

Concerns and questions re tunnelling route proposed for Five Dock metro station

Attention: Department of Planning, Environment and Industry

I have recently learnt that proposed tunnelling for the proposed Five Dock metro station is to be located underneath my place of residence (a block of units at 25 Park Road Five Dock, the entrance to which is split between units that face Second Avenue, and units that face Park Road).

I have significant concerns about this proposal—both in relation to the proposed construction phase, and to the longer-term post-completion phase. These concerns include the impact on my health and well-being (especially as a chronic migraine and headache sufferer whose triggers include noise, lack of sleep, fumes/smells and dust, and who needs peace, quiet and sleep to recover from debilitating migraine attacks); my ability to conduct my work from home which I currently do on a regular basis; and its impact on my general lifestyle.

I oppose the proposed tunnelling route underneath my home. I am keen to learn what alternatives might be explored and what measures will be taken to mitigate and manage collateral damage impacting on health, livelihood and lifestyle over a sustained period of years in the proposed construction phase¹ and thereafter into the future once the project is complete.

I would therefore be grateful if you could provide me with responses on my initial questions below. These answers may be used by me to make a (further) and more informed submission to you.

Please note that I would like to retain confidentiality over parts of this document and request that you revert to me prior to any proposed online posting.

Provision of EIS summary and EIS in PDF/ printable form

1. Could you please email me the EIS summary and the complete EIS as PDF documents?

I have found it difficult to read the EIS summary and full EIS (in its different sections) online. I downloaded and printed the EIS summary but it was not compatible with A4 printing and the pages were cut off.

Impact of COVID 19 on the timeline for response?

2. Will you please extend the timeline for making submissions in light of the recent challenges that the COVID-19 pandemic placed us all under?

As you will appreciate, I, and I assume many others, were preoccupied with other priorities affecting our ability to digest the technicalities and the volume of online material on this issue and to make an informed submission.

Proposed Five Dock station

3. Is the project proceeding on the basis that a station in Five Dock will undoubtedly proceed; ie is this issue one still open to debate and submission?

In this regard, I note that:

¹ I note that paragraph 11.13.2 of the EIS states that Stage 1 works alone within the Five Dock Station construction site are anticipated to have a total duration time of two years and three months.

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- the EIS (at Table 3.2) did **not** identify Five Dock as a core station as part of its core station evaluation.
 - the EIS (at Table 3-7) sets out inter alia the proposed Five Dock station's performance against the Sydney West Metro objectives and, of the seven objectives listed, only three (a minority) were scored as 'a strong alignment' and four were scored as 'some or neutral alignment'. Compare for example, Westmead Station and Parramatta CBD, Burwood North and North Strathfield which each scored 'strong alignment' for five of the seven objectives listed.
4. The EIS summary (page 40) refers to Five Dock station being a 'binocular station' rather than 'cut and cover'. Could you please explain what this means and what the pros and cons are of a binocular station?
 5. The EIS summary (page 72) says that 'cut and cover shaft excavation' is due to commence in quarter 2 of 2022—what does this mean?

Proposed precise location of tunnel in Second Ave Five Dock and consultation on this aspect

I oppose the proposed tunnelling route under Second Avenue.

6. What specific measures have been taken to bring the proposed tunnelling route to the attention of affected residents in Five Dock including residents on Second Avenue and those residing at 25 Park Road, and explain it to them?

I am very concerned that not all affected residents, including those residing in, or having their entry access via Second Avenue Five Dock are aware of the proposed tunnelling route. I could not see a written description of the location of the proposed tunnelling underneath Second Avenue in the summary of the EIS or the EIS.

I was only alerted to the proposed tunnelling route by a friend who saw it on the interactive map. I am concerned that many affected residents (some of whom would have English as a second language and others who may not have access to the internet or be computer literate) would not be in a position to access or navigate an interactive map. Their ability to have their say on a fundamental proposal that significantly affects their lives should not depend on the serendipity of them being able to access and navigate an interactive map.

