

TRANSCRIPT

PUBLIC ACCOUNTS AND ESTIMATES COMMITTEE

Inquiry into the Victorian Auditor-General's report no.253: Managing School Infrastructure

Melbourne—Tuesday, 10 March 2020

Members

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WITNESS

Mr Johnny Barnard, Population and Location Analyst, .id.

The CHAIR: I welcome you here today to the follow-up Inquiry into the Auditor-General's report *Managing School Infrastructure*. I do not think there is anybody in the room who has not heard the spiel yet today. So I will just remind you that all evidence taken by this Committee is protected by parliamentary privilege, and therefore you are protected against any action for anything you say here today, but if you go outside and repeat the same things, including on social media, those comments may not be protected by this privilege. You will be provided with a proof of the transcript for you to check. Verified transcripts, PowerPoint presentations and handouts will be placed on the Committee's website as soon as possible. I reiterate the regulations for any media who might be here; I am sure you heard them earlier. And we invite you to make a 15-minute presentation.

Visual presentation.

Mr BARNARD: Thank you, Chair, thank you, Committee, for having us along. I guess both population forecasting and provision for schools and education in general is work we have been doing for a long time and an area we have put quite a bit of thought into. I will just talk a little bit about our organisation, how we go about undertaking our population forecasts, the work we have done with education providers and how that forecasting information is used, and just some background as well about some of the challenges, particularly around forecasting, and quite a few of those issues have surfaced already in the previous presentation.

So about .id, .id stands for informed decisions. We have been around since 1997. The first handful of us who helped establish the organisation were all ex-State Government people from Victoria, all from the planning department, so we had both a background in town planning and a lot of the issues spoken about previously and also a background in preparing State Government forecasts for Victoria.

Where we have come to since 1997, we now have around 320 councils around Australia and New Zealand that we provide demographic and indeed economic information to. Those councils subscribe to one or more of our online products—population forecasting; community census profiles; Atlas, which maps census data; and economic profiles as well. We also prepare—and I will talk in a bit of detail about how we prepare—our small area or micro area forecasts. Those forecasts were developed initially for an education purpose, which I will talk about later. The clients for those forecasts that we prepare include retailers, banks, developers, sporting organisations, as well as education providers.

Our organisation prides itself on having quite a deep knowledge of Australian cities and how they work, role and function and what is driving population change. We also have the largest set of population forecasters in Australia at the moment working on our forecasts across Australia and New Zealand.

In terms of how we prepare our population forecasts, we prepare at the start top-down forecasts; top-down means big-picture assumptions that are prepared at the national and state level. This is where we make assumptions around fertility rates, mortality rates, migration, and of course one of the big and most talked about drivers of population change is overseas migration. That is where we make assumptions around rates of overseas migration and the age structure of those migrants as well. Those top-down numbers then cascade through forecasts we prepare at a state level. Then that is transferred down to regions. At the top level, at this point we are still not factoring land supply or the ability to add dwellings into our forecasts. These are based on those top-down drivers. When we get to the lower levels we start to look at land supply in significant detail.

The bottom-up forecast is where we look at forecasts at our small area level. We look at where dwellings are being constructed, and amelioration modelling is where the two parts of the spectrum connect. It is where our assumptions at the big level are distributed to small area forecasts. At the small area the sort of information we are looking at at that level is what we call our urban development layer. It is probably the most critical input to assumptions at the small area level, and our urban development layer is where we sort of map all dwellings being added. So any sites, greenfield areas, that provide us more than 10 dwellings we identify separately and make assumptions about what proportion of those dwellings are going to be constructed over our forecast

period. Those assumptions are based on information we glean from a number of sources. Our relationship with those councils that I spoke of earlier is quite important. We have around 140 councils across Australia that we do forecasting work for. In Melbourne I think all but one of the metropolitan councils are clients of our forecasting output. So a lot of that information—as well as building approvals, looking at aerial photography, looking at land use changes—feeds into our assumptions around development. It is fair to say that it is a fairly time-consuming part of the forecast, but we are in the process of looking at automation—ways we can capitalise on new technology and make that sort of process of identifying new dwellings faster.

