

National Forensic Mental Health Service Hospital, Portrane, Co Dublin

Planning Submission to An Bord Pleanala in Respect of An Bord
Pleanala Ref. No. 06F.PA0037

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1. INTRODUCTION

On behalf of our Client, Various respective Community Groups (part of the Community Working Groups Forum of Donabate / Portrane), we have carried out a review of the traffic and transportation documentation submitted to An Bord Pleanála in respect of the proposed development of a National Forensic Mental Health Service Hospital, Portrane, Co. Dublin.

As set out above, this section of the submission deals with traffic engineering related issues and should be read in conjunction with the overall submission of the Various respective Community Groups (part of the Community Working Groups Forum of Donabate / Portrane).

The proposed development is located within the HSE Complex at St. Ita's in Portrane, Co. Dublin, a predominantly rural location adjacent the village of Portrane (Population c. 1,500) and c. 3 km from Donabate (Population c. 7,500). The proposed development consists of a 170 bed hospital facility, with further additional future developments of Block 123, a 100 bed unit and a 4 bed unit allowed for in the traffic assessment.

This report reviews the original traffic engineering documentation submitted as part of the Environmental Impact Statement in September 2014 and the subsequent additional information submitted in February 2015 in response to the deficiencies highlighted by the Local Authority and other third parties.

The following documentation submitted in September 2014 has been reviewed as part of this submission and is summarised in Section 2.0 of this report.

- EIS Chapter 13 - Traffic
- EIS Appendix J1 Traffic Survey Results
- EIS Appendix J2 Turing Sketches
- EIS Appendix J3 PICADY Results
- EIS Appendix J4 122103-SK05 PL3
- EIS Appendix J5 TRICS Results
- EIS Appendix J6 Mobility Management Plan

The following significant additional information documentation submitted in February 2015 has been reviewed as part of this submission and is summarised in Section 3.0 of this report.

- Traffic and Transportation Assessment
- Responses to Observations by FCC Transportation Planning Section
- Applications Response to 3rd Party Submission . Section 2.2
- Stage 1 Road Safety Audit

Despite the Applicant's attempts to address the deficiencies in the original submission, significant residual safety issues and traffic engineering design issues remain.

The proposals do not adequately assess the traffic impact of the proposed development, due to the absence of any accurate modelling associated with the development, and which is also required to be further amended by the Road Safety Audit.

During both the construction and operational phases the development will result in increased traffic movements at the site entrance junction and in the Donabate area in general will give rise to traffic hazard and road safety issues due to the increased movements.

No modelling has been submitted for the construction phase.

The traffic impact assessment which has been submitted only assesses the operational phase and is fundamentally flawed in so far as:

- The reduction in capacity as a result of the geometric constraints are not included in the model, specifically:
 - The poor horizontal alignment of the roadways on approach to the R126 / Turvey Avenue junction
 - The poor vertical alignment on this roadway, and in particular the humped back bridge at Donabate Railway Station and steep road gradients on approach
 - The narrow road widths and narrowing roadways on approach to the R126 / Turvey Avenue junction
 - The impact of HGVs crossing over into opposing traffic lanes
 - The low operating speeds of vehicles on approach to the R126 / Turvey Avenue junction
 - The limited / substandard visibility at Hearse Road
- The above result in a significant underestimation of the queues, with The R126/Turvey Avenue junction in the AM and PM peaks 2015 do nothing scenario, i.e. the model of the existing conditions, calculating queue lengths of 2.1 and 0.9 vehicles respectively. These compare to the observed queue lengths of 12 vehicles in the AM and 17 vehicles in the PM peak during the traffic counts, i.e. 470% and 1,789% higher than those determined by the modelling
- An appropriate trip generation rate for the development should be incorporated and should not be based on urban hospital populations with large adjacent populations
- A proper analysis which incorporates the geometric delays at the junction should be undertaken which will allow the actual required mitigation to be determined. Based on the analysis submitted, the mitigation as proposed is insufficient to address the existing congestion and traffic hazard issues during both the construction and operational phases
- A meaningful mobility management plan which seeks to increase modal split through the reduction in on-site parking and other measures.
- A meaningful mobility management which sets realistic targets for a modal shift to more sustainable modes

The road safety audit as prepared is flawed in so far as it is based on 3 No. drawings only and has not been based on an:

- an audit brief
- the available accident data which indicates a significant quantum of road collisions, including a fatality in the 2005 to 2012 period in the area
- the available traffic impact assessment and the impact of queuing, junction capacity etc. on the safe operation of the junctions assessed
- the available traffic survey information, which includes queue lengths and potentially pedestrian flows
- no data has been provided in respect of proposed junction lighting, and the existing street lighting affected by the proposed works
- no data has been provided in terms of the impact of surface water drainage. It is key that this properly assessed and addressed as inadequate drainage and resultant ponding particularly affects vulnerable road users
- no details have been provided in respect of the proposed access junction and internal road network within the St. Ita's complex

It should be noted that some of the 22 No. safety issues identified by the audit are summarily dismissed by the Designer, including the lack of a pedestrian phase in the proposed signalised junction, which is simply accepted by the audit team

No meaningful attempt to offer alternative construction routes away from the local schools and village centre to cater for the predicted delivery trips to and from the proposed site. There will be an estimated c. 86,400 / 43,200 two-way delivery vehicle trips based on the original EIS and c. 33,400 two-way delivery trips based on the Traffic and Transportation Assessment submitted at significant additional information stage. It should be noted the above does NOT include either earthworks trips or staff trips during the construction phase. No analysis of the cumulative impact of all construction related trips (delivery, earthworks and staff) has been carried out, nor has this figure been calculated.