The only reference I could find in the EIS about specific consultation with Five Dock residents was reference in para 5.7.1 to a survey that was open between 6 November and 16 December 2019 which is reported to have had 135 people participating half of which lived in **either** Five Dock, Burwood North or North Strathfield). In any event, the reported results of that survey indicate that almost 60 per cent were concerned about construction impacts.

7. From the interactive map it appears that you propose to build two tunnels underneath Second Avenue. Is this correct?
8. What alternative routes to tunnelling under Second Ave have been considered? Is it possible to please consider an alternative route that does not go under residents' homes whether

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they are single or double-storey dwelling houses or blocks of units that house a larger number of residents?

The EIS does not specifically refer to the two blocks of units on Second Avenue/corner of Park Road and Second Avenue which house a number of residents. At paragraph 14. 13. 1 the EIS describes land use sites surrounding Five Dock station and states that this includes the following “East of the site are residential dwellings of various densities. This includes a number of medium density dwellings with single dwelling houses”.

9. Could you please explain the precise tunnelling location that is proposed under Second Avenue? Will it be under homes on both sides of Second Avenue or just those that are nearer to First Avenue?
10. Is it proposed that the tunnel(s) would predominantly be under the roadway of Second Avenue as opposed to predominantly under the homes of residents (whether free-standing or units)?
11. If not, could positioning the tunnelling predominantly underneath the road itself be an option that would mitigate noise and vibration for affected residents?
12. How wide and how deep is the proposed tunnelling to be excavated under Second Avenue?

Timeline

I understand from the EIS that Stage one in Five Dock is due to commence in quarter 4 of 2021.

13. Does the above date take into account any possible variations to the proposal put forward in the EIS? Is the project timeline predicated on the basis that what you have put forward for consultation is set in stone or is there a **real** possibility that, after considering feedback from residents, you will consider alternatives including alternatives to the tunnelling route under Second Avenue proposed for Five Dock station and that this will impact on the proposed timeline?
14. How long is construction estimated to go for in relation to the Five Dock station and associated tunnelling?
15. I note that para 11. 13.2 of the EIS states that Stage 1 works alone within the Five Dock Station construction site are anticipated to have a total duration time of two years and three months. However, given examples in recent Sydney history of estimated completion times significantly ballooning out for key transport projects I am interested in learning if you consider this to be a realistic estimate?
16. If you were to proceed with tunnelling under Second Avenue, are you able to provide me with an estimate of how long that specific process will take? And how far into the two-year- and three month project would this part of the project commence?
17. What do you estimate will be the time period for Stage 2 and will it be the case that there will be noise/vibration impacts resulting from Stage 2 that will also continue to impact negatively on residents of Second Avenue/Park Road Five Dock?

Mitigation measures: noise and vibration

It is with great concern that I note the standard working hours for Stage 1 (estimated to go for two years and three months) are 7am to 6pm Monday to Friday and 8am to 1pm on Saturday and that

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excavating, tunnelling and associated support activities will be carried out 24 hours a day for seven days a week. There will be extreme noise given use of equipment including bulldozers, jack hammers, road-headers and rock hammers. In addition, there will be significant increase in noise levels due to trucks and workmen. The current peace and quietude of Second Avenue/Park Road near Second Avenue will be destroyed.

Moreover, the EIS states (at page 46) that the movement of the tunnel boring machine could be more noticeable at night when other noise and movement levels are lower, that during the night 'moderate' impacts are predicted at certain receivers in Five Dock, and (at Table 11.7) that 'potential **exceedances of human comfort criteria** are predicted inter alia at Five Dock meaning perceptible levels of vibration may occur when tunnelling works are below certain areas'(emphasis added).

We are yet to be notified about the duration of Stage 2 and the working hours for that stage but what seems clear is that we are being asked to tolerate for a sustained period of time extreme noise, vibration, sleep disturbances,² and upheaval to our quiet and peaceful enjoyment of our premises and our quality of life with little reprieve. Our ability, for example, to enjoy quiet catch-ups at our homes with visiting family and friends will be severely impacted.