So the product that we produce out of that is what we call small area forecast information, or SAFi. The geography it goes down to is quite granular, so in growth areas we would cut up SA1s into significant numbers of small areas to do our forecasts to assist with growth area planning. The forecasts are prepared at single year of age. That sort of enables you to grab any age group that is relevant to your service offering, and that works quite well in terms of education because you can grab 5- to 11-year-olds and 12- to 17-year-olds and neatly get primary and secondary age population forecasts, so that is quite important compared to the standard sort of five-year age output.

One of the key things we are looking at as well is determining our priorities for which area we forecast next, based on what we call a monitoring-led approach. That is a way of identifying where there is significant enough change in our current forecasts to warrant us revisiting that area and updating our forecasts, and more importantly sharing that information with clients as well about where places are changing, why they are changing, what impact that has on current forecasts and which areas we need to get to soon to update.

In terms of our microgeography, there are about 7000 SA1-derived areas in Victoria that we do forecasts for. As well as single year of age, the forecasts are for every individual year out to 2041. We also forecast dwellings and household types as well, which are obviously quite important in terms of determining the likelihood of getting school students out of new dwellings and areas.

That is just a map showing the sort of granularity that we have for our forecasts in metropolitan Melbourne. So for those familiar with the growth areas in the City of Melton and the City of Wyndham, particularly around the sort of Tarneit area and around Rockbank and so on, you will see that there are significant numbers of small areas that are chopped up that we provide forecasts for. Many of these areas are just paddocks at the moment that have two dwellings on them, but it will be pretty important to know in which sequence those areas are developed in terms of not only education but planning for other services.

Having that level of granularity means you can build up catchments that are relevant to your service, and that is an example of an education provider and schools and catchments that are meaningful to them in population change, so we can add those small granular areas together. It also enables you to do some scenario planning. If you are planning schools on the fringe, for instance, you are able to grab an area around a proposed school and get accurate population forecasts for the area that you have effectively lassoed.

That is an example of the sort of development assumptions—the level of detail that we go down to. This is an example in Rockingham, south of Perth. So for each particular site we capture information on the capacity in terms of numbers of dwellings and we capture information on when we have assumed these particular areas have developed. One of the important elements in capturing and being quite specific about this information is that if an area grows faster than we had assumed in terms of our dwellings, or indeed slower, we know that those forecasts are going to need a review at some point in time. And that information is quite important to share with clients as well, because even if we will not get to that particular region for a little while at least they will know that is an area that is higher or lower than what we have currently, based on what we are witnessing on the ground.

So in terms of our work with the education sector, we have done a range of work with non-government education providers. We have done a lot of work for state government education providers as well. In fact, when the Auditor-General's report was completed, the department was subscribing to our forecasts. We subsequently lost the tender after that to provide forecasts to the department, but we provide population and student-age forecasts for eight Catholic dioceses across Australia. Almost a dozen independent schools we have

done work for in terms of what their likely enrolment growth might look like, and as I said earlier, for each of these schools we have that flexibility of geography to enable sort of tailored population forecasts.

Some of the challenges of forecasting: I guess the biggest single assumption that you make in forecasting in Australia at the moment is what the level of overseas migration is going to be in net terms, because that number has increased obviously substantially in the last 20 years. So if you were to grab any population forecast from 20 years ago for Australia or the states it would be considerably lower than what we have, primarily due to overseas migration and the increase in that. Fertility rates and increase in fertility rates has an impact as well, but that is probably the single main driver that has an impact all the way down to the bottom level in terms of your forecasts.

At the sort of lower level of geography, obviously speed and density of greenfield estates and apartments will have an influence on forecasts. It is worth saying that where dwellings are constructed is obviously where the key areas of population growth are likely to be, so it is really being on top of that. As part of our monitoring process as well, these are the sorts of things that we look at as well—what are rates of growth on the ground? And we are looking at more innovative ways of measuring how much development is happening out there on the ground as a way of monitoring the performance of our forecasts. Changing household characteristics—and this is quite an important one in terms of demand for education—we have seen there have been increases in average household size. We have had quite a large increase in multifamily dwellings as well, which often manifests itself in particular geographies rather than others. And one of the big ones is the sort of change in the household types that we are getting in a lot of the higher density forms around Melbourne. A lot of this has been written about and has been driven in probably large part by housing prices but also I guess the aspirations of many of the overseas migrants to Australia. We are seeing a lot more families in apartments, and in the last 20 years we have certainly seen a lot more families staying in inner-city areas. Where typically they would have moved on from the two-bedroom terrace, they are often staying in the two-bedroom terrace and turning it into a four-bedroom house and staying put in the inner city.

