

VERIFIED VERSION

PUBLIC ACCOUNTS AND ESTIMATES COMMITTEE

Inquiry into Effective Decision Making for the Successful Delivery of Significant Infrastructure Projects

Melbourne — 22 March 2012

Members

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Witnesses

Ms G. Graham, Executive Director, and

Mr P. Collier, Immediate Past President, Engineers Australia Victoria Division; and

Dr J. Wilson, Professor of Civil Engineering and Deputy Dean Faculty of Engineering and Industrial Sciences, Swinburne University of Technology.

**Necessary corrections to be notified to
executive officer of committee**

The CHAIR — I declare open the Public Accounts and Estimates Committee hearing on the inquiry into effective decision making for the successful delivery of significant infrastructure projects. On behalf of the committee, I welcome Ms Glenda Graham, executive director, Engineers Australia Victoria Division; Mr Paul Collier, immediate past president, Engineers Australia Victoria Division; and Mr John Wilson, professor of civil engineering and deputy dean faculty of engineering and industrial sciences, Swinburne University of Technology. Members of Parliament, departmental officers, members of the public and the media are also welcome.

As we do not have any media or members of the public gallery present, we will just skip this. For those who are watching, just remember the rules. May I remind TV camera operators to remain focused only on the persons speaking and that panning of the public gallery, committee members and witnesses is strictly prohibited. As previously advised to witnesses here today, I am pleased to announce that these hearings are being webcast live on the Parliament's website.

All evidence taken by this committee is taken under the provisions of the Parliamentary Committees Act, attracts parliamentary privilege and is protected from judicial review. However, any comments made outside the precincts of the hearing are not protected by parliamentary privilege. This committee has determined that there is no need for evidence to be sworn; however, witnesses are reminded that all questions must be answered in full and with accuracy and truthfulness. Any persons found to be giving false or misleading evidence may be in contempt of Parliament and subject to penalty.

All evidence given today is being recorded. Witnesses will be provided with proof versions of the transcript to be verified and returned within two working days of this hearing. Verified transcripts and PowerPoint presentations will be placed on the committee's website within two weeks of this hearing.

Following a presentation by Engineers Australia, committee members will ask questions relating to the inquiry. Generally the procedure followed will be that relating to questions in the Legislative Assembly. I ask that all mobile telephones be turned off. I now call on Mr Collier to give a brief presentation of no more than 4 minutes, if desired.

Mr COLLIER — Thank you for the opportunity to provide some further comment on this critical issue, and again we congratulate the government for undertaking this inquiry. As we outlined to you in November, Engineers Australia is the peak body for engineering practitioners in Australia. We represent all disciplines and branches of engineering and have a membership of ultimately 96 000 Australia-wide. Engineers Australia is the largest and most diverse professional engineering association in Australia.

Importantly, however, all Engineers Australia members are bound by a common commitment to promote engineering and to facilitate the practice for the common good. In addition to Glenda Graham, the executive director, who attended the Canberra meeting, I have Professor John Wilson, past president of Engineers Australia, also here today in his capacity as spokesperson for the infrastructure report card.

The report cards provide a systematic review of the state of economic infrastructure in Australia, highlighting the adequacy of infrastructure to drive productivity, livable cities and communities, sustainability and Australia's international competitiveness. The 2010 infrastructure report card reported that critical aspects of Victoria's infrastructure are barely adequate for current requirements, let alone the anticipated significant future growth and associated needs.

First and foremost, Engineers Australia believes that the quantum of infrastructure investment in Victoria needs to be increased so that genuine progress can be made. Engineers Australia also believes that infrastructure planning, project development and project evaluation must be robust, transparent and build confidence in the general community that all options have been seriously considered and evaluated and that infrastructure projects chosen to proceed offer the greatest economic and social benefits.

Engineers Australia is not yet convinced that infrastructure planning has improved to the degree necessary to assure the community that effective infrastructure decisions are being made. Engineers Australia accepts that the agencies involved with infrastructure planning and implementation all offer competencies in important aspects of infrastructure work; however, we believe that infrastructure planning and implementation must be coordinated and integrated and this requires a different institutional model. We know that we need to do things differently.

