



PROPOSED RESIDENTIAL DEVELOPMENT, HALSNEAD GARDEN VILLAGE, LICKERS LANE, KNOWLSEY NATIONAL HIGHWAYS RESPONSE UPDATE NOTE V1 (FEBRUARY 2024) - 3463

1. Introduction

Eddisons have been instructed by Vistry Partnerships to advise on the traffic and transport issues relating to a planning application for 120 dwellings on a parcel of land which forms part of the Halsnead Garden Village site in Knowsley. The application reference number is 22/00600/FUL.

A comprehensive Transport Assessment (TA) was submitted with the planning application, along with a Travel Plan (TP) to encourage and promote the use of sustainable modes.

Whilst Knowsley Metropolitan Borough Council (KMBC) raised no issues with the TA, National Highways (NH) raised a holding direction on the application, subject to additional information being provided.

A Note was prepared (dated January 2023) that responded to the matters raised by NH, which can be summarised as follows:

- Clarity on the baseline position in respect to committed developments for the Land South of Lickers Lane Application and should include sites within the Halsnead Garden Village along with any sites in close proximity to Tarbock Island. This should be provided and confirmed by Croft and Knowsley Council.
- Clarity should be provided on developments which are progressing through planning (sites within the Halsnead Garden Village and in close proximity to Tarbock Island) that Knowsley Council is minded to support and could be determined before the Land South of Lickers Lane Application. National Highways recommend that any such sites should also be considered alongside committed development sites.
- Given that a threshold (trigger point) of 40% of development in the Halsnead Garden Village has previously been identified before capacity improvements at Tarbock Island are required, National Highways consider that the Land South of Lickers Lane Application will need to be considered against this threshold, taking in to consideration committed and emerging developments.



In their most recent response dated 8th March 2023, NH have recommended that a condition should be attached to any planning permission that may be granted, as follows:

'No part of the development shall be first occupied until upcoming junction satisfaction improvements to Tarbock Island have been concluded to the written satisfaction of the Local Planning Authority'.

The works relate to a series of improvements to the M62 Junction 6 roundabout (Tarbock Interchange).

A response note (dated May 2023) was prepared by Eddisons and is contained within **Appendix 1**.

Given the lapse in time since the original Note was submitted, this note has been prepared to provide updated information to support the Applicant's response to the suggested condition regarding impact on the Tarbock Junction in relation to the 40% trigger point. More specifically, this note continues to seek agreement with NH and KMBC to enable the construction and occupation of the proposed development, comprising 120 residential dwellings on the site, prior to the works being undertaken at the junction.

A crucial factor is that the works to the Tarbock roundabout have now commenced (as of 4th March 2024) and so this provides a much greater degree of certainty that the works are to be implemented.

The 40% housing allocation referred to above, equates to approximately 640 dwellings (assuming 1,600 homes at the Halsnead Sustainable Urban Extension (SUE)).

As such, this note will consider the following matters:

- Development traffic;
- Background Traffic Levels;
- Traffic Growth; and
- Anticipated completion and occupation.

For ease, each of the above will be discussed in the same order as they appear above.

2. Development Traffic

The submitted TA set out, at Table 6.1, the likely levels of proposed development traffic ,which is replicated below for ease.

Peak Period	Trip Rate (per unit)		Number of Trips	
	Arr	Dep	Arr	Dep
AM Peak Hour	0.126	0.376	15	45
PM Peak Hour	0.352	0.155	42	19

Forecast Trip Generation of Proposed Residential Development (120 Dwellings)

As demonstrated above, the residential development is forecast to generate a two-way total of approximately 60 trips in the AM peak hour and 61 trips in the PM peak hour.

The resultant proposed development flows are shown in **Figures 1** and **2** for the AM and PM peak periods respectively.

A further table is provided below, which shows the forecast impact of the development at the M62 Junction 6 (Tarbock Interchange).

Direction	Development Trips	
	AM	PM
Windy Arbor Road (nb)	4	11
Windy Arbor Road (sb)	11	5
Two-Way Trips	16	16

Forecast Impact of Development Traffic at M62 Junction 6

It is considered that such increases are within the normal variation of daily traffic flows and will not result in a material change to traffic conditions.