Changes in land supply is also a critical thing that we need to monitor as well—so rezonings but also upzonings and particularly at that small granular geography we are looking at. In New South Wales the other day I was looking at an area where an area was downzoned—it was an area where office demand had started to pick up considerably, so an area that was identified for dwellings has gone the other way. So it is monitoring those sorts of things, and you do get particular areas where the economic role and function is quite critical in terms of the likely outlook for dwelling growth.

Of course, we are very much experts in terms of forecasting population and the age group, then of course there is a whole other layer when you are converting that into enrolment forecasts. So there are certainly challenges around forecasting market share for Government schools versus non-Government schools, but also forecasting numbers of students who go outside their catchment to school. There are a whole range of issues around that that education providers are more au fait with than we are that need to be applied to our population forecasts.

I guess the way we look at our forecasts is that rather than having a set of numbers that you just dump on someone every two years and say, ‘These are the population forecasts’, the idea is that we have a continual relationship with our clients, that we are monitoring and basically fostering more of an understanding about how places work and why they are changing and how they are changing. That is probably the main area that we focus on and are looking to focus on with our population forecasts in future.

The CHAIR: Thank you—great presentation. I am just interested, and you touched on it slightly, but what do you apply or what assumptions, I guess, do you make to predict where people will choose a Government school versus a non-Government school?

Mr BARNARD: As I said, fortunately we do not have to make that decision. Normally the education providers are doing that. I guess they would look at historic census information. That is probably the main driver, and certainly our websites on community information from the census have information on that question going back to 1991, so there is quite a lot of information on that. But I would say that having an understanding of why enrolment pressures are changing in different places is probably more important because these trends are not universal and some places you are getting higher levels of sector share in Government schools; in other

areas they are going the other way. Often there are particular cultural sort of reasons behind those sorts of trends.

Mr RIORDAN: Demographics are always interesting theoretical discussions. One of our previous witnesses spoke of the fact that more and more next-generation people are happy to have their family in a smaller space than was traditional in Australia. The question I pose is: for the last probably 20 years we have had this focus on all the growth being out in the far east and the far west, and all the families have gone out there and so on. We are now in that phase where the baby boomers are starting to begin their migration to the long green paddock, and as a consequence there is a whole housing stock full of people that will turn over more rapidly than perhaps it has for the last 30 years. Do we need to be cognisant in this state of these whole areas, being very established areas, completely changing and as those growth-over-the-last-20 years families mature, that the pace of family services and things may slow and we may actually see that renewal in the neighbourhood? Our Chair spoke earlier of her area, which is sort of an older area again that is going through that rapid change. Can we expect to see that through some of these areas in Melbourne that have sort of been occupied by older Australians enjoying retirement and leisurely lifestyles and bowls clubs? Can we expect to see perhaps a bit of a flipping around?

Mr BARNARD: Yes, absolutely. I think there are already areas where, probably the generation before the baby boomers, we have already seen a lot of those areas transition. I think it was maybe three censuses ago when we started to see average household size start to turn around in a lot of these places. Some of the places where we saw those changes happen were the sort of processes that you are referring to where a lot of houses are being freed up by older people, and they were generally in probably areas that are seen as quite desirable for a whole bunch of reasons, so often mature families would be buying these houses. A lot of these drivers were pushing up average household size. We would see that process continuing in particular areas.

Mr RIORDAN: And if you assume that those areas still have intrinsically high land values, the desirability to cut those down and put four houses or two houses in one will obviously be driven by that too, I guess.

Mr BARNARD: Absolutely, yes, and that is probably an issue for the planners to determine.

Mr RIORDAN: Another whole fight again, from a planning point of view. But in that do you see a potential slowing down of that spread-out? Could we expect to see availability closer to the city grow more rapidly than it has and then slow at the outside? Would that be an assumption?

Mr BARNARD: I think so, yes. I think the sort of knowledge that you develop of cities is that you almost have a feel for areas and the relationship between supply and demand. So you could look at an area and go, 'Well, if council decided to upzone that area and allow eight-storey buildings, it would go', because you would just know that there is demand for that area. In other areas council may be struggling to attract developers when they upzone areas or identify areas. So, yes, working in this field you do start to get that feel for that match between supply and demand over time.

