The Planning Inspectorate

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The Great Yarmouth third River Crossing

Michael Boon Summary written Evidence

1. Great Yarmouth third River Crossing written comments and Evidence.

1.1. My name is Michael Charles McMillan Boon. I hold an Honours Degree in English from Nottingham University. I am a Fellow of the Institute of Chartered Accountants and a Fellow of the Chartered Institute of Management. I hold a Masters of Study Degree from Corpus Christi College University of Cambridge.

1.2 I am a local man and was employed by the Great Yarmouth Port Authority and its predecessor Authority the Great Yarmouth Port and Haven Commissioners for 25 years, between 1974 and 1999. I was first appointed as Secretary to the Board, and Statutory Clerk, and subsequently as Chief Executive and Clerk for 23 years.

1.3. In my capacity as Port Chief Executive I served on many local, regional and national bodies. I was a Council Member and then President of the Great Yarmouth Chamber of Commerce. I was a Council Member of the Norfolk and Norwich Chamber of Commerce and chaired its Transportation Committee.

1.4. I was Chairman of the East Anglian Committee of the Netherlands British Chamber of Commerce. I served on a number of National bodies representing British Ports. I was a Committee member and then Chairman of the Medium Ports of the British Ports Association. I was National Treasurer of the British Ports Federation and latterly it's Vice Chairman.

1.5 I retired in 1999 to return to my academic roots and am now a Local Author and Historian, the Great Yarmouth Port Authority Archivist and am researching Great Yarmouth's fifteenth century Port history in a doctorial study at the University of East Anglia.

2. Involvement with the Great Yarmouth Port bridge crossings.

2.1. I promoted and was principal witness in the passage of what became the Great Yarmouth Outer Harbour Act 1986 and successfully piloted an opposed Bill through both Houses of Parliament to ensure that the Port Authority had the powers to plan and build the Outer Harbour.

2.2 As a consequence of all my comprehensive paving work I was naturally delighted to see the Outer Harbour built and in operation. I, of course, would hope that it continues to develop successfully, in seeking port business in the competitive wind farm developments and also in the scenario of renewed interest in the Southern North Sea gas basin. I also hope that Peel Ports the major operator would take whatever steps are necessary to expand and develop the port in the interest of Great Yarmouth and its long-term association with the continent of Europe. It was always intended that the Outer Harbour and the river port should work together and currently the river port berthing accounts for 80% of the port's traffic. Great Yarmouth is a major port for production of equipment for the North Sea wind farms at the present time. The port has always operated on a 24-hour basis throughout the year with an unhindered access to berthing downstream of the haven bridge. In the present political scenario traffic development could result in a restoration and development of the long-standing short sea links to the near Continent and the Baltic. The necessary major berthing of vessels, other than those involved in decommissioning and production of turbines and major bulk carriers, is in the river port My role in this Inquiry as a supporter of the Port Authority is to share information I've gained in port operations in the period since the last river crossing at Breydon bridge was planned and built.

2.3. During my time at the Port I was responsible for promoting bye-laws, Harbour Orders, and Acts of Parliament on behalf of the Port Authority.

2.4. At the time when the second river crossing was planned, originally at Queens Road, I took a leading part on behalf of the Port Authority to protect the future interest of the port in saying that the crossing was relocated above the haven bridge to carry the Western bypass so that port traffic was not hindered by a bridge downstream of the historic haven bridge site.

2.5 As the Breydon Bridge crossing was a trunk Road scheme, I dealt with HM Government in all aspects of its planning and development and secured the operational control of the bridge for the Port Authority so that it could be raised and lowered in tandem with the Haven Bridge as required. The Breydon bridge needed to lift for commercial traffic navigating up river to the port of Norwich and to the Cantley sugar beet factory so a significant pontoon for layby purposes for commercial shipping was built upstream of the bridge. Otherwise the Breydon Bridge would lift where necessary for pleasure craft coming through Breydon Water to go out to sea, and those incoming to go into the Broads system together with occasionally necessities for vessels interchanging between the Yare and the Bure River systems in Great Yarmouth.