This is why Engineers Australia's 2010 infrastructure report card repeated the 2005 recommendation for the establishment of an independent infrastructure organisation to advise the Victorian government on strategic planning and priorities to enable systematic selection and funding of those projects that will realise the highest economic and social benefit. This body should complement Infrastructure Australia in respect of state issues and priorities. We note that this recommendation has been raised in other submissions to the inquiry.

There is much to be learnt from Infrastructure Australia, in particular the rigour applied nationally using Infrastructure Australia's reform and investment framework. This should be applied in a complementary manner within Victoria. The proposed new infrastructure body, together with a more open and transparent approach to information about the quantum and status of existing infrastructure assets, will facilitate improved infrastructure planning. However, as stated in our submission, these changes in and of themselves are not enough and Engineers Australia recommends that infrastructure planning principles in Victoria be reformed to ensure that there is optimum coordination and integration of infrastructure and strategies to prepare us for the expected economic and population growth. Without reform along these lines, infrastructure decisions will not improve.

The establishment of a long-term infrastructure pipeline is critical for effective planning, which in turn will provide industry with a level of surety to grow and maintain high-performing teams. We have seen from the Canadian and UK experiences the value of both an independent body and a pipeline of projects to stimulate the private sector to assist in the delivery of the required infrastructure. However, Engineers Australia also believes the issue of informed engineering decision making runs deeper than a simple numerical adequacy in the number of available engineers. Engineers Australia is firmly of the view that the engineering advice necessary to plan, design, develop and implement infrastructure programs is provided by engineers with appropriate work experience and a keen appreciation of the progress of engineering technology.

Engineers Australia, in conjunction with its sister engineering professional bodies, recommends the establishment of a national registration system for engineers based on current stage 2 competency as is currently adopted in Queensland. We believe this to be a matter of urgency as, unlike the building industry in Victoria, there is no registration of engineers working on major infrastructure. Industry is increasingly using overseas qualified engineers to address the current skills shortage, and government does not have a mechanism to ensure that all engineers are appropriately qualified. Engineers Australia recognises that many government agencies have developed high-level contract management and project management skills and agrees that these skills are essential for the planning, development and implementation of infrastructure programs and so, too, are high-level financial project skills. However, Engineers Australia does not accept that these skills are substitutes for engineering expertise and experience.

This is not an argument about protecting engineering jobs in the public sector but an argument about obtaining value for money and proper technical functionality from very expensive infrastructure assets. If infrastructure is incapable of delivering the technical capabilities required, excellent contract or project management skills alone will not prevent contract failure or compromise. These skills are critical on both sides of the delivery partnership. We believe government is increasingly exposed in its ability to act as an informed buyer. Engineers Australia is not arguing the necessary expertise must necessarily be in-house — external resources can be acquired on contract — but sufficient in-house expertise is essential to engage and oversight contract resources. There are advantages and disadvantages for both in-house and contracted resources and these should be comprehended by senior management and integrated into the infrastructure planning, development and implementation framework.

Finally, we wish to highlight the need for the long-term development of high-level program management capability to develop and deliver significant infrastructure projects. There is a need to map capability in terms of leadership, technical, commercial and financial skill, expertise and knowledge against the pipeline demand to identify capability gaps. There is also a need and a significant opportunity to develop an integrated education program that builds on this capability. While we acknowledge the lead taken by the Department of Treasury and Finance in establishing the current suite of government training programs and note the references to the UK and Canadian programs, we believe there is significant opportunity to continue to be a world leader in this space with the development of a shared government and industry education program that will provide the skills, the knowledge, the experience and the exposure to the lessons learnt across the next cohorts of strategic infrastructure program developers and deliverers.

We would like to thank you again for the opportunity to give evidence to you this afternoon.

The CHAIR — Thank you very much. I will jump in very quickly and make these observations before we get into the detailed Q and A. Firstly, we are very grateful that you are appearing again, given that we had an informal meeting earlier in the process, I think in November. Of course that information you presented was not formal evidence whereas this is formal evidence, and I have no doubt that after today we will want to follow up in writing and exchange some correspondence to clarify some issues. I put that on the record.