The CHAIR: Following on from that, do you think there is an inconsistency in the way council involves itself in the process? Just to use my own local area as the example, on one level council seems to approve lots of dwellings. In particular areas they are rezoning land, they are increasing the number of activity centres et cetera. So they are allowing a lot more development, but that does not seem to coincide with the way they think about the provision of their own social services, in particular early childhood services—and then the way that then flows through to the predictions for schools. It seems to me that there is an inconsistency with where my local council says the education needs will be, and then when it gets to the State Government education system, suddenly schools have been overwhelmed with the number of students that were just not on their radar. Where do you think that problem is? Is it because one part of council is making a decision about property development and another making a decision about social service provision in isolation from each other? They are not feeding into processes like what you are talking about accurately. Where do you understand the problems to be?

Mr BARNARD: I would say that it probably always gets down to forecasts. In areas where there is a lot of apartment development going on forecasts are critical, and forecasts of what sort of people, as I touched on earlier, are going to be occupying these apartments and their potential to get students out.

I guess there is the forecasting of total school-aged students; then there is the forecast of market share, and these things can change quite dramatically as well, resulting in significant demand for schools. I am not entirely sure what the education department is using compared to council forecasts, because we are involved in providing council forecasts, but the bottom line would be just what forecast are you using, essentially.

Mr RICHARDSON: Nothing gets me more excited than SAIs and the fact that there are more granular levels. Christmas comes next year with the census data dropping—

Mr BARNARD: Exactly.

Mr RICHARDSON: I have just a couple of questions around trends. We had evidence this morning on trends, about the attendance of public school-educated students of around 540 000, and it tracked pretty consistently despite dropping as a representation of the population, and then a ratchet up as we head towards 2025 and beyond. Are you seeing that play out in some of the data metrics that you are analysing and the impact of that growth, and a move back to public education in that sense? Are you able to track that in data metrics or trends that you are picking up in some of your research?

Mr BARNARD: We are, yes, certainly in the census data. As I said, we have that data. It is a bit lumpy in the sense that it is only every five years, but every five years everyone fills a census form in and says, 'I go to a Government school or a Catholic school or an independent school'. So you have got five census periods on our website by suburb of that trend.

In terms of the future, as I said, we are more about forecasting age structure rather than student attendees, but the work we have done for other education providers says there is in some areas a particularly strong move back to Government schools, other areas not so much.

Mr RICHARDSON: And given it is quite possible that 70 per cent of population growth will be concentrated in existing infill council areas, what sort of trends early on, I guess, in those inner-city areas in a 10 kilometre ring, are you seeing play out from a demographic standpoint? I know you are from a population standpoint but our ability to cope with that going forward on school infrastructure and the space that is provided from a strategic level.

Mr BARNARD: It is massive. And I would say the closer you are to the city, the more likely the trend will be towards Government school share, which probably just exacerbates all of the issues of dealing with the number of students coming into these areas that our previous organisation spoke about.

Yes, overall if I was a betting man I would say yes. Government school share will increase, and there will be significant numbers of people, as we talked about earlier, who will be happy to stay in the inner areas as well. So that will obviously be another key driver for education demand.

Mr RICHARDSON: And are there any trends that you are seeing in other states that exhibit some of the challenges that Victoria is seeing? But also, going to the point that Richard made about other areas seeing population decrease and the impacts that that has on a range of infrastructure or population settings, is there consistency that you are seeing across particular areas?

Mr BARNARD: Generally, yes. Sydney is probably the best example, I suppose, because it has inner-city developments of similar or even higher density than Melbourne, so a lot of the trends are pretty similar to what they are seeing, particularly in terms of their school provision. There are dealing with a lot of those issues—increases in government sector share as well.

Mr RICHARDSON: What about regional centres and the notion of satellite towns—regions, cities, going to some of our rural and regional colleagues as well—what is the trend that you are seeing, both for interstate and international migration, in those centres?

Mr BARNARD: Look, I guess the trend is that metropolitan areas are dominating economically and population wise, and they are dominating in terms of share of overseas migration as well. So that is sort of, as I said earlier, the main driver of growth in metropolitan areas. Geelong is certainly growing very strongly as

well; how much of that is sort of a knock-on impact from Melbourne I am not sure. But there are certainly a lot of areas of the state that are going backwards in population or possibly, certainly, going backwards in school-age population as well.