The forecast impact (in vehicles) at the M62 Junction 6 roundabout is shown in **Appendix 2**. The O/D matrices provided show that the impact on each of the individual approach arms of the roundabout will be between 2 and 3 vehicles in the morning and evening peak hours.

The Department for Transport (DfT) Circular 01/2022 guidance sets out NH's approach to development management within the strategic road network and, at Paragraph 51, it states that where a TA indicates that a development would have a severe cumulative impact on the SRN the developer must identify when, in relation to the occupation of development, transport improvements become necessary.

Based on the predicted number of vehicle trips from this residential development onto the Tarbock Island junction it cannot be considered that the proposed development would have a severe impact on the SRN, (i.e. 16 two-way trips in each peak hour).

Although the 2007 DfT Transport Assessment guidance is superseded, in this instance Eddisons suggest it could be useful to refer to the forecast change of 30 two-way trips being a common threshold for requiring detailed assessment of junction performance, given that this level of traffic generation by the proposed development at Tarbock Island equates to all of the 120 dwellings being occupied.

3. Background Traffic Levels

In relation to the 40% threshold in terms of what quantum of the development could be occupied, consideration has been given to the assumed levels of background traffic in relation to the VISSIM model for Tarbock Interchange, which is maintained by WSP on behalf of KMBC.

It is understood that the Tarbock Island model comprises a 2018 Base Year (validated 2018 VISSIM Model).

In regard to traffic patterns, it is worth noting that the DfT has updated figures for road traffic estimates published in December 2022 (Provisional road traffic estimates, Great Britain: October 2021 to September 2022 - GOV.UK (www.gov.uk)).

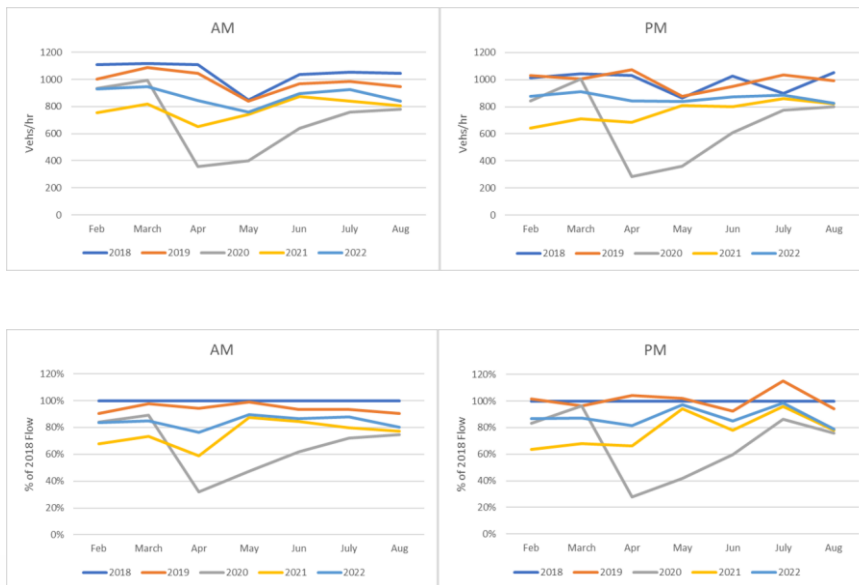
The document reports that for the year ending September 2022, "*All motor vehicle traffic increased compared to the year ending September 2021 (+12.6%), but was 4.9% lower than pre-pandemic levels (the year ending December 2019).*" Clearly, therefore, traffic levels in general are lower than pre-pandemic levels, and this is likely to be the case for the study area.

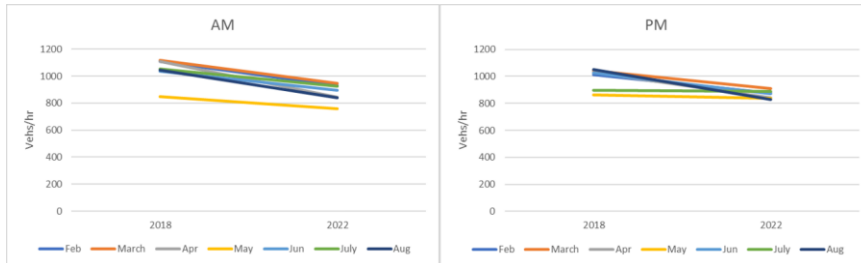
To demonstrate the on-going reduction in traffic volumes at Tarbock Island, the M62 westbound off-slip traffic flows have been taken from the Webtris database, as summarised below.