2.6 Facilities were available for pleasure vessels to step their masts to enable the transit of the Breydon Bridge to be easier when lifts were not necessary. The commercial traffic to the port of Norwich and to the sugar beet factory in Cantley necessitating the raising of the bridge for commercial vessels has declined considerably in recent times,

2.7 When the Breydon Bridge was built it was operated in tandem by Port authority staff when both bridges needed to be raised for passage of vessels but the proximity of the two bridges resulted in the halting of road traffic for a relatively short period of time.

3. The Haven Bridge

3.1 The Haven Bridge was built by the Great Yarmouth Port and Haven commissioners as a four-lane highway by private act of Parliament in 1925. It has been a good servant to the town especially when it was the only bridge crossing during my period of time as Chief Executive of the port. It was well maintained by the Port Authority in liaison with the Norfolk County Council and the Authority had numerous local arrangements with contractors on a 24-hour basis to mitigate any lifting or lowering problems which occurred. Constructing a four-lane highway in 1925 was farsighted but I was unable to persuade the government of the time that the Breydon Bridge also needed to be a four-lane road as this was rejected on cost grounds.

3.2 The Haven Bridge area has been the crossing point for the bridging of the river Yare from the West Bank of Southtown into the town of great Yarmouth itself since the 15th century. Several bridges have been constructed close to this site as it has been the most convenient access to the town. Increase in traffic to the central area of the town and alterations of the road control with changes involving the removal of a roundabout on the east bank and various changes in traffic light systems have slowed the flow of the traffic. However, the Breydon Bridge provided welcome relief outside the area of the commercial port traffic flows from the Western bypass which did not need to go into the town itself.

3.3 The increase in traffic volumes on the roads around Great Yarmouth are the cause of congestion when the Haven Bridge had lifting problems with the tailbacks of traffic unable to be dealt with by the current road system to the west of the town. The records will show that generally the Haven Bridge performance, as it was well maintained and operated, has been good over recent years but obviously the media highlight bridge problems which tend to mask the sterling performance which the bridge has put in for the town. It has to be accepted though that the bridge is ageing and in consideration of siting it might have been replaced by a new bridge alongside the present structure as has happened in the past.

4. Traffic flows around Great Yarmouth

4.1 The increasing traffic around Great Yarmouth from the 1970s onwards when the North Sea Gas exploration and servicing was at its height led to the development of industrial estates and Gapton Hall and Harferys Farm on the west bank of the River as there was insufficient space for factory and warehouse development in the South Denes peninsular where land was required as immediate backup to the port quays.

4.2 From the 1960s the port had been involved in unit load traffic with a number of Ro-Ro lines to the near continent and Scandinavia which made the construction the third river crossing on to a bypass to the west of the town desirable.

4.3 Two trunk road schemes were available for a western bypass one being an outer route further to the west of the town which would have approached the Breydon Bridge through the Gapton Hall industrial estate to the west of the existing bypass. The inner route or Gorleston relief road which was eventually constructed was closer to the river but after construction was reduced in speed level capability from the projected 70 mile an hour approaches bypassing the town to a 50 mile an hour limit. In hindsight and as said at the time the fact that the outer route was not built this contributed to the problems of the

Western bypass at present and the consideration of a third river crossing to try and alleviate congestion and jammed traffic flows.

4.4. At the time of the Great Yarmouth Outer Harbour Act, which I promoted on behalf of the Great Yarmouth Port Authority, a third river crossing upstream of the present siting was postulated in the Queens Road area. It would have course been very desirable for the Outer Harbour development to have such crossing in this position to service port traffic. The Parliamentary Committee approving the Outer Harbour Bill as an Act had commented to the Norfolk County Council at the time. who had opposed the Bill on the grounds that it wished the Port Authority to pay for the crossing, in rejecting its opposition? The Parliamentary committee said that the crossing was the responsibility of the Norfolk County Council within its own structure plan and the county council itself should develop the crossing to support the port. Much water has gone under unbuilt bridges since that time and the crossing responsibility has moved from a government trunk road scheme back to a promotion by the Norfolk county council during the interim period. It would have been desirable, had the bridge been built by the Norfolk County Council at the Queens Road crossing site at the time, when the Outer Harbour was being developed to serve port traffic but unfortunately that opportunity was lost.

