |


| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
| :---: | :---: | :---: | :---: |
| $\checkmark$ | $\checkmark$ | HV Percentages | 2.00 |

Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (\%) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A- B3078 |  | ONE HOUR | $\checkmark$ | 576 | 100.000 |
| B - Provost Street |  | ONE HOUR | $\checkmark$ | 342 | 100.000 |
| C - Shaftesbury Street |  | ONE HOUR | $\checkmark$ | 449 | 100.000 |

## Origin-Destination Data

Demand (Veh/hr)

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 140 | 436 |
|  | B - Provost Street | 169 | 0 | 173 |
|  | C - Shaftesbury Street | 336 | 113 | 0 |

## Vehicle Mix

Heavy Vehicle Percentages

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 4 | 2 |
|  | B - Provost Street | 2 | 0 | 1 |
|  | C - Shaftesbury Street | 3 | 3 | 0 |

## Results

Results Summary for whole modelled period

| Stream | Max RFC | Max delay (s) | Max Queue (Veh) | Max LOS | Average Demand <br> (Veh/hr) | Total Junction <br> Arrivals (Veh) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-C | 0.47 | 16.92 | 0.9 | C | 159 | 238 |
| B-A | 0.65 | 35.74 | 1.8 | E | 155 | 233 |
| C-AB | 0.36 | 7.93 | 0.9 | A | 193 | 290 |
| C-A |  |  |  |  | 219 | 328 |
| AB |  |  |  |  | 128 | 193 |
| AC |  |  |  |  | 400 | 600 |

## Main Results for each time segment

07:45-08:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-C | 130 | 33 | 545 | 0.239 | 129 | 0.0 | 0.3 | 8.638 | A |
| B-A | 127 | 32 | 371 | 0.343 | 125 | 0.0 | 0.5 | 14.530 | B |
| C-AB | 137 | 34 | 667 | 0.205 | 135 | 0.0 | 0.4 | 6.762 | A |
| C-A | 201 | 50 |  |  | 201 |  |  |  |  |
| AB | 105 | 26 |  |  | 105 |  |  |  |  |
| AC | 328 | 82 |  |  | 328 |  |  |  |  |

08:00-08:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-C | 156 | 39 | 500 | 0.311 | 155 | 0.3 | 0.4 | 10.431 | B |
| B-A | 152 | 38 | 337 | 0.451 | 151 | 0.5 | 0.8 | 19.221 | C |
| C-AB | 182 | 46 | 687 | 0.265 | 181 | 0.4 | 0.6 | 7.133 | A |
| C-A | 221 | 55 |  |  | 221 |  |  |  |  |
| AB | 126 | 31 |  |  | 126 |  |  |  |  |
| AC | 392 | 98 |  |  | 392 |  |  |  |  |

08:15-08:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-C | 190 | 48 | 409 | 0.466 | 189 | 0.4 | 0.8 | 16.231 | C |
| B-A | 186 | 47 | 286 | 0.651 | 182 | 0.8 | 1.7 | 33.642 | D |
| C-AB | 259 | 65 | 716 | 0.362 | 258 | 0.6 | 0.9 | 7.881 | A |
| C-A | 235 | 59 |  |  | 235 |  |  |  |  |
| AB | 154 | 39 |  |  | 154 |  |  |  |  |
| AC | 480 | 120 |  |  | 480 |  |  |  |  |

08:30-08:45

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-C | 190 | 48 | 403 | 0.473 | 190 | 0.8 | 0.9 | 16.921 | C |
| B-A | 186 | 47 | 286 | 0.651 | 186 | 1.7 | 1.8 | 35.744 | E |
| C-AB | 260 | 65 | 717 | 0.363 | 260 | 0.9 | 0.9 | 7.929 | A |
| C-A | 235 | 59 |  |  | 235 |  |  |  |  |
| AB | 154 | 39 |  |  | 154 |  |  |  |  |
| AC | 480 | 120 |  |  | 480 |  |  |  |  |

