

TRANSCRIPT

LEGISLATIVE COUNCIL ENVIRONMENT AND PLANNING COMMITTEE

Inquiry into the 2022 Flood Event in Victoria

Melbourne – Monday 20 November 2023

MEMBERS

Sonja Terpstra – Chair

David Ettershank – Deputy Chair

Ryan Batchelor

Melina Bath

Gaelle Broad

Wendy Lovell

Samantha Ratnam

Rikkie-Lee Tyrrell

Sheena Watt

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John Berger

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WITNESSES

William Tieppo, Deputy Secretary, Network Design and Integration,

Anthony Judd, Executive Director, Flood Recovery, and

Jimmy O'Connell, Executive Director, Network Change, Department of Transport and Planning.

The DEPUTY CHAIR: Thank you, and welcome to this session. All evidence taken is protected by parliamentary privilege as provided by the *Constitution Act 1975* and provisions of the Legislative Council standing orders. Therefore the information you provide during the hearing is protected by law. You are protected against any action for what you say during this hearing, but if you go elsewhere and repeat the same things, these comments may not be protected by that privilege. Any deliberately false evidence or misleading of the committee may be considered a contempt of Parliament.

All evidence is being recorded. You will be provided with a proof version of the transcript following the hearing. Transcripts will ultimately be made public and posted to the committee's website.

I might now move to let the committee members introduce themselves, and then we will get to your good selves.

Sheena WATT: Good afternoon. Sheena Watt, Northern Metropolitan Region.

Wendy LOVELL: Wendy Lovell, Member for Northern Victoria Region.

The DEPUTY CHAIR: David Ettershank, Western Metro.

Samantha RATNAM: Good afternoon. Samantha Ratnam, Northern Metropolitan.

Gaelle BROAD: Hi, I am Gaelle Broad, Member for Northern Victoria.

Melina BATH: Hello. Melina Bath, Eastern Victoria Region.

Ryan BATCHELOR: Ryan Batchelor, Southern Metropolitan Region.

The DEPUTY CHAIR: Thank you. Now, we welcome your opening comments of about no more than 10 minutes to ensure we have plenty of time for questions. For Hansard, can you please state your name and the organisation that you are appearing on behalf of. Over to you.

William TIEPPO: No worries. Thanks, Deputy Chair. Thank you again, members, for the invitation to attend today. I would like to begin by acknowledging the traditional owners as the original custodians of Victoria's land and waters and pay respect to elders past, present and emerging.

I also acknowledge the strong engagement of this inquiry and the significant impacts that the October 2022 flood have had and continues to have on the lives of people across the state.

My name is William Tieppo. I am the Deputy Secretary for the Network Design and Integration group within the Department of Transport and Planning. With me is Jimmy O'Connell, Executive Director of Network Change, whose team coordinates the department's emergency preparedness and response arrangements in line with the *Emergency Management Act 2013*. This includes being represented in the State Control Centre and close coordination with the department's regional emergency management officers in regional control centres where DTP – being the department – plays a critical role in supporting the management of significant incidents and emergencies in Victoria. Also with me is Anthony Judd, who is the Executive Director of the Loddon Mallee and Hume regions and who has been taking the lead and leading the department's Flood Recovery program since October 2022. I would like to note that we have provided input into the written answers to the questions taken on notice at the hearing with our planning team from the Department of Transport and Planning on 11 October 2023.

I will now give a broad overview of what I understand to be some of the key matters pertaining to our department's preparedness and response to the October 2022 flood event. As the committee have already heard,

the impacts of the October 2022 flood and storm event were felt right across the state, with 63 local government areas impacted. The scale of the flood had significant impacts across the state occurring from October right through to mid-December. The unique nature of this flood has meant that response and recovery times have been and will continue to be elongated.

The impacts to our transport network were and continue to be significant. Over the course of the event, 8400 kilometres of state arterial roads were closed due to inundation. This represents approximately one-third of the state's state-managed arterial road network, and these closures had significant impacts on key supply chains and the freight industry and the connection of communities, as was seen in Shepparton and Mooroopna where the community was separated by floodwaters for several days. More broadly, Freight Victoria, within the department, worked hard with various industries, including during the event, to ensure key freight routes were opened with priority and detours were established quickly. I note that last week the Commonwealth government announced it has withdrawn its funding from the proposed Shepparton bypass project, which had been raised previously in the context of the 2022 floods. The Victorian government will now seek more information from the Commonwealth on its decision.

The department responded to the emergency in two phases: our immediate response and the following recovery and rebuilding process, which is still continuing. The department was active in the State Control Centre and also in regionally based incident control centres, supporting the SES as the lead agency in managing and responding to the flood emergency. In these incident control centres DTP staff provided information and advice to the SES around closing and reopening roads and the impacts to the network. Typically after a flood or fire has led to road closures, DTP will arrange for field surveillance resources to inspect the network prior to providing advice to the lead agency to reopen the road. Once the lead agency makes a decision to hand back the road to DTP, DTP staff then provide updates to the transport operation centre, and road closures and openings are then published on our VicTraffic website.