4.5 Traffic flows on the Western bypass have increased steadily in the intervening years to the extent that there are perpetual jams at certain times of the day between the Breydon Bridge, the Gapton Hall roundabout and the Harfreys roundabout. The scheme presently being discussed seeks to alleviate those problems by major modifications to the roundabouts by the Highways Agency and the construction of a lifting bridge considerably further down river than originally planned.

4.6 The option of a tunnel crossing was rejected by the county council as being too costly at an early date. This would have been the preference of the port authority at the time of planning of the outer harbour in order to ensure that the primacy of navigation on the river did not affect the movement of the road traffic seeking to cross it. I feel that with hindsight in 20 years' time, subject to any as yet unforeseen problems resulting from climate change, that the opportunity of a tunnel construction, where the Port Authority had outlined designs from its original port consultants might be another opportunity missed. However, time has moved on and it is necessary to consider the present scheme in its effect on the construction of a lifting bridge over a busy operational port when navigation has priority over road traffic.

5. Concerns raised with the Norfolk county council during the consultation period

5.1 although I had retired from the Port Authority nearly 20 years ago now I was interested as a private citizen and long-standing resident of the town in a bridge crossing of the river Yare, in which I had such a close involvement for a quarter century of my life.

5.2 In the circumstances I attended the exhibitions mounted by the Norfolk County Council from the earliest promotion of the scheme and having been unable to obtain the information I was looking for subsequently sought and had a number of meetings with the applicant's senior staff who were promoting the crossing.

5.3 My interest was from the navigation point of view and the effect that any river crossing in terms of a lifting bridge would have on the ability of the port to continue to operate on its well tested 24-hour basis throughout the year without hindrance.

5.4 I have understood for many years, and in particular during my period as Chief Executive of the Port Authority, the desirability of a third crossing of the river to link the industrial estates on the west of the town with the front line of the port authority on the South Denes peninsular. However, that desirability needs to be tempered with and satisfy the needs of the river users who would have need of navigating the crossing site. In other words, the primacy of navigation should result in a bridge design which has a minimum of impact upon what is currently a river without any obstructions in this area.

5.5 Despite the series of meetings I have had with the county council applicants and their navigation adviser I remain concerned about a number of aspects of the scheme and its road approaches which I set out in this document. I had hoped to have a reply to start to address the concerns I had raised with the applicants as promised in August 2019 following the last of my meetings in March 2019 but I've heard nothing further despite seeking a response. There may be answers available now to the points which I have raised but I have not received them.

6. The bridge structure and operation

6.1 Having dealt with the Government with regard to the Breydon river crossing during my time in office with the Port Authority I would have preferred to see the scheme with the counterweights above the bridge. It seems that the county council as promoter is favouring one with the counterweights below and no reason has yet been given. I raised the question of the flooding of the ballast chambers during high tides and how this would be dealt with as it occurred at the Haven Bridge but no answer has been supplied. If the ballast chambers were flooded with the bridge be able to operate? Has a different design to mitigate this been thought of? I have not been provided with this information.

6.2. I asked whether the port operators located above the bridge crossing level were content with a constraint on navigation and how this would be dealt with. It was said that no vessels would leave their berths above the bridge until the bridge was open. If this is the case lifting times estimated at 5 ½ minutes are likely to be underestimated. If in fact the bridge lift occurred while vessels were approaching it from upriver and the lift was not completed satisfactorily, I asked what would be the plans for vessels having to abort their entry to the bridge with the tide behind them. I did not receive an answer to this question

6.3 I asked where any vessel approaching the bridge from the sea might moor when waiting for the bridge to lift. I was told that this but had been planned by the navigation consultant. I was then shown a conjectural vessel moored opposite the Spending Beach on the west bank of the river. I raised the matter that the Spending Beach had a navigational function in reducing wave turbulence in the Haven which had been in force for more than a century and that was why no building had taken place in the area of the Spending Beach itself since reflected waves from Brush Bend needed to spend their force on the east bank of the river in the Spending Beach. To plan to moor a vessel on the West Bank opposite the Spending Beach shows little

knowledge of the port function and operation and reduces my confidence in the ability of a navigation adviser who suggested the scheme. There are several reports in the port archives I left at the Port Authority, as its current archivist, including studies by the Hydraulic Research Station at Wallingford maintaining the importance of the Spending Beach in reducing turbulence in the harbour. It surprises me that a navigation consultant, even in looking at the river, could not identify this particular problem by visual judgement.