There is also a lack of detail in the key design drawings, including those drawings audited as part of the Road Safety Audit and information, including survey information further undermines the process and perceived engagement with local groups. The audited drawings are embedding in the TTA and include no information in respect of key dimensions, set-backs, layouts, pedestrian facilities, signage, marking, drainage, lighting etc.

A proper and complete transport analysis and assessment, which considers all of the above design issues, will require significant additional mitigation measures to be provided as part of the development, which may well include the provision of all / some sections of the Donabate Relief Road in order to ensure the NFMH Portrane development does not result in serious traffic congestion and traffic hazard issues during the construction and operational phases.

2. REVIEW OF SEPTEMBER 2014 - ENVIRONMENTAL IMPACT ASSESSMENT – CHAPTER 13 TRAFFIC

Introduction

No separate Traffic and Transportation Assessment Report was submitted as part of the original planning submission. The assessment formed part of the Environmental Impact Assessment, Chapter 13.

Section 13 states that discussions were held with Fingal County Council Transportation Planning Department to agree the primary issues to be addressed in relation to the transportation assessment+however, given the level of queries raised by Fingal County Council in there review of same it seems these discussions were limited and did not even go as far as to define the scope and extent of the assessment.

Operational Phase Assessment

The September 2014 submission included a traffic count survey in Appendix J1 which included the traffic count information at the Turvey Avenue / R126 junction immediately west of the existing humped back bridge at Donabate Railway station, which serves as the only effective access route to the Donabate / Portrane peninsula, as well as a count at the entrance to the St. Ita's Complex / R126 roadway junction.

Whilst the Appendix J1 Traffic Survey cover page advises both pedestrian movements and queue lengths were recorded as part the survey this information was inadvertently omitted from the Appendix and therefore a proper review and validation of any traffic modelling is not possible.

The assessment goes on to assess the traffic impacts at the site entrance only and does NOT include an assessment of the Turvey Avenue / R126 junction. This serious omission from the report was raised by Fingal County Council in their review of the EIS and only seeks to highlight the limited pre-submission consultations with the Local Authority

As set out above the site access junction is only modelled as part of the original submission. The site access is modelled in both the AM and PM peak. We feel there is a significant underestimation of the site traffic generated. However, a review of the TRICS database figures is not possible as the figures submitted in Appendix J5 of the report refer to an office development in Darlington UK and therefore no review of the trips per bed space is possible.

The assessment of the operational phase traffic is seriously deficient.

The Turvey Avenue / R126 junction immediately west of the existing humped back bridge at Donabate Railway station, which serves as the only effective access route to the Donabate / Portrane peninsula was not included in the original submission. The queue data and pedestrian movements recorded at this location were also omitted.

The traffic generated by the proposed development and used in the site access / R126 junction assessment has not been verified by appropriate TRICS data. We feel there is a significant

underestimation of the site traffic generated and therefore the site access junction may not operate satisfactorily.

The PICADY programme analysis for 2032 (PM) indicates an RFC (Ratio of flow to Capacity) of 0.765 on the R126 (west) arm of the junction. 0.85 is the standard design threshold adopted for junctions. It is clear that an increase in traffic associated with the use appropriate trip generation rates on development traffic would result in the junction operating at / overcapacity and queue lengths impacting on the junction performance. Indeed, Fingal County Council in their review of the submission recommended that the provision of a separate access to the site be considered.

Construction Phase

The proposed haul route during the construction phase is identified as being through Donabate Village passing through the town centre and past the 4 No. schools in the area. An alternative route, via New Road has not been considered. This alternative route would remove the significant quantum of construction traffic from the Village centre.

The impact of the proposed development, and the associated HGV traffic is understated on the basis that the peak hour construction traffic is less than the peak hour operation traffic, which by its nature will be ~~peaky~~, as it coincides with specific construction activities, such as large concrete pours.

The EIS states there will be c. 600 truck loads of earth removed from the site. It goes on to state that ~~the~~ site will be serviced by an average of 6 HGV deliveries per hour, for the duration of the works. Therefore the cumulative impact of deliveries over the period of the works is not stated.

As set out above there will be on average, 6 HGV deliveries per hour over a 50 hour working week, i.e. c. 600 delivery HGV trips to and from the site per week or c. 86,400 HGV delivery trips throughout the 3 year construction period if these trips are one-way trips. It is not clear if these figures as referenced are one or two way trips. If they are two-way trips then there will be 43,200 HGV delivery movements to and from the site. The scale of these trips has clearly been understated and the impact of same on the community and road infrastructure in the Environmental Impact Statement.

It should also be noted the above does not include staff trips to and from the site.

Mobility Management

A mobility management plan has been included in Appendix J6 of the Environmental Impact Assessment as part of the submission.

The plan as submitted includes no objectives for the Construction Phase of the development and is seriously deficient in this regard. It would be normal for a construction project of this scale, programmed to be on site for 36 months would include a Construction Stage Mobility Management Plan to cover construction staff trips to the site.