The key issues we are looking at include commentary around the asserted infrastructure risks stemming from engineering skill shortages, which you have alluded to, and I particularly want to tease out now the issue about the criticality of high-level strategic infrastructure planning in the Victorian public sector and in turn that leading to the leading-edge planning, management and delivery of individual infrastructure projects. I know you have touched on this in your submission and also in your presentation, but I want to underpin what has been a theme through the last three days about engineering deficits. Following that, to put you on notice, we would also like to tease out the Infrastructure Victoria model, as it were, to understand exactly what it is that you envisage. That will come in a moment, but can you just focus for the time being on the engineering expertise and deficit issue?

Ms GRAHAM — Yes, certainly. We have just put a response in to the inquiry of the Senate Standing Committee on Education, Employment and Workplace Relations. The submission we have put in gives more detail about that deficit and goes into a significant amount of detail about where those problems lie. But engineering actually suffers from a problem where we have a large number of engineers who are in the latter stages of their careers. The latest data we have is from 2006, where the average age was 49.1. We have a large group of younger engineers coming through, but we have a significant shortage of the midcareer engineer, or the experienced engineer. You would have heard similar stories about how that is the group that everyone is trying to find. We have young engineers right now in Victoria who cannot get work. We have young engineers who are not necessarily getting the kind of experience and development that is required, and we are very concerned about when those who have been stopped from moving on because of the financial crisis start to move on. We are going to see some significant tensions in there.

One of the images I have been using of late is that it is a bit like the slow floods in Victoria. People got distracted by the various severe floods in Queensland and we lost sight of the fact that you had this very long, slow flood that had devastating consequences. We had a transition that started with the corporatisation and privatisation coupled with the recession that we had in the 1980s, and we are starting to see that now pan out to the end. While people say that there is not a skills shortage, I think we are about to see the impact of that. If you think of that long, slow flood, I think we are starting to really see the consequences of that. If you are looking for specific data, then we will table these documents.

Ms HENNESSY — Thank you very much for your presentation. I am interested in exploring your proposition around the establishment of a body that might be analogous to Infrastructure Australia on a Victorian basis. A number of the people who have given evidence to this committee have asserted the importance of taking long-term pipeline infrastructure decisions outside of the electoral cycle, and they justified that proposition on the basis of the importance of better integrated infrastructure and land use planning. I would be interested in exploring your proposition of what such a body might look like, and I would like you to touch on how you envisage such a body might address some of the funding and financing dilemmas that governments of all persuasions encounter when it comes to infrastructure.

Dr WILSON — I am very happy to discuss that issue. Thank you for raising successfully one of our key platforms that we first put up back in 2005 with our infrastructure report cards. We did the first one in Victoria in 2005 and another one in 2010. In the report we said we thought that infrastructure was barely adequate. One thing we believe is missing is that long-term planning, as you said, particularly when you look at the population growth Victoria has experienced in the last 10 years. We do not believe that infrastructure has kept pace with that. We know that infrastructure is there for 50 to 100 years plus, and it takes a lot of good, long-term planning for that to really take it out of the short-term political cycle. We reflected on the number of transport plans we have had since 1998 and where we are at now. We saw about five transport plans under the Bracks-Brumby governments between 1998 and 2010, culminating in the 2008 \$38 billion transport plan. As an organisation we applauded that because we thought there was a vision there for where transport was going. Of course the key part then is about funding and how to get that together. Then we have a change of government and all of a

sudden some of those plans go out the window and then we work it up again. Now we are getting new plans. Really, from our society's perspective, what people really want is good infrastructure. It certainly helps with productivity and it helps with livability and sustainability. That is the main platform.

We really applauded the federal government for the formation of Infrastructure Australia back in about 2007. We recommend a similar sort of organisation here in Victoria providing that long-term coordinated work with major infrastructure to feed projects up to Infrastructure Australia but also to create this pipeline of prioritised projects. You really need those prioritised projects to make sure that you have the right skill base to deliver on these projects and keep the technical skills up but also to attract the different funding bodies. I think everyone is accepting now that we have to do something with infrastructure, and the key is how do you fund it. Our institution is very much of the belief that it is a blend. Certainly we do need some government funding where you have very good public good-types of projects where there is not a sufficient revenue stream to attract the private sector, and then you have the other projects where you have a good revenue stream and you can actually get the private sector investing with the superannuation funds. Then you have the blend of the hybrids in between, which is a bit like what happened with the Peninsula Link project with the availability model that they have there.