08:45-09:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-C | 156 | 39 | 494 | 0.315 | 157 | 0.9 | 0.5 | 10.736 | B |
| B-A | 152 | 38 | 337 | 0.451 | 156 | 1.8 | 0.9 | 20.213 | C |
| C-AB | 183 | 46 | 688 | 0.266 | 184 | 0.9 | 0.6 | 7.189 | A |
| C-A | 221 | 55 |  |  | 221 |  |  |  |  |
| AB | 126 | 31 |  |  | 126 |  |  |  |  |
| AC | 392 | 98 |  |  | 392 |  |  |  |  |

09:00-09:15

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> $(\mathbf{V e h} / \mathbf{h r})$ | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> $(\mathbf{V e h})$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-C | 130 | 33 | 542 | 0.241 | 131 | 0.5 | 0.3 | 8.777 |  |
| B-A | 127 | 32 | 371 | 0.343 | 129 | 0.9 | 0.5 | 14.921 | B |
| C-AB | 138 | 34 | 668 | 0.206 | 139 | 0.6 | 0.4 | 6.820 | A |
| C-A | 200 | 50 |  |  | 200 |  |  |  |  |
| AB | 105 | 26 |  |  | 105 |  |  |  |  |
| AC | 328 | 82 |  |  | 328 |  |  |  |  |

THE FUTURE

# Mitigation - 2033 Forecast + Com Dev + Prop Dev (Sens), PM 

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| ID | Name | Include in report | Use specific Demand Set(s) | Specific Demand Set(s) | Network flow scaling factor (\%) | Network capacity scaling factor (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A2 | Mitigation | $\checkmark$ | $\checkmark$ | D1,D2 | 100.000 | 100.000 |

## Junction Network

## Junctions

| Junction | Name | Junction Type | Major road direction | Junction Delay (s) | Junction LOS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | Provost Street/Shaftesbury Street/B3078 | T-Junction | Two-way | 4.53 | A |

## Junction Network Options

| Driving side | Lighting |
| :---: | :---: |
| Left | Normal/unknown |

## Arms

## Arms

| Arm | Name | Description | Arm type |
| :---: | :--- | :--- | :--- |
| A | B3078 |  | Major |
| B | Provost Street |  | Minor |
| C | Shaftesbury Street |  | Major |

Major Arm Geometry

| Arm | Width of carriageway <br> $(\mathbf{m})$ | Has kerbed central <br> reserve | Has right turn <br> bay | Visibility for right turn <br> $(\mathbf{m})$ | Blocks? | Blocking queue <br> $($ PCU $)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C - Shaftesbury Street | 6.00 |  |  | 50.0 | $\checkmark$ | 0.00 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor arm <br> type | Width at <br> give-way $(\mathbf{m})$ | Width at <br> $\mathbf{5 m}(\mathbf{m})$ | Width at <br> $\mathbf{1 0 m}(\mathbf{m})$ | Width at <br> $\mathbf{1 5 m}(\mathbf{m})$ | Width at <br> $\mathbf{2 0 m}(\mathbf{m})$ | Estimate flare <br> length | Flare <br> length <br> $(\mathbf{P C U})$ | Visibility to <br> left (m) | Visibility to <br> right $(\mathbf{m})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-Provost Street | One lane <br> plus flare | 8.90 | 7.00 | 6.20 | 4.60 | 3.20 | $\checkmark$ | 2.00 | 15 | 100 |

## Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept <br> (Veh/hr) | Slope <br> for <br> AB | Slope <br> for <br> AC | Slope <br> for <br> C-A | Slope <br> for <br> C-B |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | B-A | 534 | 0.097 | 0.246 | 0.155 | 0.351 |
| $\mathbf{1}$ | B-C | 729 | 0.112 | 0.283 | - | - |
| $\mathbf{1}$ | C-B | 603 | 0.234 | 0.234 | - | - |