The Mobility Management Plan as submitted relates to the operational phase only. The proximity and frequency of public transport is highlighted in the plan as being key to the delivery of enhanced modal split, but is overstated in so far as:

- The frequency of bus and rail services during off-peak times, which coincide with the majority of shift changes are every 1 hour
- The frequency of Sunday services are every 2 hours
- The 33d bus service does not coincide with any shift changes
- The Donabate Train Station is 3 km from the subject site along poorly light rural roadways with poor footpath facilities

The plan advises that a shuttle bus service will be provided yet no further details are provided.

The plan states that 248 No. parking spaces will be provided of which 47 No. spaces will be designated as visitor spaces. It is advised that there will be up to 180 No. staff on site at any one time. Therefore, it is proposed to provide 201 staff parking spaces, i.e. over 1.1 parking spaces on site per employee. This ratio of parking provision does little to discourage private car usage and a modal split to more sustainable modes.

The plan includes NO assessment of the predicted modal split for staff or targets for reducing modal splits to more sustainable modes and therefore there is no meaningful way in which measures can be quantified and assessed.

Road Safety Audit

Despite the only access to the site being via the Turvey Avenue / R126 junction immediately west of the existing humped back bridge at Donabate Railway station, and which also serves as the only effective access route to the Donabate / Portrane peninsula, no road safety audit was included in the original submission.

No consideration was given to the substandard road widths which result in HGV vehicles passing into the opposing lane as a matter of course (see photographs in Appendix A) in the design.

No assessment of the poor footpaths facilities in the area, and the lack of footpath facilities at the hump back bridge adjacent Donabate Railway Station.

No assessment of the existing road conditions within the St. Ita's campus were included in the assessment.

A full review of the Road Safety Audit is included in Section 4.2 of this report.

3. REVIEW OF FEBRUARY 2015 ADDITIONAL INFORMATION SUBMISSION TRAFFIC

Introduction

Following a review of the September 2014 submission documentation, the Applicants were required to provide significant additional information in February 2015 in order to attempt to address the serious deficiencies in the traffic and transportation material submitted that were highlighted by Fingal County Council and other third parties.

The additional information submitted included the following, which have been reviewed in Section 3.0 of this report:

- Traffic and Transportation Assessment prepared by Punch Consulting Engineers dated February 2015
- Responses to Observations by Fingal County Council Transportation Planning Section prepared by Punch Consulting Engineers dated 10 February 2015
- Section 2.2 %Traffic and Transportation+of Applicant's Response to 3rd Party Submissions prepared by RPS Planning and Environment dated February 2015
- Stage 1 Road Safety Audit prepared by PMCE dated February 2015

Traffic and Transportation Assessment

No separate Traffic and Transportation Assessment Report was submitted as part of the original planning submission. However, one was prepared in February 2015 in an attempt to address the deficiencies in the original submission.

The September 2014 submission included a traffic count survey in Appendix J1 which included a cover page advises both pedestrian movements and queue lengths were recorded as part the survey. This information was inadvertently omitted from the Appendix and is again omitted from this assessment.

A new traffic survey was instead undertaken which indicated queuing of up to 12 vehicles in the AM peak and 17 vehicles in the PM peak in the existing scenario.

No pedestrian movements were included in the updated survey, which only counted vehicles at the Turvey Avenue / R126 junction west of the hump back railway bridge and the New Road / R126 junction east of the hump back railway bridge with Donabate Village.

This assessment now includes an assessment of the traffic impacts at these 2 No. critical junctions during the operational phase only.

Operational Phase

The traffic generated by the proposed development is determined from TRICS data included in Appendix B of the report and summarised in Table 5.1 of the TTA.

We feel there is a significant underestimation of the site traffic generated. Based on a review of the TRICS database, 4 No. hospital sites were referenced in determining the traffic generated. The sites, at various locations throughout the UK, were suburban / urban in nature with significant local populations with over half a million people living within 5 miles of one of the sites, with excellent footpath, cyclepath and public transport links, and as such the use of these rates is not appropriate for use in this instance. The populations within 1 mile and 5 miles of the survey sites are compared to the Portrane site is set out below.

| Site Location | Pop. Within 1 mile | Pop. With 5 miles |
|---------------------|--------------------|-------------------|
| TRICS Site 1 | 1,001-5,000 | 20,001-25,000 |
| TRICS Site 2 | 20,001-25,000 | 125,001-250,000 |
| TRICS Site 3 | 20,000-25,000 | 250,001-500,000 |
| TRICS Site 4 | 50,000-100,000 | 500,000+ |
| NFMH Site, Portrane | c. 1,500 | c. 9,000 |

We would contend that by using these trip rates the traffic generated have more than likely been underestimated in this instance.

Again, the assessment of the operational phase traffic is seriously deficient.

The Turvey Avenue / R126 junction immediately west of the existing humped back bridge at Donabate Railway station, which serves as the only effective access route to the Donabate / Portrane peninsula is now included in the assessment.

The maximum queue lengths predicted at this junction in the AM and PM peaks 2015 do nothing scenario, i.e. the model of the existing conditions, were 2.1 and 0.9 vehicles respectively. This compares to the observed queue lengths of 12 vehicles in the AM and 17 vehicles in the PM peak during the traffic counts, i.e. 470% and 1,789% higher than those determined by the modelling.