Month	AM					PM				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Feb	1109	1003	934	754	927	1012	1029	843	643	875
March	1115	1088	994	819	947	1043	1006	1004	711	911
Apr	1108	1046	356	652	845	1031	1074	285	684	841
May	849	841	401	742	760	862	879	361	810	838
June	1034	968	639	875	894	1026	949	610	800	871
July	1053	984	759	840	927	899	1035	774	860	887
Aug	1044	946	778	805	839	1050	990	798	820	827

The data shows that the 2022 traffic levels are generally lower than in 2018, and this is likely to be representative of traffic levels across the Tarbock Island junction as a whole. In the AM peak, traffic flows are approximately 84% of 2018 levels, whilst in the PM peak, traffic flows are approximately 88% of 2018 levels.

The graphs below illustrate this trend, showing that flows in 2022 are generally higher than 2020 and 2021, but still lower than 2018 and 2019.





This exercise demonstrates that the background traffic growth included in the Tarbock Island junction VISSIM model for the future year scenarios is likely to be significantly higher than has occurred in reality for the period from 2018 to 2022, with very little, if any growth in traffic flows at the junction. Clearly, therefore, the levels of traffic upon which the 40% threshold was determined will not now occur until further into the future.

On this point, a Technical Note produced by Vectos as part of a hybrid planning application (App Ref No 20/00494/HYB) for the Symmetry Park commercial development at the former Cronton Colliery site in Knowsley, included further VISSIM modelling of Tarbock Island.

This assumed a 2022 assessment year (to reflect the opening year of Symmetry Park) and included a 'With Symmetry Park Phase 1 Development' assessment scenario. The results of that analysis were compared with the sensitivity testing previously carried out by WSP for 2022 with the existing junction layout and including 40% of the Halsnead North allocation. This concluded that the Symmetry Park Phase 1 scenario results in less queuing than the 40% Halsnead North Allocation sensitivity test, with the exception of the M57 (N) slip road in the PM peak, where the difference was minimal.

Given the background levels of traffic assumed within the model are, themselves, an overestimate, there will be further headroom than was considered and accepted at the time of the Vectos analysis.

The (at least) partial occupation of the Vistry Partnerships residential scheme by July 2025 would therefore be within/in accordance with the parameters of the modelling assessment identified in setting out the 40% of development limit at Halsnead Garden Village before capacity improvements at Tarbock Island are required.

4. Traffic Growth

To further review the basis upon which the VISSIM modelling was undertaken, consideration has also been given to how traffic growth in the model was calculated.



The Tarbock Island VISSIM model is for a 2018 Base Year (validated 2018 VISSIM Model). Knowsley Council has provided Eddisons with a copy of the Tarbock Island Improvement Scheme VISSIM Microsimulation Model - Scheme Appraisal Report (November 2020) prepared by WSP. This confirms that '*Traffic growth was applied, using TempPro from 2016 to 2030 using the previously agreed (in the WSP review of January 2018) growth factors AM 1.0881 and PM 1.0820.*'

- Firstly, it has been proven that the 2016 model is broadly reflective of 2018 conditions and, as such, Eddisons would suggest that it is not appropriate to apply growth from 2016. Growth should be applied from a 2018 starting point;
- Background growth factors will not have taken into account the impact of the Covid-19 pandemic and the changing behaviours of commuters, working from home etc. (as detailed in the previous section).

Eddisons has carried out an interrogation of TEMPro using the forecasting methodology agreed as part of the Symmetry Park application (as set out in the Vectos technical note 'Technical Note 02 Rev A: Development Traffic Forecasts'), but utilising the latest dataset (v8.0, Core scenario).

The results of the interrogation are summarised below.

Scenario	AM			PM		
	Origin	Destination	Average	Origin	Destination	Average
Knowsley MSOA 017 Core Scenario						
2016 to 2030	1.0157	1.0446	1.03015	1.0410	1.0269	1.03395

As can be seen from the above, based on the latest version of TEMPro, the 2016-2030 growth factors indicate growth of circa 3%-3.5%. This is substantially lower than the 8%-9% assumed within the VISSIM modelling.