[^3]
## Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period <br> name | Traffic profile <br> type | Start time <br> (HH:mm) | Finish time <br> (HH:mm) | Time segment length <br> (min) | Run <br> automatically |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D2 | 2033 Forecast + Com Dev + Prop Dev (Sens) | PM | ONE HOUR | $16: 45$ | $18: 15$ | 15 |  |


| Vehicle mix varies over turn | Vehicle mix varies over entry | Vehicle mix source | PCU Factor for a HV (PCU) |
| :---: | :---: | :---: | :---: |
| $\checkmark$ | $\checkmark$ | HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (\%) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A- B3078 |  | ONE HOUR | $\checkmark$ | 629 | 100.000 |
| B - Provost Street |  | ONE HOUR | $\checkmark$ | 235 | 100.000 |
| C - Shaftesbury Street |  | ONE HOUR | $\checkmark$ | 356 | 100.000 |

## Origin-Destination Data

Demand (Veh/hr)

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 222 | 407 |
|  | B - Provost Street | 107 | 0 | 128 |
|  | C - Shaftesbury Street | 213 | 143 | 0 |

## Vehicle Mix

Heavy Vehicle Percentages

|  | To |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| From |  | A - B3078 | B - Provost Street | C - Shaftesbury Street |
|  | A - B3078 | 0 | 0 | 1 |
|  | B - Provost Street | 1 | 0 | 0 |
|  | C - Shaftesbury Street | 0 | 1 | 0 |

## Results

Results Summary for whole modelled period

| Stream | Max RFC | Max delay (s) | Max Queue (Veh) | Max LOS | Average Demand <br> (Veh/hr) | Total Junction <br> Arrivals (Veh) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-C | 0.28 | 9.82 | 0.4 | A | 117 | 176 |
| B-A | 0.39 | 19.57 | 0.6 | C | 98 | 147 |
| C-AB | 0.42 | 10.11 | 1.0 | B | 197 | 296 |
| C-A |  |  |  |  | 129 | 194 |
| AB |  |  |  |  | 204 | 306 |
| AC |  |  |  |  | 373 | 560 |

## Main Results for each time segment

16:45-17:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-C | 96 | 24 | 589 | 0.164 | 96 | 0.0 | 0.2 | 7.297 | A |
| B-A | 81 | 20 | 375 | 0.215 | 79 | 0.0 | 0.3 | 12.146 | B |
| C-AB | 147 | 37 | 604 | 0.243 | 145 | 0.0 | 0.4 | 7.835 | A |
| C-A | 121 | 30 |  |  | 121 |  |  |  |  |
| AB | 167 | 42 |  |  | 167 |  |  |  |  |
| AC | 306 | 77 |  |  | 306 |  |  |  |  |

17:00-17:15

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $(\mathbf{V e h} / \mathbf{h r})$ | Start queue <br> $($ Veh $)$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-C | 115 | 29 | 557 | 0.206 | 115 | 0.2 | 0.3 | 8.129 | A |
| B-A | 96 | 24 | 344 | 0.279 | 96 | 0.3 | 0.4 | 14.453 | B |
| C-AB | 188 | 47 | 608 | 0.310 | 188 | 0.4 | 0.6 | 8.585 | A |
| C-A | 132 | 33 |  |  | 132 |  |  |  |  |
| AB | 200 | 50 |  |  | 200 |  |  |  |  |
| AC | 366 | 91 |  |  | 366 |  |  |  |  |

17:15-17:30

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $($ Veh/hr) | Start queue <br> $($ Veh $)$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-C | 141 | 35 | 509 | 0.277 | 140 | 0.3 | 0.4 | 9.765 |  |
| B-A | 118 | 29 | 302 | 0.390 | 117 | 0.4 | 0.6 | 19.361 |  |
| C-AB | 256 | 64 | 614 | 0.417 | 254 | 0.6 | 1.0 | 10.027 | C |
| C-A | 136 | 34 |  |  | 136 |  |  |  |  |
| AB | 244 | 61 |  |  | 244 |  |  |  |  |
| AC | 448 | 112 |  |  | 448 |  |  |  |  |