One can only assume that the model assumptions and therefore the modelling are fundamentally flawed in so far as it fails to consider:

- The poor horizontal alignment of the roadways on approach to this junction
- The poor vertical alignment on this roadway, and in particular the humped back bridge at Donabate Railway Station and steep road gradients on approach
- The narrow road widths and narrowing roadways on approach to the junction
- The impact of HGVs crossing over into opposing traffic lanes
- The low operating speeds of vehicles on approach to this junction
- The limited / substandard visibility at Hearse Road

Even based on the flawed analysis, the PICADY programme analysis for 2033 (PM) indicates an RFC (Ratio of flow to Capacity) of 1.027 on the Turvey Avenue arm of the junction. 0.85 is the standard design threshold adopted for junctions. Even in year of opening, 2018 (PM) the PICADY analysis indicates an RFC of 0.967 on the Turvey Avenue arm of the junction indicating the junction as being over capacity from the outset. It is clear that an increase in traffic associated with the use appropriate trip generation rates on development traffic together with the use of appropriate junction parameters would result in the junction operating at / overcapacity and significant queue lengths forming in excess of those indicated, thus having a far greater impact on the junction performance from the outset of the development.

The junction was then assessed in terms of the impact of providing traffic signals in order to improve the capacity of the junction. Whilst the RFC reduced from 0.967 to 0.829 in the year of opening, i.e. still practically at capacity, the assumptions are again flawed as they fail to fully consider:

- The poor horizontal alignment of the roadways on approach to this junction
- The poor vertical alignment on this roadway, and in particular the humped back bridge at Donabate Railway Station and steep road gradients on approach
- The narrow road widths and narrowing roadways on approach to the junction
- The impact of HGVs crossing over into opposing traffic lanes
- The low operating speeds of vehicles on approach to this junction
- The limited / substandard visibility at Hearse Road
- Poor Junction intervisibility

The proposed analysis assumes conflicting movements on the right turn from the R126 westbound with R126 eastbound traffic.

The inclusion of the above in the junction assessment would most likely result in queue lengths where right turners block the mainline traffic flows. The available stacking lane for right turners is minimal who, are at all-time are opposed by oncoming traffic.

It is therefore likely that during peak traffic flow conditions, there will remain a risk that the dominant mainline flows will result in limited opportunity for right turning movements into the side roads. This could lead to congestion, driver frustration and unsafe turning manoeuvres.

In our opinion it is clear that the provision of a dedicated right turn phase would have a significant impact on queuing and capacity of the junction and would result in a further substandard and unsafe junction, by increasing the ratio of flow to capacity (RFC) further, as well as increasing the queue lengths significantly by introducing additional red time on the mainline flows.

The stacking lane for right turners, which has minimal capacity for vehicles, is wholly inappropriate, and will ensure that right turn vehicles which will have limited green time as a result of the signal phasing changes will extend back into the mainline and block the mainline flows and ensure the junction will not operate effectively, and will result in congestion.

No allowance for a pedestrian phase is included in the signal phasing and therefore no allowance for a reduction in capacity as a result of the provision of same have been included in the model.

In conclusion the traffic model as presented, indicates the Turvey Avenue / R126 junction operating above the recommended operating parameters in the year of opening. The junction, even after the

introduction of traffic signals does not operate efficiently. This is despite the fact the model has both overestimated the junction capacity and underestimated the traffic flows as follows:

- The reduction in capacity as a result of the inclusion of a pedestrian phase included in the model
- An appropriate trip generation rate for the development should be incorporated
- A reduction in capacity as a result of the poor geometry, both horizontal and vertical has not be allowed for in the design

As outlined above, the junction capacity is clearly an issue, with the junction operating over capacity from the 2018 year of opening.

Therefore, the mitigation as proposed will do little to resolve the existing congestion, the increased congestion as a result of the proposed development and the traffic safety issues associated with same.

This is clearly an issue for Fingal County Council who have designed and included a relief road by-passing Donabate village and the Turvey Avenue / R126 junction in the County Development Plan. It may, therefore, be prudent that a development of the scale proposed only proceed once adequate measures have been put in place to divert traffic away from the Turvey Avenue / R126 junction, such as the provision of the relief road or sections thereof, so as to generate the space capacity to cater for the proposed development. Indeed, details of this relief road are included in the Remedial and Mitigation measures . Operational Stage section of the EIS. However, it is clear that it is not the intention for this road to be completed or partially completed in advance of the NFMH project becoming operational.

Construction Phase

2 No. alternative construction accesses have been reviewed as part of the updated traffic and transportation assessment. One is clearly not practical as it is restricted by a 3.19 m bridge beneath the Dublin . Belfast Railway line.

The second, along New Road would result in construction traffic being diverted away from Donabate Village and the 4 No. schools along the R126. Whilst this option would clearly be preferred by the local community should the development be permitted, it does not overcome the previously highlighted issues at the Turvey Avenue R126 junction and the hump back overbridge at the Railway Station.

No meaningful attempt to offer alternative construction routes away from the local schools and village centre to cater for the predicted delivery trips to and from the proposed site.

There original EIS estimated c. 86,400 / 43,200 two-way delivery vehicle (HGV) trips to and from the site and this was reduced to c. 33,400 two-way delivery trips in the Traffic and Transportation Assessment submitted at significant additional information stage. No determination of peak delivery vehicle movements was carried out. It should also be noted the above does NOT include either earthworks trips or staff trips during the construction phase. No analysis of the cumulative impact

of all construction related trips (delivery, earthworks and staff) has been carried out, nor has this figure been calculated.

Modal Split

The updated traffic and transportation assessment also includes an assessment of the predicted modal split by comparing it to the existing facility at Dundrum.