6.4 I also mentioned that the West Bank of the River was shallow piled compared with the east bank and any planned layby berth would have to be re-piled in steel at a much greater depth than at present with a layby berth length of at least 100 m and this would be part of the costs of the scheme. I commented that a few days beforehand I had observed a large supply vessel drifting too far from the centre of the river towards the West Bank and it had gone aground having moved out of the navigable channel in the middle of the port. These issues relating to the channel position did not seem to be realised at the meeting.

6.5 I mentioned further that there was no navigational channel beside the West Bank as the dredged channel favoured the east side of the river where the operational berths were and this had been the position for many years. It appeared to me that the navigational consultant and the county council had no idea that there was a designated channel favouring the eastern bank of the river and it would not be possible for any vessel of any size to moor on the West Bank without a planned dredging program and was the county council confident of maintaining access to a layby berth in the circumstances. This was be to be reported to the navigation consultant and I've heard nothing further.

6.6 In terms of the failure of the mechanism of the bridge to lift I expressed concern regarding vessels which might be trapped above it. It was said by way of response that the designers of the bridge would have a provide a guarantee to clear any and all operational lifting problems to allow the Bridge to lift in one hour. I did not think that this was realistic and asked for further information on how this remit would be carried out. During the construction planning of the Breydon Bridge the contractors had to make detailed provisions for the supply of parts in its mechanism which could be accessed at short notice. I asked whether this arrangement would be made and what were the considerations necessary? I've received no further information.

6.7. I raised the question as to if vessels are trapped above the bridge if it cannot be raised who would compensate the various parties. I did not receive reply

6.8 I was somewhat concerned to hear when considering the purpose of the bridge so far downriver across the middle of the river port to hear that its construction was to relieve the Haven Bridge primarily rather than deal with port traffic. This led me to believe that if this is really the circumstances of building a third bridge funding might be more properly spent on improving the approaches to and the function of the carriageway on the Breydon Bridge rather than cause such disruption to the port on highway grounds rather than on promoting navigational grounds. I will deal with I will deal with traffic access crossing the bridge later in this paper.

6.9 This does raise the principal point of the wisdom of a bridge being built downriver to send traffic northwards to reach the seafront and the town, surely a bridge on the Queens Road site would fulfil that function just as well without disrupting the port. This was a point raised in discussion during my meetings with the county council and it is a matter of concern that a

bridge across the navigable river in a 24-hour port should link the bypass within the optimum position to benefit both the port and the land-based traffic. It is concerning that none of these considerations appear to have been answered during consultation.

6.10 I appreciate that an average has been used in terms of time needed to lift the third river crossing to allow for the primacy of navigation. I think practically having regard to the history of the Haven Bridge, even that far up river, that this may be optimistic in terms of delays. I was also concerned that the traffic management of sending vehicles towards the third river crossing from the West Bank of the River off the western bypass may cause traffic locks when the feedback to the crossing from the West Bank is fully utilised with traffic. It was said during meetings with the county council that the scheme would be developed to send traffic further north to cross at the haven bridge if traffic was heavy on the western bypass and a right turn towards the river was not practical. If this is the case and having regard for the traffic locks experienced so far along the bypass in the summer period is this really a practical way to utilise a bridge in this position. I was concerned during this part of the discussion that traffic management, even ahead of the planned improvements on the roundabouts on the western bypass, was taking priority over any impact on ships needing to navigate in this part of the river. I expected more information to address these points and did not feel that what I was told was satisfactory at this juncture.

7. Waiting berths for vessels

7.1 having referred to the initial planning for waiting berths on the west bank of the river position there appear to be further indicative amended plans for waiting berths downriver of the bridge for vessels wishing to transit. I understood these were to be on the west bank of the river but I have received no further details to my enquiry. If this original berthing arrangement has been altered what and where is the alternative?

7.2 Has any accounts been taken of the shallow piling on the west bank of the River where presumably a waiting berth would be constructed to avoid taking a current operational berth for this purpose. Does not a proper and effective waiting berth need to be constructed of at least 100 m in length? Part of the agreement for the Breydon bridge referred to earlier was that a waiting berth was constructed above the bridge to allow vessels to wait to transit it. Smaller of course in this case because it for vessels going up river to Norwich. Has Darby's Hard, closer to the proposed bridge on the West Bank, been considered where a joint waiting berth, remedial highway scheme and flood protection scheme could be considered.