17:30-17:45

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-C | 141 | 35 | 507 | 0.278 | 141 | 0.4 | 0.4 | 9.820 | A |
| B-A | 118 | 29 | 302 | 0.391 | 118 | 0.6 | 0.6 | 19.570 | C |
| C-AB | 256 | 64 | 615 | 0.417 | 256 | 1.0 | 1.0 | 10.107 | B |
| C-A | 136 | 34 |  |  | 136 |  |  |  |  |
| AB | 244 | 61 |  |  | 244 |  |  |  |  |
| AC | 448 | 112 |  |  | 448 |  |  |  |  |

## 17:45-18:00

| Stream | Total Demand <br> (Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> (Veh/hr) | Start queue <br> (Veh) | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-C | 115 | 29 | 556 | 0.207 | 116 | 0.4 | 0.3 | 8.186 | A |
| B-A | 96 | 24 | 344 | 0.279 | 97 | 0.6 | 0.4 | 14.625 | B |
| C-AB | 189 | 47 | 608 | 0.311 | 190 | 1.0 | 0.6 | 8.663 | A |
| C-A | 131 | 33 |  |  | 131 |  |  |  |  |
| AB | 200 | 50 |  |  | 200 |  |  |  |  |
| AC | 366 | 91 |  |  | 366 |  |  |  |  |

18:00-18:15

| Stream | Total Demand <br> $($ Veh/hr) | Junction <br> Arrivals (Veh) | Capacity <br> (Veh/hr) | RFC | Throughput <br> $(\mathbf{V e h} / \mathbf{h r})$ | Start queue <br> $($ Veh $)$ | End queue <br> (Veh) | Delay (s) | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B-C | 96 | 24 | 587 | 0.164 | 97 | 0.3 | 0.2 | 7.341 | A |
| B-A | 81 | 20 | 375 | 0.215 | 81 | 0.4 | 0.3 | 12.282 | B |
| C-AB | 147 | 37 | 604 | 0.244 | 148 | 0.6 | 0.4 | 7.912 | A |
| C-A | 121 | 30 |  |  | 121 |  |  |  |  |
| AB | 167 | 42 |  |  | 167 |  |  |  |  |
| AC | 306 | 77 |  |  | 306 |  |  |  |  |

Appendix F

## TRIP RATE CALCULATI ON SELECTI ON PARAMETERS:

Land Use : 03-RESIDENTIAL
Category : B - AFFORDABLE/LOCAL AUTHORITY HOUSES
TOTAL VEHI CLES

| Selected regions and areas: |  |  |
| :--- | :--- | :--- |
| $\mathbf{0 2}$ | SOUTH EAST |  |
|  | EX ESSEX | 1 days |
| $\mathbf{0 6}$ | WEST MI DLANDS |  |
|  | WO WORCESTERSHIRE | 1 days |
| $\mathbf{0 7}$ | YORKSHIRE \& NORTH LI NCOLNSHIRE |  |
| $\mathbf{0 9}$ | KS KORTHKLEES | 1 days |
|  | NO WESTMORLAND \& FURNESS | 1 days |

This section displays the number of survey days per TRICS ${ }^{\circledR}$ sub-region in the selected set

## Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

| Parameter: | No of Dwellings |
| :--- | :--- |
| Actual Range: | 16 to 228 (units: ) |
| Range Selected by User: | 10 to 473 (units:) |
|  |  |
| Parking Spaces Range: | All Surveys Included |

Parking Spaces per Dwelling Range: All Surveys Included
Bedrooms per Dwelling Range: All Surveys Included
Percentage of dwellings privately owned: All Surveys Included
Public Transport Provision:
Selection by: Include all surveys
Date Range: $\quad 01 / 01 / 16$ to 07/06/23
This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

| Selected survey days: |  |
| :--- | :--- |
| Monday | 1 days <br> Thursday <br> Friday |
|  | 2 days |

This data displays the number of selected surveys by day of the week.
Selected survey types:

| Manual count | 4 days |
| :--- | :--- |
| Directional ATC Count | 0 days |

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:
Edge of Town 1
Neighbourhood Centre (PPS6 Local Centre) 3
This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

| Selected Location Sub Categories: |  |
| :--- | :--- |
| Residential Zone | 2 |
| Village | 2 |

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Inclusion of Servicing Vehicles Counts:
Servicing vehicles Included X days - Selected
Servicing vehicles Excluded
4 days - Selected

## Secondary Filtering selection:

Use Class:
C3 4 days
This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS $®$.