The report advises that whilst the numbers living within 5 miles of Dundrum is 36%, they still only achieve 8% walk/cycle and 9% public transport . bus / Luas. The report goes on to state that even though 1% of staff live with 5 miles of the proposed facility at Portrane, the numbers walking / cycling will be 2%, and 8 % will use bus / suburban rail. These assumptions seem fundamentally flawed given the quality of pedestrian / cycle infrastructure in Dundrum and the associated travel distances when compared to Portrane. In terms of walking only 4 % of staff walk to Dundrum (i.e. 11% of those within 5 miles) whilst 1 % of staff will walk to Donabate (i.e. 100% of those within 5 miles). The use of such assumptions are clearly flawed and will result in an underestimation of vehicular traffic.

Responses to Observations by FCC Transportation Planning Section

This section of the report highlights the deficiencies in the responses to the Fingal County Council Transport Planning Department queries as set out in the Punch Consulting Engineers Report entitled Responses to Observations by Fingal County Council Transportation Planning Section dated 10 February 2015.

The response **Item No. 1** advises that the traffic modelling as submitted demonstrates a second access to the NFMH Hospital Campus is not required. However, The PICADY programme analysis for 2032 (PM) indicates an RFC (Ratio of flow to Capacity) of 0.765 on the R126 (west) arm of the junction, where 0.85 is the standard design threshold adopted for junctions. It is clear that an increase in traffic associated with the use appropriate trip generation rates on development traffic would result in the junction operating at / over capacity and queue lengths impacting on the junction performance.

The response to **Item No. 2** states that the full results of the traffic surveys in Donabate village centre are included. This is clearly not the case, with no pedestrian flows recorded in the November 2013 or January 2015 surveys included, or any queue length data recorded as part of the November 2013 survey included in either September 2014 or February 2015.

The response to **Item No. 3** advises the traffic impact within Donabate Village Centre is included in the assessment.

However, this assessment concludes that the Turvey Avenue / R126 junction when assessed is over capacity in the year of opening for the priority junction option, and at capacity for the signalised junction option. Whilst the RFC reduced from 0.967 to 0.829 in the year of opening, i.e. still practically at capacity, the model assumptions are flawed as they fail to fully consider:

- The poor horizontal alignment of the roadways on approach to this junction
- The poor vertical alignment on this roadway, and in particular the humped back bridge at Donabate Railway Station and steep road gradients on approach
- The narrow road widths and narrowing roadways on approach to the junction
- The impact of HGVs crossing over into opposing traffic lanes
- The low operating speeds of vehicles on approach to this junction
- The limited / substandard visibility at Hearse Road
- Poor Junction intervisibility
- The traffic generated by the proposed development

As set out previously, the trips generated by the proposed development in response to **Item No. 4** include modal split assumptions that are fundamentally flawed.

The response to **Item No. 6**, which relates to the construction traffic input is seriously deficient in its content. The response includes an assessment of the 600 earthworks HGV movements, but fails to address the up to c. 86,400 / 43,200 two-way delivery vehicle (HGV) trips to and from the site based on the original EIS and this was reduced c. 33,400 two-way delivery trips calculated in the Traffic and Transportation Assessment submitted at significant additional information stage. No determination of peak delivery vehicle movements was carried out. It should also be noted the above does NOT include either earthworks trips or staff trips during the construction phase. No analysis of the cumulative impact of all construction related trips (delivery, earthworks and staff) has been carried out, nor has this figure been calculated.

In conclusion, the responses as set out do not adequately address the queries raised by Fingal County Council Transportation Planning Department.

The response to **Item No. 7** advises 255 No. parking spaces will be provided at the new hospital. The originally submitted mobility plan states that 248 No. parking spaces will be provided of which 47 No. spaces will be designated as visitor spaces. It also advised that there will be up to 180 No. staff on site at any one time. Therefore, it is proposed to provide 201 staff parking spaces, i.e. over 1.1 parking spaces on site per employee. This ratio of parking provision does little to discourage private car usage and a modal split to more sustainable modes and it was on this basis Fingal County Council queried the parking space numbers, which it appears has increased rather than decreased.

Applicant's Response to 3rd Party Submissions

Section 2.2 of Traffic and Transportation of Applicant's Response to 3rd Party Submissions prepared by RPS Planning and Environment dated February 2015 includes a summary of the transportation submissions of Punch Consulting Engineers.

Section 2.2.2 comments on the issues with access to the site and states that the traffic analysis has determined a second access is not required.

However, The PICADY programme analysis for 2032 (PM) indicates an RFC (Ratio of flow to Capacity) of 0.765 on the R126 (west) arm of the junction, where 0.85 is the standard design threshold adopted for junctions. It is clear that an increase in traffic associated with the use

appropriate trip generation rates on development traffic would result in the junction operating at / overcapacity and queue lengths impacting on the junction performance.

Section 2.2.3 refers to construction traffic volumes and routes. Again the 600 earthworks HGV movements are referenced, but the up to c. 43,200 / 86,400 HGV delivery trips throughout the 3 year construction period (based on 6 HGV deliveries per hour set out in the EIS) or the reduced c. 33,400 HGV delivery trips based on the TTA are not referenced, nor is any allowance for construction staff trips referenced.