7.3 If an operational berth is not to be affected on the West Bank of the River, in terms of a waiting berth, what considerations have been made with regard to the navigable channel which would need to be dredged and maintained on the West Bank as the operational port channel is on the east bank.

8. The Navigable channel through the bridge

8.1 This is one of constraints to navigation by the building of the bridge structure and I have asked what navigable width or other structural constraint is involved in the design and construction of the bridge to vessels passing up and down river and have yet to receive a clear reply on the effect on navigation. I've also asked what the clearance at the top of the lifting spans will be, assuming that they will not be vertical. These are the constraints offered by any proposed bridge. If the lifting leaves do not rise to totally vertical plane then the constriction on the river width will be the difference between the lifted leaves at their full height.

8.2 I have been looking at the vessels currently berthing above and in the vicinity of the proposed construction. It seems to me that some of these have a very wide beam which might prove to make the passage through the spans problematical in difficult tidal conditions.

8.3 Most offshore supply vessels enter the port stern first and are piloted by the port pilots. Have the port pilots been involved actively in any computer designated passages to seek their opinions. When considering the outer harbour construction, I took the port pilots to a sophisticated model at research Station at Wallingford. Has this been undertaken or has the bridge crossing been modelled elsewhere and if so to what level of technical practicality?

8.4 Great Yarmouth is not a compulsory pilotage port however and if vessels, seeking to moor and leave berths above the proposed crossing, have to take pilots to safely reach their berths who will pay for that pilotage caused by the construction of the bridge.

8.5 What are the arrangement for downriver transits through the proposed bridge spans? My arrangements with the Haven and Breydon bridges were that they lifted together but they were closer together. The distance between the Haven Bridge and projected new bridges much longer. How would the passage of vessels which required a bridge lift from quays above the proposed crossing operate?

8.6 I believe that the average time for a bridge lift utilised in the operational plan, having had experience of the Haven and Breydon bridges, is underestimated. Over the past few months I've observed the lifting of both the Breydon Bridge, the Haven Bridge and the bascule bridge at Lowestoft. Whereas on occasions the total lift allowing time is within the tolerance suggested by the applicants no account seems to have taken place that the subsequent return to free-flowing traffic could take at least 20 minutes in busy periods and sometimes considerably longer.

8.7 I appreciate that an average has been used in terms of time needed to lift the third river crossing to allow for the primacy of navigation. I think practically having regard to the history of the Haven Bridge even that far up river that this may be optimistic in terms of delays. I was also concerned that the traffic management of sending vehicles towards the third river crossing from the west bank of the River off the western bypass may cause traffic locks when the feedback to the crossing from the West Bank is fully utilised with traffic. It was said at meetings which I had with the county council that the scheme would be developed to send traffic further north to cross at the Haven Bridge if traffic was heavy on the western bypass and a right turn towards the river was not practical. If this is the case and having regard for the traffic locks experienced so far along the bypass in the summer period is this really a practical way to utilise a bridge in this position? I was concerned during this part of the discussions that road traffic management, even ahead of the planned improvements on the roundabouts on the western

bypass, was taking priority over any impact on ships needing to navigate in this part of the river. I expected more information to address these points and did not feel that what I was told was satisfactory at that juncture.

8.8 Has any consideration been taken of the turbulence caused by the bridge piers in the river coupled with fast ebb or flood tides. At the haven bridge the tide is fierce around the bridge buttresses and scour holes have developed in the past. Might this sort of consequence result in the requirement for the assistance of towage which is not the case now? If so, what arrangements have been made?

8.9 Has any consideration been made on how vessels approaching the bridge for a transit with the ebb behind them abort the crossing if the lift fails. Does this not mean that passage time from a berth cannot commence until the bridge is safe for passage?

8.10 Any bridge structure constructed within the river will affect the volume of water able to pass through that particular point reducing or restricting the flood or ebb flow. The river Yare within the urban area has a channel which is piled to prevent flooding and obviously no flood plain within Great Yarmouth itself. Bearing in mind the narrow river Yare within the urban area together with the established peculiarities of the effect of flood and ebb tides in this particular location has any consideration being given to asking the Environment Agency to model any consequences of construction which might cause flooding? What reduction in percentage in river flow might be caused by the bridge structure itself?