Population within 500m Range:
All Surveys Included

## Secondary Filtering selection (Cont.):

Population within 1 mile:
1,001 to $5,000 \quad 2$ days
5,001 to $10,000 \quad 1$ days
25,001 to $50,000 \quad 1$ days
This data displays the number of selected surveys within stated 1-mile radii of population.
Population within 5 miles:

| 5,000 or Less | 1 days |
| :--- | :--- |
| 50,001 to 75,000 | 1 days |
| 125,001 to 250,000 | 2 days |

This data displays the number of selected surveys within stated 5 -mile radii of population.
Car ownership within 5 miles:

| 0.6 to 1.0 | 1 days |
| :--- | :--- |
| 1.1 to 1.5 | 3 days |

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5 -miles of selected survey sites.

Travel Plan:
No 4 days
This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

## PTAL Rating:

No PTAL Present 4 days
This data displays the number of selected surveys with PTAL Ratings.

TRIP RATE for Land Use 03 - RESIDENTIAL/B - AFFORDABLE/LOCAL AUTHORITY HOUSES
TOTAL VEHI CLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| Time Range | ARRIVALS |  |  | DEPARTURES |  |  | TOTALS |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00-01:00 |  |  |  |  |  |  |  |  |  |
| 01:00-02:00 |  |  |  |  |  |  |  |  |  |
| 02:00-03:00 |  |  |  |  |  |  |  |  |  |
| 03:00-04:00 |  |  |  |  |  |  |  |  |  |
| 04:00-05:00 |  |  |  |  |  |  |  |  |  |
| 05:00-06:00 |  |  |  |  |  |  |  |  |  |
| 06:00-07:00 |  |  |  |  |  |  |  |  |  |
| 07:00-08:00 | 4 | 82 | 0.058 | 4 | 82 | 0.232 | 4 | 82 | 0.290 |
| 08:00-09:00 | 4 | 82 | 0.086 | 4 | 82 | 0.229 | 4 | 82 | 0.315 |
| 09:00-10:00 | 4 | 82 | 0.073 | 4 | 82 | 0.128 | 4 | 82 | 0.201 |
| 10:00-11:00 | 4 | 82 | 0.064 | 4 | 82 | 0.092 | 4 | 82 | 0.156 |
| 11:00-12:00 | 4 | 82 | 0.064 | 4 | 82 | 0.095 | 4 | 82 | 0.159 |
| 12:00-13:00 | 4 | 82 | 0.095 | 4 | 82 | 0.073 | 4 | 82 | 0.168 |
| 13:00-14:00 | 4 | 82 | 0.080 | 4 | 82 | 0.073 | 4 | 82 | 0.153 |
| 14:00-15:00 | 4 | 82 | 0.110 | 4 | 82 | 0.089 | 4 | 82 | 0.199 |
| 15:00-16:00 | 4 | 82 | 0.168 | 4 | 82 | 0.110 | 4 | 82 | 0.278 |
| 16:00-17:00 | 4 | 82 | 0.180 | 4 | 82 | 0.095 | 4 | 82 | 0.275 |
| 17:00-18:00 | 4 | 82 | 0.183 | 4 | 82 | 0.113 | 4 | 82 | 0.296 |
| 18:00-19:00 | 4 | 82 | 0.211 | 4 | 82 | 0.119 | 4 | 82 | 0.330 |
| 19:00-20:00 |  |  |  |  |  |  |  |  |  |
| 20:00-21:00 |  |  |  |  |  |  |  |  |  |
| 21:00-22:00 |  |  |  |  |  |  |  |  |  |
| 22:00-23:00 |  |  |  |  |  |  |  |  |  |
| 23:00-24:00 |  |  |  |  |  |  |  |  |  |
| Total Rates: |  |  | 1.372 |  |  | 1.448 |  |  | 2.820 |