The report also includes for the limiting of construction traffic outside of school opening and closing times. However, the fundamental capacity issue at Turvey Avenue / R126 junction is not addressed nor is an alternative route via New Road offered, which would eliminate construction traffic through the village centre. The New Road option while preferable does not overcome the congestion and traffic safety issues associated with the existing Turvey Avenue / R126 junction which would be addressed by the provision of the Donabate Relief Road, which is included in the Remedial and Mitigation measures . Operational Stage section of the EIS. However, it is clear that it is not the intention for this road to be completed or partially completed in advance of the NFMH project becoming operational.

4. ROADS DESIGN AND SAFETY

4.1 Roads Design

No roads design details or drawings were provided as part of the planning application in September 2014.

Specifically, no details of proposed access junction arrangements at the R126 junction / Portrane Avenue junction are provided and therefore it cannot be assessed if the proposed access to be provided is to the required standard. No details of sight visibility splays, allowance for pedestrians and visually impaired road users, tactile paving, kerb radii etc. have been provided.

As part of the Road Safety Audit report commissioned at Significant Additional Information Stage the following drawings by Punch Consulting Engineers are referenced:

- PCE Drawing, Drg. No. 122.133.060 P0 %Turvey Ave. / Hearse Road Junction Improvements+
- PCE Drawing, Drg. No. 122.133.061 P0 %New Road / Main Street Junction Improvements+
- PCE Figure 19.1 %Details on Footpath Widening+

There is also a lack of detail in the key design drawings, including the above drawings audited as part of the Road Safety Audit. The audited drawings are embedding in the TTA and include no information in respect of key dimensions, set-backs, layouts, pedestrian facilities, signage, marking, drainage, lighting etc.

No details of any traffic calming within the St. Ita's Complex are provided. The existing layout encourages speeding through the provision of long, straight sections of roadway. Existing on-street parking which acted as a traffic calming feature along the Avenue is to be relocated to an off road parking area which will further encourage speeding. No mitigation has been offered in the design. This would not comply with the requirements and embrace the principles set out in the Design Manual for Urban Roads and Streets.

No assessment of the Turvey Ave. / Hearse Road Junction Improvements or the New Road / Main Street Junction Improvements can be undertaken to establish if the proposals are in accordance with the required standard, are buildable or do not cause a traffic hazard.

4.2 Roads Safety

A Stage1 Road Safety audit was carried out and submitted as part of the significant additional information. This report, a **preliminary** audit was in accordance with National Roads Authority requirements. A stage 1 Audit would normally be carried out well in advance of any significant design development and the recommendations of same incorporated into the detailed design drawings. A Stage 2 **detailed design** audit was not undertaken, which would be more appropriate given the stage of the project and the level of design information available.

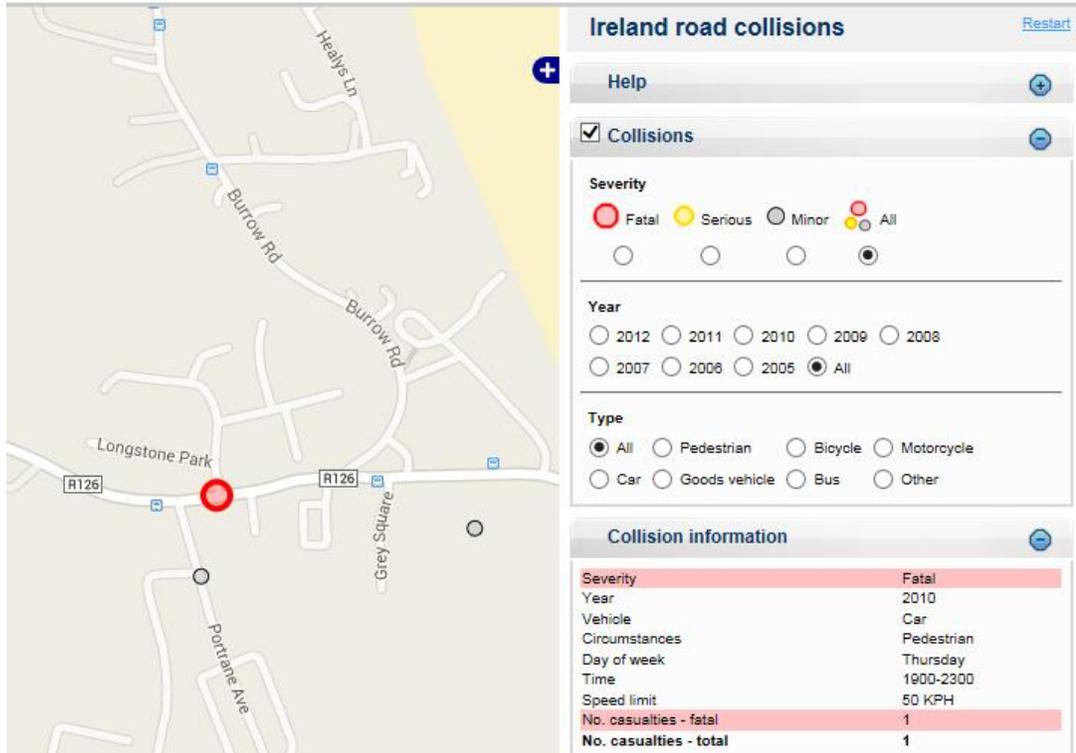
The audit has been carried out based on a review of a 3 No. drawings only:

- PCE Drawing, Drg. No. 122.133.060 P0 %Survey Ave. / Hearse Road Junction Improvements+
- PCE Drawing, Drg. No. 122.133.061 P0 %New Road / Main Street Junction Improvements+
- PCE Figure 19.1 %Details on Footpath Widening+