Ms HENNESSY — Thanks, Dr WILSON. Just as a supplementary, given that we live in economically constrained times at the moment but there is also an acceptance by governments of all persuasions of the importance of growing productivity as part of a response to kick-starting economies that might be lagging, what potential do you see infrastructure investment offering various Australian economies in respect of assisting in difficult economic times? And secondly, there was a proposition put to us this morning by representatives of APESMA, who suggested that Victoria might explore establishing some kind of institutional advocacy around the importance of engineers, something like the office of the Victorian engineer. They have done some comparators with the utility of office of the Victorian architect. I would also be interested in any comments or reflections you have on that.

Dr WILSON — I might just talk about the funding for a moment. One of the key things we would like to see is the superannuation funds being a little bit more attracted towards infrastructure, as we believe infrastructure is a great way to maintain the economy and kick-start the economy when it is struggling. That would have a long-term benefit for future generations. It is almost like future-proofing the city. We see that as a long-term investment. With some, which are probably a bit more public good-type projects, maybe we have got to get some government bonds out there in this area. They are 6 per cent, and superannuation funds think that is a nice, secure way to invest to get a steady return and we actually get some infrastructure happening. It might take the government to do some repayments there, and maybe later on it can recycle that asset by selling it. There are all different models there.

Ms GRAHAM — Yes. As to the APESMA's idea of the office of the engineer, it is interesting that Queensland has something similar.

Ms HENNESSY — Does it?

Ms GRAHAM — It is the chief officer; in this case it is a scientist but he happens to be an engineer and a fellow of the institution of engineers. It has a very similar role, and it is looking at that advocacy and stimulating interest. I know that one of the issues you have been looking at is the supply process and how you actually get students engaged and get them engaged at an early enough stage so they are actually embracing the maths and science they need when they move into high school so when they move into high school they are able to pick up the subjects they require to move into engineering. How do you actually keep that pipeline going? How do you engage girls? We are very concerned that we cannot seem to crack beyond the 10 to 15 per cent, yet if we look at our labour force requirements, we know that we need to make a change there quite substantially. We certainly support that recommendation.

Dr WILSON — It is almost a widening of the role of the science function. It is really science, engineering and technology, the way we see things; you need all three to value add to your economy.

The CHAIR — I think Mr Angus wants to follow up on the Infrastructure Australia model.

Mr ANGUS — Yes, I do; thank you, Chair. My questions are in relation to that proposed model. I am just looking for a bit more information from you in relation to the structure, the membership and the composition of who is involved. Presumably you think there will be other people besides engineers involved, of course.

Dr WILSON — Yes.

Ms GRAHAM — Yes.

Mr ANGUS — But how are they appointed? Who does it report to? How far advanced is your model? Is it just a theory, or have you actually fleshed it out a bit more in relation to structure and so on?

Dr WILSON — I guess we have not had the audacity to park the model of what we think Parliament should have, but our way of thinking is that it is probably going to report to Premier and Cabinet, so it has to be a high-level committee. It has to be integrated across transport, energy, water and telecommunications. It will not be there for the everyday projects; it will be for the important projects. It will have to be made up of the relevant government agencies. We will get business expertise and finance expertise from the private sector in there and probably some community representation there as well. It would not be a massive committee, but, like a typical board, you would need to have the right skill sets in there to be representative.

Mr COLLIER — I guess what we are saying is that it is inextricably linked with the government process but is sufficiently separate from it to recognise that the length of infrastructure projects is greater than one or two election cycles. It takes it in parallel for a consistent approach to it, but it is inextricably linked with government for its advice and its contribution.

Mr ANGUS — That would lead to the fact that the membership would have to have some sort of longevity, as opposed to, as you have just correctly identified, an electoral cycle?

Mr COLLIER — That is correct, yes.

Dr WILSON — I think if you go back maybe one or two generations to when we used to have the old MMBW, which did a lot of planning, we are not saying the MMBW was a perfect model, but there was foresight there to plan for the future. We were just discussing before that even in the *Melway* there were easements talking about where the future developments were going to be. They turned out to be 50 years later, but they were there. It made it much easier to provide the infrastructure down those easements because it had been planned in advance.