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

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## Parameter summary

Trip rate parameter range selected:
Survey date date range:
Number of weekdays (Monday-Friday):
Number of Saturdays:
Number of Sundays:
Surveys automatically removed from selection:
Surveys manually removed from selection:

16-228 (units:)
01/01/16-07/06/23
4
0
0
0

This section displays a quick summary of some of the data filtering selections made by the TRICS ${ }^{\circledR}$ user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

## TRIP RATE CALCULATI ON SELECTI ON PARAMETERS:

Land Use : 05-HEALTH
Category : F - CARE HOME (ELDERLY RESIDENTIAL)
TOTAL VEHICLES

| Selected regions and areas: |  |  |
| :--- | :--- | :--- |
| $\mathbf{0 2}$ | SOUTH EAST |  |
|  | WS WEST SUSSEX |  |
| $\mathbf{0 5}$ | EAST MI DLANDS |  |
|  | NN NORTH NORTHAMPTONSHIRE |  |
| $\mathbf{0 7}$ | YORKSHI RE \& NORTH LI NCOLNSHI RE |  |
|  | NY NORTH YORKSHIRE |  |
| $\mathbf{0 8}$ | NORTH WEST |  |
|  | BP BLACKPOOL | 1 days |
| $\mathbf{0 9}$ | NORTH | 1 days |
|  | TW TYNE \& WEAR | 1 days |

This section displays the number of survey days per TRICS ${ }^{\circledR}$ sub-region in the selected set

## Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

| Parameter: | Number of residents |
| :--- | :--- |
| Actual Range: | 31 to 60 (units: ) |
| Range Selected by User: | 17 to 180 (units: ) |
|  |  |
| Parking Spaces Range: | All Surveys Included |

Public Transport Provision:
Selection by: Include all surveys
Date Range: $\quad 01 / 01 / 16$ to $18 / 06 / 23$
This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

| Monday | 2 days |
| :--- | :--- |
| Tuesday | 2 days |
| Thursday | 1 days |

This data displays the number of selected surveys by day of the week.
Selected survey types:

| Manual count | 5 days |
| :--- | :--- |
| Directional ATC Count | 0 days |

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:
Suburban Area (PPS6 Out of Centre) 2
Edge of Town 3
This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:
Residential Zone 4
No Sub Category 1
This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Inclusion of Servicing Vehicles Counts:
Servicing vehicles Included 4 days - Selected
Servicing vehicles Excluded 1 days - Selected

## Secondary Filtering selection:

## Use Class:

C2 5 days
This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS $®$.

Population within 500m Range:
All Surveys Included

## Secondary Filtering selection (Cont.):

Population within 1 mile:
5,001 to $10,000 \quad 1$ days

15,001 to $20,000 \quad 1$ days
25,001 to 50,000 3 days
This data displays the number of selected surveys within stated 1-mile radii of population.
Population within 5 miles:

| 25,001 to 50,000 | 1 days |
| :--- | :--- |
| 75,001 to 100,000 | 1 days |
| 125,001 to 250,000 | 2 days |
| 250,001 to 500,000 | 1 days |

This data displays the number of selected surveys within stated 5 -mile radii of population.
Car ownership within 5 miles:

| 0.6 to 1.0 | 2 days |
| :--- | :--- |
| 1.1 to 1.5 | 3 days |

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5 -miles of selected survey sites.

Travel Plan:
No
5 days
This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:
No PTAL Present 5 days
This data displays the number of selected surveys with PTAL Ratings.