The difference shown above has been considered in the context of the overall entry movements at the Tarbock Island junction based on a traffic survey undertaken by Vectos in 2019. The survey showed that the junction was experiencing around 5,000 trip movements in the peak hours. A change in growth of this order would amount to around 250-300 fewer trips at the junction than has been modelled in each hour. Clearly, the predicted increase associated with the proposed development is well within this level of trips.

5. Updated Completion and Occupation Information

In order to provide NH with the most up to date information, a further review has been undertaken of other developments in the area and their current status, i.e. those already consented, those subject to the signing of a Section 106 or reserved matters application or those that form part of the Halsnead Garden Village (HGV) allocation.

To consider the above, reference has been made to the WSP report which was detailed in Technical Note 6: Tarbock Island Junction VISSIM Modelling Assessment (prepared by Vectos), which is in the public domain on Knowsley Council's planning portal for planning application 20/00494/HYB.

The extract from the WSP report contained within Appendix C of the Vectos TNo6 document is particularly relevant as it investigates the level of additional development which could be accommodated by the current highway layout without affecting the operation of the mainline SRN routes at the junction. The report summarises the results of the following tests from the VISSIM model:

- 2022 Do Minimum (DM2022) i.e. the current layout plus Beacon 62 with background growth calculated using NTEM/TEMPRO as described in the WSP note 'TarbockIslandReviewJan2018'.
- 2022 Sensitivity Test 2 (ST4-2022) which adds to DM2022 40% of the trips from the housing allocation, and 0% from the employment allocation.

The 40% housing allocation equates to 640 dwellings (assuming 1,600 homes at the Halsnead SUE as referenced in the Halsnead Garden Village SPD (June 2017). In terms of the impacts on the SRN, in the morning peak period it states that both the mean max and maximum queue lengths along the M57 slip are reduced for ST4 and for the other SRN approaches, the difference in queuing is very small. For the evening peak, there is some queuing back to the M62 eastbound mainline in the DM scenario which does increase in the ST4 test. The other arms of the SRN are shown to have queuing comparable with the DM scenario.

The 2022 VISSIM tests included in Appendix C of the Vectos TNo6 document appear to show little difference between the DM2022 scenario and the 2022 ST4 scenario with 40% of residential trips in terms of the operation of the existing Tarbock Island junction and the SRN approaches.

Without improvements, especially to the northwest quadrant of the junction, standing traffic on the mainline M62 and M57 will become increasingly likely with or without Halsnead SUE.

The Halsnead Garden Village (HGV) updated buildout assumptions contained within **Appendix 3**. This information has been collated based on information gathered by the applicant following updated discussions with other developers with sites that make up the HGV. The information is therefore up to date and is therefore considered to provide an accurate indication of likely timescales.

The current projections in the table now indicates that the 40% occupation threshold of 680 dwellings is likely to be triggered mid-2026 and with the completion of the Tarbock Island Improvements Oct 2026, based on current programmes and anticipated occupation rates.

The cumulative buildout of the residential development of 542 units, (a reduction from the previously anticipated 569 units) by the end of 2025, and when considered against the current estimated completion date of October 2026 for the Tarbock Island improvement works this would be approximately 391 (down from the previous assumed 465 units constructed / occupied).

This reduced figure is again well within the ceiling of 640 dwellings for the 2022 VISSIM modelling scenario as outlined above (but noting that some employment development to the south at Symmetry Park would be brought forward by 2025, Units 1 and 2 approximately 40,351sq.m / 434,343sq. ft of B8 development). It is understood that the associated employment trips i.e. approximately between 70-80 two-way trips (and about 85% of these via Tarbock Island), would be less/not more than the vehicle trips of 175 dwellings (640-465).