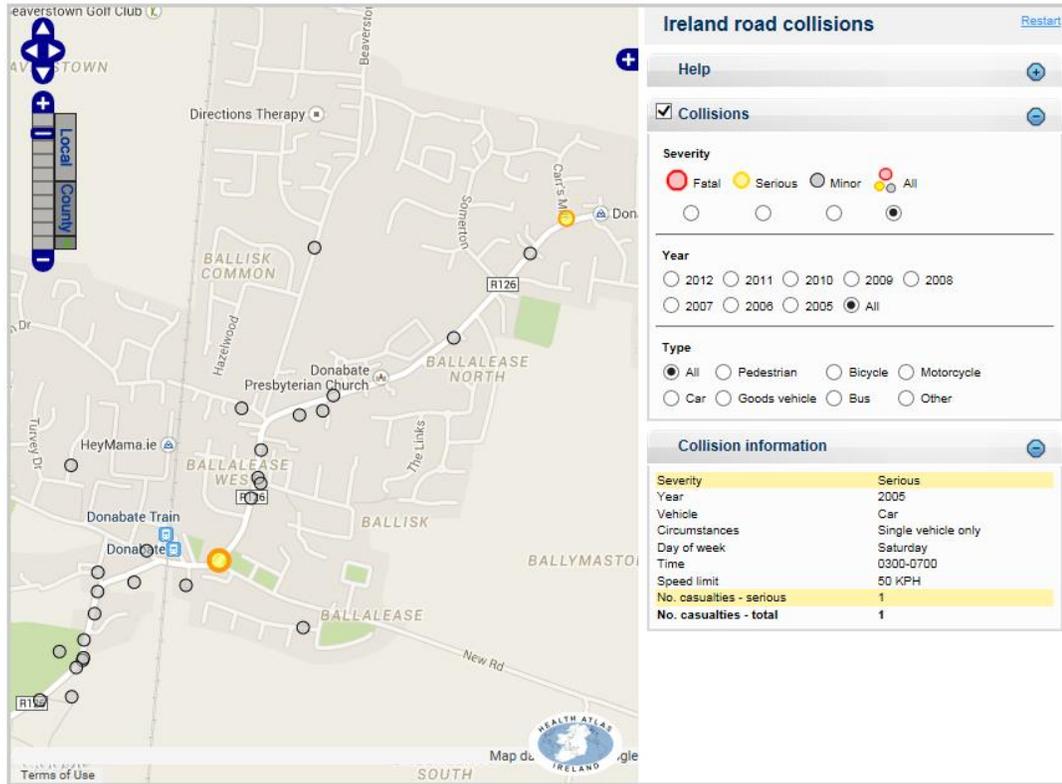
The following items have not been considered, all of which was readily available to be provided to the Audit team:

- Audit brief . it is not clear if an audit brief has been provided to the audit team. Appendix B of the audit states 3 No. drawings have been supplied by the Designer to the Audit team
- No accident data has been considered / reviewed as part of the audit
- The traffic impact assessment has not been considered, and the impact of queuing, junction capacity etc. on the safe operation of the junction
- The available traffic survey information, which includes queue lengths and purports to include pedestrian flows has not be provided
- No data has been provided in respect of proposed junction lighting, and the existing street lighting affected by the proposed works
- No data has been provided in terms of the impact of surface water drainage. It is key that this properly assessed and addressed as inadequate drainage and resultant ponding particularly affects vulnerable road users
- No details have been provided in respect of the proposed access junction and internal road network within the St. Ita's complex

The **traffic collision** data for this area is readily available from the Road Safety Authority. From examination of this data, a road fatality occurred at the proposed site access junction (Portrane Avenue / R126) in 2010 and a minor road collision was recorded along Portrane Avenue within the St. Ita's Complex . see below



In the period 2005-2012, 12 No. collisions were recorded on or adjacent the 300 m of the R126 west of the railway humped back bridge, with a further 13 No. collisions recorded on the R126 east of the railway bridge, including 2 No. serious collisions . see extract below



The **traffic survey information** was available but was not issued to the Audit team. This would have highlighted the significant queue formation and delays which can contribute to road collisions and which should have been addressed by the Audit team. These queues would not have been apparent to the Audit team during their off-peak lunchtime site visit.

The **traffic impact assessment** calculations which advise in respect of queue lengths and formation, as well as junction capacity were not issued to the Audit team. Again, this information would have allowed a more informed audit to be undertaken.

The limited audit carried out on the 3 No. drawings provided following a lunchtime site visit (which therefore missed the peak hour congestion and queuing observed as part of the traffic survey) and which failed to consider and review the above items still identified 22 No. safety issues, the majority of which have not been adequately incorporated / have been dismissed by the Designer and the Audit team.

The following are examples of safety issues which are not addressed by the Designers

Problem 3.1 of the road safety audit requires the Designer to address the substandard footpath width at the R126 overbridge at the railway and this has been rejected by the Designer by simply stating the footpath is wide enough. This problem also requires the introduction of a pedestrian phase on the traffic signals. Again this is reject by the Designer yet the Audit team consider these responses appropriate and accept same. There is no technical basis to consider these responses appropriate and one can only consider the report as generated a %ick the box+ exercise. The Designer has made no attempt to address the safety issues raised and yet the Audit team accept this approach.