The interactive map in relation to Five Dock indicates the location of proposed 'noise mitigation' *only* at a location between East Street and Great North Road.

I also note with concern that section 11. 4 of the EIS headed 'Avoidance and minimisation of impacts' does not make a single reference to actions taken in respect of Five Dock station. The listed examples refer only to Westmead, Clyde, Silverwater and Sydney Olympic Park.

18. In light of the above concerns, what measures will you take to alleviate for me the impacts of noise arising from demolition/construction/tunnelling/ especially given that I suffer from migraines and cluster headaches (that can last for days) and headaches. I need peace and quiet and proper sleep to avoid them³, to get through them and to recover from them⁴.
19. Could you please explain what the number '43' under the heading 'Human comfort night' for the entry in relation to Five Dock station at Table 11. 7 actually means? I note this is the second highest number on that table.
20. What measures will you take to manage and mitigate the impact that this project will have on my ability to work from home? I work regularly from home. I need to be able to hear to conduct and participate in teleconferences and online meetings and need quiet to concentrate, read, analyse and write as part of my work.
21. What measures will you take specifically to mitigate noise and vibration in relation to the affected residents of Second Avenue (including residents at 25 Park Road Five Dock)?

I note that the EIS summary states that common mitigation can include certain things but I am interested in learning which of the measures mentioned (and any others) will *actually* be implemented and where? For example where precisely in Five Dock will there be sealed acoustic sheds? Will there be "controlled blasting"? (The EIS summary at page 34 says "it will

² See for example references to inter alia various "sleep disturbances" for Five Dock station at Table 11-53 of the EIS and discussion in EIS of sleep disturbances at 11.3.11.

³ See for example <https://www.migrainetrust.org/living-with-migraine/coping-managing/sleep/>

⁴ Ibid.

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be considered” but this does not need give assurance that it will, in fact, be utilised as an option).

Given the proposed long duration of this project and its adverse impacts on health and well-being, it is critical that you engage with affected residents in communities to ascertain their very real needs for respite, which will extend far beyond ‘school exams’ and ‘worshipping times’ mentioned in the online video of one your experts. For example, there would be special needs of particular groups including the residents of the aged care facility on Park Road Five Dock, next to Second Avenue.

Depth of tunnelling

As stated above, I oppose the tunnelling under residents’ dwellings in Second Avenue and implore you to consider other alternatives.

22. In the event that you proceed to tunnel under residents’ dwellings including those in Second Avenue/ 25 Park Road Five Dock, could you please tunnel to the greatest possible depth in excess of the estimated 30 metres?
23. What national and international benchmarks and best practice have you considered in relation to tunnelling depths and specifically in relation to tunnelling depths under residential dwellings that deliver the greatest noise and vibration protection?

In the event that you were to proceed with such tunnelling under residential dwellings, I submit that you should tunnel **as deep as possible**, consistent with national and international benchmarks and practice that have proven to result in the greatest noise and vibration protection.

My brief searches have indicated for example that Hampstead station is the deepest station in London at 58.5 metres and that the deepest point in the London underground is 67 metres at Bull and Bush. Closer to home, I note that the depth of the Victorian metro tunnel will be 40 metres⁵ and that the new Martin Place metro platforms run about 25 metres under Castlereagh and Elizabeth streets in what I believe to be a predominantly **non-residential** area. Greater depths should obviously attract to residential areas.

The artist’s impression of Five Dock station contains a note underneath that “the station shaft would be excavated to a depth of **about** 30 metres or 10 storeys” (emphasis added). This appears to leave open the concerning possibility that the depth could be less than 30 metres.

24. What guarantee is there that the proposed tunnelling under Second Avenue will be **at least** 30 metres and that this estimated depth will not shrink in future plans?