6. Proposed Programme of Works

The proposed highway improvements for the Tarbock Island junction are outlined below:

- Additional lane from M62 eastbound off-slip;
- Widening of circulatory carriageway between M62 eastbound off-slip and beyond M57 on-slip;
- Additional lane from Cronton Road (northwest);
- Additional lane from M57 off-slip;
- Widening the circulatory (northeast quadrant) to accommodate a fourth lane;
- Additional lane from Windy Arbor Road;
- Signalisation of Windy Arbor Road junction;
- Re-instatement of second lane onto M62 eastbound on-slip;
- Additional lane from M62 westbound off-slip;
- Widening of the circulatory carriageway (southeast quadrant) to allow three lanes on the circulatory plus 1 lane on the exit to the A5080;

- Widening of the circulatory carriageway (south) to allow three lanes on the circulatory plus two lanes on the exit to the A5300;
- Signalisation of the A5080 Cronton Road junction (southeast);
- Widening circulatory carriageway (southwest quadrant) to allow three lanes on the circulatory plus one lane for the M62 westbound on-slip.

It is understood that while the above was based on a General Arrangement plan of the Tarbock Island scheme in March 2022, the scheme remains largely the same and Knowsley Council advised of no fundamental changes to the design – it is the same in terms of the number of lanes on approaches, exits and circulatory, and routing options through the junction.

In terms of programme and phases, it is understood the Council are adopting the approach of delivering the scheme in two phases, with progressing work areas on Knowsley's network (M62 Eastbound Exit Slip Road, Cronton Road, Windy Arbor Road and Knowsley Expressway) being Phase 1 and the remainder of the work (Phase 2) being on National Highways (NH) network.

In the most recent update about the Tarbock Island Improvement scheme construction programme, it is understood that works will commence on 4th March 2024, with completion around October 2026.

Commented [JC1]: Is something going here?

8. Summary and Conclusions

In response to matters raised by NH, this Note has updated the information set out Eddisons previous submission (dated May 2023) to provide a current understanding of the following matters:

- The forecast trip generation detailed in the TA and subsequently in this Note, demonstrate that the impact at Tarbock Interchange will be minimal, equating to around 1 or 2 vehicles on each approach arm of the junction.
- The levels of traffic are considered to lie within the daily variations of traffic flows and to further minimise new vehicle trips on the network, the Applicant is willing to commit to a strong Travel Plan being implemented from day one of occupation.
- It remains Eddisons' view that there is strong evidence to suggest that traffic flows in the area have been consistently reducing since 2018 and as such, the background flows forming the VISSIM model baseline are likely to be an overestimation.
- This is further borne out, when considering the methodology utilised as part of the growth forecasting exercise.
- The growing of the baseline 2018 traffic flows from 2016 to 2030 and not from 2018 to 2030 is again likely to exaggerate the 2030 baseline position, especially as committed developments were also

included i.e. there is potential for double counting.

- The 2022 VISSIM tests included in Appendix C of the Vectos TNo6 document appear to show little difference between the DM2022 scenario and the 2022 ST4 scenario with 40% of residential trips in terms of the operation of the existing Tarbock Island junction and the SRN approaches. Without improvements, especially to the northwest quadrant of the junction, standing traffic on the mainline M62 and M57 will become increasingly likely with or without Halsnead SUE.
- The above continues to suggest, together with the very low levels of development traffic associated with this application, that it is considered reasonable to assume that full occupation could be permitted without the need for the improvements works to be completed.
- In terms of the proposed works at Tarbock Island, works are now underway and the latest information suggests the works are likely to be completed by October 2026.
- In light of the above and based on the anticipated completion dates and occupancy rate, it is evident that the proposed development would be only just completed by the time the improvements are completed (2026) and so even if unrestricted occupation was permitted, the development would not have a detrimental impact on the overall operation of the SRN or specifically the Tarbock Island junction.
- In simple terms, this note has demonstrated and confirmed that for much of the time prior to the completion of the improvement works, the proposed development would not be fully built out.

In conclusion, it provides additional information to allow NH to consider whether or not this application need to be considered against the 40% threshold, taking in to consideration the likely over estimation of background traffic, growth factors and the anticipated occupations.

It is Eddisons' view that the suggested condition should not be applied to this application and that this particular modest scale site should be permitted to proceed without the need to restrict the timing of full occupation, especially now that the improvement works are underway.

Encs.



APPENDICES

Appendix 1 - Previous Note (Eddisons) (which includes O/D Matrices at Tarbock Island (AM and PM Peak Hours at Appendix 2)

Appendix 2 - Halsnead Garden Village Buildout Assumptions