9. Effects on port operational land

9.1 Obviously, the constraints provided by another narrowed navigation channel will affect the ability of larger port traffic to transit the area. It is obviously difficult to forecast what size and type of traffic might emerge in the future but one would hope that the unimpeded ability of the Port Authority to utilise its quays through its operator in a variety of manners would be mitigated as much as possible. One thing seems to me to be an irrefutable fact having regard to my quarter of a century in the port industry is that vessels get larger and more complex. I've observed this over the past three or four years in the size of offshore vessels which berth on the quays immediately upstream and downstream of the projected crossing site.

9.2. Bollard Quay and Gas House Quay on the west bank have been used in the past for the construction of accommodation modules on wide beamed barges berthed alongside. Bollard Quay is a public quay under the operational control of the port authority and its operator and has also been used for timber and other general cargoes with lengthy vessels. However, will any bridge construction affect the operation use and capability of this quay. It was expensively re-piled for use during my watch as Chief Executive and has been similarly dealt with again subsequently although there appear to be problems with the quay at the present time. How will the construction of any crossing in this location affect the Bollard Quay which also doubles as a strategic flood protection wall for Southtown?

9.3 If there are restrictions on the use of Bollard Quay because of the construction of a bridge with a narrowed navigation span what are the plans for the applicants to provide alternative facilities for the port authority and its operators?

9.4 The former Fishwharf on the east bank is the largest area of quayside freehold owned by the Port authority. There is a considerable amount of land behind the quayside which can be used for storage and also adjacently with the old gas holder site in the port authority's control across South Denes Road. If the proposed bridge crossing is downriver or crosses the fish wharf itself what impact will it have on utilisation of its crucial quays. Where will this valuable quayside facility be replaced by the applicants

9.5 On my watch the Port Authority built a large warehouse on the west bank of the River on the former timber wharf of Jewson's which has had a variety of uses and is now an offshore complex but large vessels berth at the quayside. Would there be any constraints on the current large vessels which use this quay, currently not requiring pilotage or towage by the construction of a narrow bridge channel downstream?

9.6 Have the applicants in the discussions with port operators checked as to whether the construction of the bridge will mean that any port operators will need to move from their current sites within the port to maintain their operation or have taken steps to leave the port altogether. This latter scenario would be most undesirable and I would hope that every effort has been made by the applicants to ensure that the construction of the bridge does not diminish the number of operators who are present in the port as frontline generators for the Great Yarmouth economy.

9.7 the availability of quayside berthing is essential for a port to be able to develop. There would be a large area of river with operational quaysides on both sides of the river above the bridge crossing which would be restricted by the constraints of the bridge itself. Downstream of the projected bridge crossing site East Quay bridge is an active operational site that owing to the fact that the West Quay is piled on the shallow basis, has little backup land below Gorleston and no dredged channel the port becomes one-sided. Have the applicants taken account of this situation as the practical unconstrained berthing within Great Yarmouth would be restricted unless new areas were opened up.

10. Road approaches to the proposed bridge and traffic implications

10.1 When the question of the third bridge crossing was mooted, I thought that the suggestion was that its principal benefit would be to provide an access for the port operational facilities on the east bank of the river, the outer harbour and the South Denes. I remain concerned, having heard that it is meant to alleviate the Haven Bridge traffic by crossing the river at this downriver point, that is envisaged that town traffic would turn north along South Denes Road and South Quay, a single carriageway route through traffic light junctions fed by roads to the east. Similarly, traffic wishing to access the port, unless there is a designated route southwards and eastwards along Hartman Road, would have to contend with the narrow roads in the South Denes. Similarly, traffic seeking to get to the seafront by using the crossing will have to use the existing road system which is poor at this point between the river and the sea. I noted that

there was one of several artists impressions of the new structure and road published in the Great Yarmouth Mercury which gave the picture of a dual carriageway road approaching the river at the flat level with no indication of what the traffic will meet on the other side in terms of road capability which, unless improvements take place, will transfer congestion on to the east bank, especially with town designated traffic.