In this regard, I have read in the press⁶ that representations about the proposed depth of the West Connex tunnel made in the Environmental Impact Statement were not kept, and that actual depths substantially shrunk. I am not in a position to verify the accuracy of all the facts in the articles cited

⁵ <https://metrotunnel.vic.gov.au/construction/building-the-tunnels-and-stations#:~:text=Along%20its%20route%2C%20the%20depth,the%20existing%20City%20Loop%20tunnels.>

⁶ See for example: <https://www.smh.com.au/national/nsw/crazy-stuff-residents-fears-grow-over-motorway-tunnels-under-homes-20191001-p52wg0.html> ; <https://www.smh.com.au/national/nsw/closer-to-homes-sydney-residents-shocked-as-westconnex-tunnel-depths-shrink-20190129-p50ueb.html>

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but am legitimately concerned that estimates about depths made at Stage one are not substantially reduced in future thereby further disadvantaging affected residents.

25. In order to assess the optimum depth of tunnelling to ensure safety and optimise noise and vibration mitigation, what research have you undertaken in relation to the residential dwellings on Second Avenue/25 Park Road Five that you propose to tunnel under to consider factors such as the age of buildings, acoustics (including in older unit blocks dating back to the 1970s or 1960s) and type of foundation?

Mitigation of long term continuing noise and vibration

I am concerned about the noise and vibrations from the metro tunnel were it to proceed to be positioned underneath residential homes and units, including mine, in the long term.

26. What studies and information do you have about the projected noise and vibrations of the metro trains travelling in tunnels underneath residents' homes when the project is complete? Are the metro trains designed to be quiet? How do they compare to the sound of trains currently operating in Sydney? Do you have any comparisons of completed projects from which you can draw some conclusions about continuing noise and vibration?
27. What steps are you taking to mitigate and manage these longer-term continuing noise and vibration concerns?
28. What compensation will be offered to residents?

Air quality/dust/fumes/odours

I could not see any references to air quality, dust, fumes and odour in the EIS but, no doubt, you would appreciate that poor air quality, increased dust from demolition and excavation, chemical fumes and odours can have damaging effects on people's health. For example, they are migraine triggers (including for me) and can trigger asthma attacks and respiratory issues in others.

29. What research and projections respectively have you undertaken and calculated in relation to the air quality and potential fumes/odours (eg arising from the use of chemical products) arising from the proposed demolition, excavation, construction and tunnelling associated with Five Dock station?
30. What measure will you take to manage and mitigate for me as a migraine sufferer and for other affected residents/users of the area deteriorating air quality, increased dust levels and potential fumes/odours arising from the project?

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Access to Great North Road from Second Avenue

31. Could you please clarify whether residents (and others) will still be able to access Great North Road by foot and by car from Second Avenue during and after the completion of the project? I will I still be able to walk up or drive up Second Avenue to Great North Road?

Approach for underground purchase

Para 14. 5. 2 of the EIS states that “It would be necessary to acquire land below the surface of properties for the construction of the tunnels”. It also states that in the majority of cases underground land acquisition would not affect the future use of the property.

32. Could you please explain how this process of underground acquisition works? Is it a compulsory process? When will residents be approached? Upon what principles will the acquisitions proceed?
33. Do you envisage that it will affect the future use of the affected properties located on Second Avenue and the block of units located at 25 Park Road Five Dock?

Condition survey

34. At what stage will the condition survey referred to in the EIS be offered?
35. What measures will be taken to ensure all affected residents are aware of this opportunity?

Community consultation

Obviously, some residents are more affected than others by the proposal in relation to Five Dock metro station and it is critical that you allow them real opportunities to have their say and express their concerns.

As stated above, I am very concerned that many residents are not aware of the proposed tunnelling route under Second Avenue. I would be interested to know what future Q and A sessions/forums you have planned for Five Dock residents. I appreciate COVID-19 may have prevented these from being organised during the lockdown and submit that the time for submissions and consultation should be extended to allow people –especially those negatively affected—to have a proper opportunity to have their say on such a significant proposal.

I look forward to receiving your responses.