The CHAIR — I am keen to exhaust the discussion of Infrastructure Australia, so I will take questions relating to that before we move on.

Mr O'BRIEN — I should say that much of what you are talking about in terms of the need for long-term infrastructure planning and land use planning is something very sympathetic to my ears and, I would also put to you, sympathetic to the current government's. I am wondering if you have looked at the government's submission to Infrastructure Australia and at what the government is planning to do in relation to the regional growth plans, the role of RDV and the interaction with Infrastructure Australia. Because I was just taken back a little bit by your comment that this government had thrown out the plans. In fact in some places we have been criticised for carrying on the plans of the former government. I would like you and perhaps other members to comment on that. Just before I do that, I am happy to quote from the submission to Infrastructure Australia at 2.1:

The Victorian government is also committed to supporting competitive international gateways and efficient freight networks, including delivering a transport solutions framework. This new framework, when combined with regional growth plans, will identify and address logistical bottlenecks in the transport network to support the growth and competitiveness of regional producers and industry.

Like the metropolitan planning strategy, the regional growth plans will take an integrated approach to strategic land use and infrastructure planning and develop a long-term vision in consultation with industry and the community.

How that is achieved and the models et cetera we can have further discussions about, but in light of that, could I ask you to clarify your comments and whether that is the sort of thing you are talking about, or are you talking about something different?

Dr WILSON — When I said the plans were thrown out I did not actually mean they were thrown out; they were actually delayed. There was a change of government, and then everything was on review. I think the regional rail project is an example, where everyone was lined up to go on that — and then, suddenly, there was a change of government, and it just went. It lapsed for about six months, and now it is — —

Mr O'BRIEN — Just on that one, there was a budgetary problem with that, with the new government.

Dr WILSON — Yes.

Ms HENNESSY — There was not really much within the first Infrastructure Australia submission bid either, Mr O'Brien.

Dr WILSON — I do not want to get into it, but — —

The CHAIR — Sorry, colleagues, stay on message, will you? This is why it is important.

Dr WILSON — I think that sort of thing highlights why we do need this longer term body which can look at these sorts of funding issues so we get bipartisan support on some of these projects rather than that political — —

Mr O'BRIEN — Can I draw it to a close by asking — whether or not it is a longer term body — is it more important that we have a longer term vision? Is that what you are really saying?

Dr WILSON — It is very much a longer term vision, but it has to be more than plans; the plans have to be implemented. With that we must have — —

Mr O'BRIEN — Yes, and have broad consensus.

Dr WILSON — With a lot of these things you need bipartisan support and you need a funding model sorted out where you can say, 'Look, the government has to pay this one, this one is private sector, this one's a blend'.

Mr O'BRIEN — Yes, and across state, federal and local governments. That is very important in terms of assets.

Dr WILSON — Yes, for the large projects.

Mr O'BRIEN — And roads in particular.

Dr WILSON — Yes. It is plans plus delivery.

The CHAIR — Before I come to Mr Scott, who has got a different issue, I want to round this discussion off because it is a critical issue that has been raised repeatedly with the committee and obviously substantially by Engineers Australia. I am really interested in the notion that was put to us yesterday that there should be a higher level, in effect a statutory body, to which the Parliament bequeaths all responsibility for decision making around the infrastructure space. That was effectively the proposition that was posited yesterday.

The difficulty, in wanting to tease that out, is that governments are elected by the people to govern. Inherently there is a conflict between a theoretical notion around divesting any decision-making capacity by government to a somehow unappointed, unelected group which has that long-term vision and capacity to make decisions on behalf the government, on behalf of the people.

I am assuming that that is not your proposition. I think I understood Mr Collier to say earlier that you are talking about a body that would be essentially a higher level strategic advisory body advising Premier and Cabinet and Treasury and Finance in effect and that it would be at that fairly high-level strategic, if you like, cerebral level that that input would occur rather than being written into some black-letter law that reposes decision making about long-term financial matters. Is that how I see it?

Dr WILSON — It is a democracy; we are certainly not looking at a body which is separate from the people through the voted politicians, and so it is more the bipartisan support.