Mr RICHARDSON: One final one, Chair. Do you want smaller statistical areas than SA1s?

Mr BARNARD: It is probably in our business interest to have them as they are at the moment so we can cut them up.

The CHAIR: Sam?

Mr HIBBINS: Do you do any work for the Victorian Government? Does .id do any forecasting work for the Victorian Government?

Mr BARNARD: We did for the education department till 2017. We lost the tender to continue that work.

Mr HIBBINS: You provide the population expertise, but then you work with whoever your client is in terms of things like market share and that sort of stuff. Is that generally how it works?

Mr BARNARD: Yes, if we are doing work for an independent school, for instance, we would assess over time what their market share looks like and talk with them about what we think trends in market share might look like, and then apply that market share to our population forecast to give them a feel for what the enrolment change might look like.

Mr HIBBINS: In terms of the sensitivity around market share as well, looking at the final product—I have a theory that if you put a well-performing Government school in an area the market share will be very good. If for whatever reason it is a non-performing school, and it has not got a good reputation, it will not be too crash hot.

Mr BARNARD: That is true, absolutely.

Mr HIBBINS: How sensitive is market share to your projections?

Mr BARNARD: I think at the local level it would have quite a large impact. And there are certainly schools that are seen to have a very good reputation and would attract a lot of students from outside of their catchment—that may indeed leave the school that is in their catchment, you know, not doing quite so well. So at a granular level there would be significant impacts of school reputation on market share.

Mr HIBBINS: And just as well, in terms of the trend towards essentially families living and staying within the inner city, how have you seen that growth over time in terms of—I do not know whether you can critique your own forecasting—perhaps when this trend actually started? That growth, is it growing exponentially? Is it sort of like a really strong growth that is increasing in terms of forecasts, or has it been a sort of a straight line?

Mr BARNARD: I would not say it has grown exponentially. It has probably tailed off to a certain extent. But it is certainly a noticeable trend and one that has had impact on not only schools in the inner city but sporting clubs and a whole range of institutions.

Ms RICHARDS: Thank you for your evidence and the insights you have provided this afternoon. Representing—and again I am trying not to be too parochial—an area of growth around Cranbourne, and noting that we have got ahead with some of our schools, we have got a school in Botanic Ridge that has just recently opened, and the housing is developing around there. I have been observing that a lot of the families in my area, as with a lot of growth areas, do have multiple generations living in the same houses. Are there any barriers to forecasting and any surprises that have caught us out a little bit in some of the growth areas; any changes in patterns of behaviour that we should be alive to and be cognisant of when we are looking at where our new schools and our other new facilities need to be?

Mr BARNARD: I think the one you have just mentioned is one of the bigger ones. What has been a challenge for our forecasting is multifamily households, because our modelling is based on vacancy rates as a

way of converting dwelling totals into households but what we are finding is a lot of households have more than one household in our forecast. So that has certainly been a challenge—and it is obviously in a lot of areas a cultural issue, and it comes out in certain geographies rather than others. So obviously when each census comes out, we look at our numbers not only in terms of ‘Have we got the dwelling numbers right over that five-year period?’ but ‘What are those other changes that have occurred that will have an influence on how many students per dwelling we are likely to look at?’.

The CHAIR: Any further questions?

Mr D O’BRIEN: A brief professional one that follows on from Pauline’s question about getting it right. Who is the global leader in this sort of forecasting of population growth and analysis? It may well be us, I do not know, but—

Mr BARNARD: I do not know in terms of global leader. There certainly would not be anyone forecasting the type of geography that we are forecasting at, so geographically I suppose we are a leader in that sense. But we are always trying to improve what we are doing, and for us automation is a way that we can basically identify changes quicker—and when there are significant enough changes update our forecasts quicker to suit the needs of our clients.

Mr D O’BRIEN: But there is no particular nation that—

Mr BARNARD: In terms of nations? No, not that we have come across.

Mr D O’BRIEN: No worries. That is all.

The CHAIR: Thank you, everyone. We will provide you with a transcript for you to verify, and that will be available on the Committee’s website. We thank you for your time providing evidence today, and as you are the last witness for the day we thank all the witnesses for their involvement in the Inquiry so far.

Committee adjourned.