Problem 3.2 of the road safety audit identifies the issue of the signalised junction, and the encroachment of vehicles into the opposing line. The Auditors advise that they require details of the proposed signalised junction assess same. It appears that even the Auditors have not been provided with adequate layout drawings of the final signalised junction design which would allow them to assess same.

Problem 3.3 of the safety audit recommends the rat running along %The Square+be discouraged, given the associated safety risks, particularly during times of queuing at the junction. The Designer% advise no queuing will occur. However, as set out previously it our view that the assessment is flawed and the queue lengths is significantly underestimated.

Problem 3.4 of the safety audit recommends high mounted signals be provided to address the poor visibility on approach to the signalised junction. The Designer% advise the signals can be relocated closer to the bridge. This will result in an increased intergreen time, which has not be assessed as part of any updated junction assessment.

Problem 3.5 of the safety audit recommends road widening works to accommodate 2 No. HCV% to pass. The Designer% simply state this existing state will remain and no upgrades will be undertaken to accommodate the c. 33,400 delivery vehicles which will utilise this roadway to access the site (based on the TTA). This figure could increase to c. 43,200 / 86,400 if the original EIS figures / data is used.

5. CONCLUSION

In summary the proposals have not adequately assessed the traffic impact of the proposed development, due to the absence of any accurate modelling associated with the development, and which is required to be further amended by the Road Safety Audit.

During both the construction and operational phases the development will result in increased traffic movements at the site entrance junction and in the Donabate area in general will give rise to traffic hazard and road safety issues due to the increased movements.

No modelling has been submitted for the construction phase.

The traffic impact assessment which has been submitted only assesses the operational phase and is fundamentally flawed in so far as:

- The reduction in capacity as a result of the geometric constraints are not included in the model, specifically:
 - The poor horizontal alignment of the roadways on approach to the R126 / Turvey Avenue junction
 - The poor vertical alignment on this roadway, and in particular the humped back bridge at Donabate Railway Station and steep road gradients on approach
 - The narrow road widths and narrowing roadways on approach to the R126 / Turvey Avenue junction
 - The impact of HGVs crossing over into opposing traffic lanes
 - The low operating speeds of vehicles on approach to the R126 / Turvey Avenue junction
 - The limited / substandard visibility at Hearse Road
- The above result in a significant underestimation of the queues, with The R126/Turvey Avenue junction in the AM and PM peaks 2015 do nothing scenario, i.e. the model of the existing conditions, calculating queue lengths of 2.1 and 0.9 vehicles respectively. These compare to the observed queue lengths of 12 vehicles in the AM and 17 vehicles in the PM peak during the traffic counts, i.e. 470% and 1,789% higher than those determined by the modelling
- An appropriate trip generation rate for the development should be incorporated and should not be based on urban hospital populations with large adjacent populations
- A proper analysis which incorporates the geometric delays at the junction should be undertaken which will allow the actual required mitigation to be determined. Based on the analysis submitted, the mitigation as proposed is insufficient to address the existing congestion and traffic hazard issues during both the construction and operational phases
- A meaningful mobility management plan which seeks to increase modal split through the reduction in on-site parking and other measures.
- A meaningful mobility management which sets realistic targets for a modal shift to more sustainable modes

The road safety audit as prepared is flawed in so far as it is based on 3 No. drawings only and has not be based on an:

- an audit brief
- the available accident data which indicates a significant quantum of road collisions, including a fatality in the 2005 to 2012 period
- the available traffic impact assessment and the impact of queuing, junction capacity etc. on the safe operation of the junction
- the available traffic survey information, which includes queue lengths and potentially pedestrian flows
- no data has been provided in respect of proposed junction lighting, and the existing street lighting affected by the proposed works
- no data has been provided in terms of the impact of surface water drainage. It is key that this properly assessed and addressed as inadequate drainage and resultant ponding particularly affects vulnerable road users
- no details have been provided in respect of the proposed access junction and internal road network within the St. Ita's complex

It should be noted that some of the 22 No. safety issues identified by the audit are summarily dismissed by the Designer, including the lack of a pedestrian phase in the proposed signalised junction, which is simply accepted by the audit team

No meaningful attempt to offer alternative construction routes away from the local schools and village centre to cater for the predicted delivery trips to and from the proposed site. There will be an estimated c. 86,400 / 43,200 two-way delivery vehicle trips based on the original EIS or c. 33,400 two-way delivery trips based on the Traffic and Transportation Assessment submitted at significant additional information stage. It should be noted the above does NOT include either earthworks trips or staff trips during the construction phase. No analysis of the cumulative impact of all construction related trips (delivery, earthworks and staff) has been carried out, nor has this figure been calculated.

There is also a lack of detail in the key design drawings, including those drawings audited as part of the Road Safety Audit and information, including survey information further undermines the process and perceived engagement with local groups. The audited drawings are embedding in the TTA and include no information in respect of key dimensions, set-backs, layouts, pedestrian facilities, signage, marking, drainage, lighting etc.

A proper and complete transport analysis and assessment, which considers all of the above design issues, will require significant additional mitigation measures to be provided as part of the development, which may well include the provision of all / some sections of the Donabate Relief Road in order to ensure the NFMH Portrane development does not result in serious traffic congestion and traffic hazard issues during the construction and operational phases.

APPENDICES

A. Photographs



PHOTO NO. 1



PHOTO NO. 2

UK and Ireland Office Locations