The CHAIR — The comfort about the change of government is that it does occur on a regular basis, and both sides of Parliament probably think that is not a bad thing sometimes, depending on how long you have been in opposition. But the issue here is that each new government will assess what is going on, it will have a period of assessment and then recommit or change the strategy. That is just inevitable, but it does not necessarily mean that all the decisions and directions of the previous government are thrown out with the bathwater. In fact the reality is that the majority of proposals continue to advance and some are modified to improve the efficiency.

Mr SCOTT — Quickly, because I want to touch on another issue: APESMA and others have touched upon skill shortages in engineering, and in your submission you made reference to the issue about the requirement for experienced engineers and the mismatch between there being a large group of newly qualified engineers and there being a shortage of people who have the requisite experience for large-scale projects. Do you have any proposals, apart from this accreditation process that you have put in your submission, about how you can turn a large number of new graduate engineers into an appropriate supply of experienced engineers? That seems to be the one critical issue in our inquiry.

MS GRAHAM — It is an interesting issue. As Mr Collier pointed out, we are very strong supporters of the need to move towards national registration because underpinning that is the competency framework that takes young engineers through a carefully prepared process to develop their practice competencies, which really is that point at 5 to 10 years out. Getting it so that it is embedded within the profession and embedded in the building of these large infrastructure projects, we think, is really important.

One of the things that you find is that there might be an organisation that does it very well and all of a sudden their employees become very desirable. How do you get consistency across? If you take the Queensland process: to operate as an engineer in Queensland you must be registered. There is a concept of engineering training as a graduate engineer, and you need a minimum of three years work experience. So there is the concept that you have come out of university and then you spend some time in a professional formation period and then you apply to be an independent practising engineer. Because that is a requirement across the board it lifts the whole process and you are starting to get some consistency into the process, whereas at the moment it is very lumpy.

Mr SCOTT — To seek clarification, in essence you are describing at the moment that in other jurisdictions there is a tragedy of the commons: that there is no incentive or requirement and therefore to invest in an engineer's skills in fact might be helping a future competitor as it is hard to keep that person. Is that essentially one of the issues you have raised?

MS GRAHAM — That can happen; that is right. That has been raised by a number of other bodies where it is looking for that consistency now. We have seen a significant change in the profession in its approach to development of engineers right across their career, but we want to see that increase. Certainly the big concern we have got is that as those who are in the pre-retiree stage start to leave, that means those engineers who are the midcareer engineers will need to take up the work requirement.

It will be a fair bit of burden in that space, and therefore there is going to be a lot of pressure put back on these younger engineers to step up. We are very concerned about the lack of training in there. We work extensively with the overseas-qualified engineers, so we have got a very active program to transition those people into the workplace as quickly as we can. We have a profession-wide approach with the Department of Business and Innovation to look at how we might run a more effective targeted job bank process. We are trying a whole range of things. It is not a one-hit approach.

But it is recognising that we have a group of people who have got a lot of skill and knowledge, who actually support these projects, who are about to leave. We do not have a lot of people in the middle and we have got a whole lot of people who are coming forward who do not yet have that experience. It is a temporary problem, we hope, but it is quite a significant problem in the context of what the committee is looking at.

The CHAIR — Thank you, and my colleagues have had to remind me of the time because I was rather engrossed in our discussion. I am very disappointed that it has been so short. I indicate that we would be really pleased to have any additional submissions you may make as a result of the hearings over the last three days. In addition, we will be writing to you with follow-up questions, for your views.

Before I conclude, whenever I think of engineers, I often think fondly of some very good friends I had when I was a tertiary student, who were engineers. One of my very close friend's first job after graduating from engineering at Monash was to be sent off to East Gippsland and spent three months on a road project on a stop-and-go sign. I hope that the development of our engineers has progressed a little since then.

Ms HENNESSY — And then he got elected to Parliament!

The CHAIR — No, not me. In any event, the excitement of getting the first full-time job wore off after about the second day.

In conclusion, I thank you for your courtesy and all the information you have presented, privately and publicly, in your submission and again today at the hearing, and I really look forward to maintaining this engagement. That is the close of this hearing.

Witnesses withdrew.