During the response phase the department's maintenance crews supported road reopenings and closures and undertook a find-and-fix model of works, with the key aim to reopen roads as soon as possible when it was safe to do so. This resulted in 116,000 potholes being repaired between mid-October and mid-December. The department received a \$165 million Victorian Treasurer's advance in late October to support the response and recovery efforts for the 2022–23 financial year. The department established a governance body, the flood recovery taskforce, to coordinate the approval of works under the Treasurer's advance, which reported through existing governance structures. The works include major patching of damaged pavements, pavement reconstruction projects and structure repairs, as well as clearing and landslip repairs. The focus of response originally was on short-term repairs to reopen the roads. Now the focus has moved to undertaking the permanent and more resilient repairs.

To date the department has completed 451 drainage activities across 83 kilometres, including clearing blockages, drainage, culvert repairs and replacement; 680 pavement activities over 893 kilometres, including patching, sweeping, resurfacing, grading and new line marking; 20 pavement reconstruction projects covering 40 kilometres – these works were significant in nature and included landslips, structure replacements and major pavement repairs; 342 roadside activities covering 514 kilometres, including hazard removal, vegetation and sign replacement and roadside furniture maintenance as well; and 37 structure activities, including clearing and cleaning of bridges, noise wall repairs and batter stabilisation. To achieve this the department engaged a broad range of contractors to best respond across the state. This is including mobilising the existing maintenance contractors and Major Road Projects Victoria to support road repairs and landslip rectification as well as bridge inspections and repairs.

Whilst damage to our roads caused significant impacts across the state, the most significant impacts to community were caused by damages to bridges and landslips, cutting off access. The Bogong High Plains Road landslip is the single largest repair project from the flood. The repairs require over 200,000 cubic metres of material to be removed to repair the damage, and works have been ongoing since October 2022. The road was reopened to one lane in April 2023, prior to the ski season, and full works are continuing with the aim to reopen both lanes prior to the 2024 ski season. Impacts to McCoys Bridge on the Murray Valley Highway saw load limits and heavy vehicle detours introduced. Landslips on the Warburton Highway also impacted that community for a lengthy period. Whilst typically insurance arrangements see assets restored or reinstated to their previous condition, these large-scale projects, when complete, will have enhanced our assets' resilience against future events of this nature.

As the panel heard, local roads, which are managed and maintained by councils and make up 87 per cent of the state's road network, were also significantly impacted. Whilst councils are responsible for repair on local roads, we acknowledge the significant task in responding during the emergency and the following recovery efforts. DTP provided targeted support to councils during the event, including completing works on behalf of Campaspe shire to reopen access to Patho Landfill, repairs to a landslip in East Gippsland and completing bridge inspections on behalf of Corangamite shire.

The department has learned a number of lessons from the October 2022 floods and is already making improvements based on these findings. These include improvements to functionality of the VicTraffic website, including processes and training to support councils to utilise the website. We are currently co-designing the process with local governments, and the next upgrade will go live in early 2024. This will enable council officers to directly input local road closures and reopenings into the VicTraffic system. Collecting statewide response information from contractors – with the new Victorian roads maintenance contracts being implemented in February of this year, all contractors are now using the same system, and the recent Gippsland floods made use of improved real-time data on the response efforts on the roads. We are leveraging our existing partners, including Major Road Projects Victoria, to ensure maximum contractor and resources availability to respond to and repair roads across the state. And whilst flood studies are the remit of catchment management authorities and local government, the department has commenced a project looking at enhancing the resilience of key freight routes across the Loddon Mallee and Hume regions. This will identify mitigation and improvement interventions for future flood events.

Importantly, the department's recovery efforts continue, with major work still underway and expected to continue into the 2024–25 financial year. I thank you for the opportunity for making this opening statement today.

The DEPUTY CHAIR: Thank you very much. That was greatly appreciated. Ms Lovell, I think you are kicking off.

Wendy LOVELL: Thank you. I am kicking off and I apologise, I am going to have to go after my questions. I am sorry, I have an appointment I cannot get out of. You mentioned in your comments about the closure of the causeway in Shepparton and the lack of a second river crossing that is above flood level. You also said that recently the Commonwealth removed their funding and that you are seeking more information on that decision. What I am seeking from you is information on what you are doing around that second river crossing, because it is the responsibility of the state to prioritise that as a responsibility and for the state to also commit funding to it. We have never seen any funding committed to that project other than \$10 million for a business case and a roundabout that still has not been built from many years ago. Not having a second river crossing above flood level divided not only our community but also the state because it is an important east-west route for freight. But more importantly for us as a local community, anyone in a town west of the river, so Maroopna, Tatura, Ardmona, was cut off from health services in Shepparton. This is a really important project for our town. We are into the third decade of planning for this, and I am really interested to know what you are doing to progress this.