10.2 There has been a railway line alignment on the east bank of the river from the East Quay, protected for many years in local plans, although the lines no longer exist at the present time but in the past travelled all the way to Vauxhall station and the rail network. In terms of future European traffic plans, where much traffic is being transferred to rail particularly from ports, it is essential that this rail alignment is protected in the construction of the scheme. I have mentioned this point to the applicants who have indicated that they have taken this point on board in the planning of the design of the bridge. The applicants appear to be appraised of the fact that this alignment must be protected in the interests of the future growth of the port transportation options. Can this be confirmed?

10.3 I remain uneasy with regard to the projected traffic flows off the Western bypass to utilise the bridge. It seems that traffic flow forecasts for the two roundabouts planned on the bypass together with planned work that the Breydon bridge have been utilised to consider a third bridge traffic flows before any works have taken place. This means that there are four random elements untested in actual traffic flows because of the timing of construction works taken together with the attempt to predict future traffic flows. It appears that the bridge construction team are relying on the Highways Agency traffic flows and plans for remodelled roundabouts at the Breydon bridge, the Gapton Hall roundabout and the Harfreys roundabout. I understand that the Highways Agency, which is responsible for the modelling of the roundabout changes and consideration of traffic flows, has recently indicated that it will take another year to finalise roundabout designs and the traffic flow models are being reconsidered. In these circumstances the timetable for the bridge construction and the facts which it is utilising in terms of traffic flows have yet to be finalised. Living in Great Yarmouth I have regularly seen the traffic solidly locked on the western bypass from Breydon bridge stationary back beyond the Harfreys roundabout towards Gorleston. There appears to be no available evidence at the present time that the roundabout planning for the Western bypass by the Highways agency will cause these jams be alleviated. Surely the original planning was for the roundabouts to be replaced, traffic flows measured and evaluated and the bridge crossing needs met from this scenario.

10.4 I appreciate that normal highway planning is based on forward traffic flow figures. However, I asked the question of the applicants as to what would happen, as it would appear from the current situation that the Harfreys roundabout and the short approach on the western bank to the bridge crossing would be locked by traffic. The reply surprised me in that it appeared to be envisaged that there would be signage indicating that the third river crossing could not be used in these circumstances because of blocked traffic on the bypass which will be sent north to cross at the Haven Bridge. I've heard port operators say that if this is the scenario, however desirable the third crossing is, does it merit the construction of the third river crossing at this point. I have no doubt some sort of answer can be produced to this scenario but with the delay in the Highways Agency's plans for roundabouts on the western bypass the situation is not helping the planning of an effective bridge crossing to deal with the traffic problems.

11 Conclusion

The points which I have made in this paper were carefully thought through from my own experience of the port and the port industry over a quarter of a century having seen the effects of bridges constructed over other active operational navigable waterways.

I write as an individual with the concern that navigation primacy in the scheme is dealt with properly and effectively and that the existing operation of the port is neither hindered nor precluded from developing in the future.

An access across the river which does not hinder navigation is highly desirable if in fact the whole of the road network across the A 47 is finally developed and dualled into Yarmouth with the final link of the Acle Straight. As I had taken an active part in the promotion of the need for improved road schemes, starting over 40 years ago now, one appreciates the timescale needed to improve the Great Yarmouth traffic system. One also appreciates the need to make certain that the appropriate parts of the 'road to the port' are constructed in a practical timescale that neither hinders the operation of traffic within the town nor affects the port operation as it operates in a highly competitive field.

My comments are meant to be constructive in addressing a wide variety of points which did not seem to be on the agenda of the applicants. I hoped in this respect to be helpful in adding my small area of knowledge to the scheme to ensure as I thought that the navigation in the River Yare was not hindered unnecessarily.

At the time at which I write I do not have answers to the questions which I have posed even although I have spent almost a year asking them in attending exhibitions, open consultations and having detailed meetings with the applicants myself. If satisfactory explanations are now available I would be pleased to hear them because my overriding aim is to see that the port of Great Yarmouth, which I served for a quarter of a century, retains its strategic position in the future without limitations in order to be a principal economic driver for the town in terms of whatever the energy scenario becomes and with our historic shipping all relationships with the continent of Europe.

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6th October 2019