## TRIP RATE for Land Use 05 - HEALTH/F - CARE HOME (ELDERLY RESIDENTIAL)

TOTAL VEHI CLES
Calculation factor: 1 RESIDE
BOLD print indicates peak (busiest) period

| Time Range | ARRIVALS |  |  | DEPARTURES |  |  | TOTALS |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. Days | Ave. RESIDE | Trip Rate | No. Days | Ave. RESIDE | Trip Rate | No. Days | Ave. RESIDE | Trip Rate |
| 00:00-01:00 |  |  |  |  |  |  |  |  |  |
| 01:00-02:00 |  |  |  |  |  |  |  |  |  |
| 02:00-03:00 |  |  |  |  |  |  |  |  |  |
| 03:00-04:00 |  |  |  |  |  |  |  |  |  |
| 04:00-05:00 |  |  |  |  |  |  |  |  |  |
| 05:00-06:00 |  |  |  |  |  |  |  |  |  |
| 06:00-07:00 |  |  |  |  |  |  |  |  |  |
| 07:00-08:00 | 5 | 47 | 0.098 | 5 | 47 | 0.081 | 5 | 47 | 0.179 |
| 08:00-09:00 | 5 | 47 | 0.073 | 5 | 47 | 0.060 | 5 | 47 | 0.133 |
| 09:00-10:00 | 5 | 47 | 0.073 | 5 | 47 | 0.047 | 5 | 47 | 0.120 |
| 10:00-11:00 | 5 | 47 | 0.051 | 5 | 47 | 0.038 | 5 | 47 | 0.089 |
| 11:00-12:00 | 5 | 47 | 0.064 | 5 | 47 | 0.081 | 5 | 47 | 0.145 |
| 12:00-13:00 | 5 | 47 | 0.051 | 5 | 47 | 0.064 | 5 | 47 | 0.115 |
| 13:00-14:00 | 5 | 47 | 0.094 | 5 | 47 | 0.038 | 5 | 47 | 0.132 |
| 14:00-15:00 | 5 | 47 | 0.068 | 5 | 47 | 0.111 | 5 | 47 | 0.179 |
| 15:00-16:00 | 5 | 47 | 0.098 | 5 | 47 | 0.171 | 5 | 47 | 0.269 |
| 16:00-17:00 | 5 | 47 | 0.038 | 5 | 47 | 0.056 | 5 | 47 | 0.094 |
| 17:00-18:00 | 5 | 47 | 0.034 | 5 | 47 | 0.043 | 5 | 47 | 0.077 |
| 18:00-19:00 | 5 | 47 | 0.034 | 5 | 47 | 0.038 | 5 | 47 | 0.072 |
| 19:00-20:00 | 5 | 47 | 0.056 | 5 | 47 | 0.030 | 5 | 47 | 0.086 |
| 20:00-21:00 | 5 | 47 | 0.047 | 5 | 47 | 0.051 | 5 | 47 | 0.098 |
| 21:00-22:00 |  |  |  |  |  |  |  |  |  |
| 22:00-23:00 |  |  |  |  |  |  |  |  |  |
| 23:00-24:00 |  |  |  |  |  |  |  |  |  |
| Total Rates: |  |  | 0.879 |  |  | 0.909 |  |  | 1.788 |

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

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## Parameter summary

Trip rate parameter range selected:
Survey date date range:
Number of weekdays (Monday-Friday):
Number of Saturdays:
Number of Sundays:
Surveys automatically removed from selection:
Surveys manually removed from selection:

31-60 (units:) 01/01/16-18/06/23
5
0
0
0

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[^0]:    The slopes and intercepts shown above do NOT include any corrections or adjustments.

[^1]:    The slopes and intercepts shown above do NOT include any corrections or adjustments.

[^2]:    The slopes and intercepts shown above do NOT include any corrections or adjustments.
    Streams may be combined, in which case capacity will be adjusted.
    Values are shown for the first time segment only; they may differ for subsequent time segments.

[^3]:    The slopes and intercepts shown above do NOT include any corrections or adjustments.
    Streams may be combined, in which case capacity will be adjusted.
    Values are shown for the first time segment only; they may differ for subsequent time segments.