William TIEPPO: Thanks, Ms Lovell. As I mentioned in my opening statement, we did receive advice from the Commonwealth last week and we need to better understand from the Commonwealth what that means from then on. I guess from the department's point of view – you mentioned the state has contributed \$10.9 million towards the development of the business case, which in –

Wendy LOVELL: And the roundabout that has never been built.

William TIEPPO: Yes, as well as that. That work has now been completed in terms of the business case development. That business case was provided to the Commonwealth in March 2021, in terms of the business case that allowed for that –

Wendy LOVELL: Two years late.

William TIEPPO: separate crossing. We need to now obviously have that conversation with the Commonwealth and with the Victorian government around the impacts of that funding now being withdrawn.

Wendy LOVELL: Can we expect to see it on the state's list of priority projects and some state commitment to that project? Because it is not going to get up as a Commonwealth project until you prioritise it.

William TIEPPO: Yes, look, that is something for the Victorian government to consider, and we will continue to undertake the necessary planning for that work.

Wendy LOVELL: I believe that the department has required or done an assessment, municipality by municipality, of the damage to roads and the extent of the damage and the value of that damage. Are you able to provide us with those assessments?

William TIEPPO: I think I mentioned in my opening statement there was something like 8400 kilometres of road that was impacted or inundated at some point during the long event. Post all the submerged – the roads now being reopened, we have now done a full assessment in terms of using recent technology to do full pavement assessments. We have now established our program for this financial year. We are now reprioritising the work that has already been established out of that work, and that was done by the Australian Road Research Board. We used state-of-the-art technology to undertake the surveys across those 8500 kilometres. Anthony's team, as part of the work that he does around that recovery work, is now undertaking the assessment.

The work that was done by the Australian Road Research Board was very technical in nature, so the reports are very technical around pavement strengths and the moisture content under a road. Those sorts of things are really important for us to know. We are also seeing now still impacts on the road network because the roads were underwater for so long that we are still seeing impacts to the road network across the board – it is not only just our network but also local government are seeing a very similar impact to their road network as well. But we are using state-of-the-art technology, really good data, probably the best data we have ever had in terms of our asset condition, and prioritising that work as we do the recovery work.

Wendy LOVELL: Okay, thank you. You talked about 116,000 potholes being repaired last year. What we saw was that many of those potholes were repaired very poorly, and that 116,000, you could probably divide that by four because many of them were done five, six or seven times. I can refer to one that was on the Katamatite-Nathalia Road that was a large pothole, it was about 25 centimetres deep, it was on a bend and it just kept breaking down and breaking down. They fill it one day and the next day it would be back to as bad as it was before. What procedures have you got in place, or have you improved your procedures with your maintenance crews to ensure that when they repair it, it is repaired?

William TIEPPO: Before I answer your question in whole, I want to stress that during the event there was a lot of pressure on both local governments and us to reopen roads to access communities as the water subsided. So in many cases we were filling potholes that we knew we were going to be back to in two or three days, because we just knew that we needed to provide access to those communities and open it in a safe way.

As part of our new maintenance contracts that we have put in place, which I mentioned in my opening statement, we are looking at new procedures – different ways and consistent ways of actually undertaking pothole repairs. We know that with a lot of the potholes that we did do, we knew they were temporary and we would have to come back because of the extent of the damage. In some cases we were filling potholes with water in them because the water was coming up from below. That was a really extreme case, but they are the sorts of challenges we had, and local government would have the same challenges as well. Wherever we can, we try and do permanent repairs. We come out of our winter period now, and we have got a lot of works programmed over the next three to four months. So there will be a lot more permanent repairs being done over the next three to four months, particularly in the summer months where we know that some of the materials can dry up and we will have better conditions for repairing roads.

Wendy LOVELL: Okay. McCoys Bridge – the load limit was reduced on that due to there having been a structural assessment. I was aware that in July or August there was a decision made within the department to lift that load limit. That did not happen until the end of September. Why was there a delay when the department had already made the decision and that was impacting so heavily on industry in the area?

William TIEPPO: Look, I will just premise that with: in a lot of the work that we do around structures, we need to do a lot of investigation for structures, you know, where structural piers are located underground. In some cases some of the bridges we had to assess were underwater. So there are a lot of those things that we are doing, but I might get Anthony to cover some of the things, the process we have gone through with McCoys.

Wendy LOVELL: Yes, but once the decision was made – the decision was made in either late July or early August, and it did not happen until the end of September. There was no work done, yet we had about an eight-week delay in it actually happening.

Anthony JUDD: Thanks for the question. With McCoys Bridge we certainly saw movement outside what we would say is acceptable tolerance, which caused the load limit to come back in, and the bridge did continue to move through the early parts of this calendar year. We started gaining confidence – and there is damage to the bridge – that the movements were within tolerable limits, and we started doing weekly surveys to then get confidence that we could move it to 42.5 tonnes, which it is now. I am not sure whether the decision was that we were aiming to do that and we were going to do this monitoring to then get confidence, but absolutely it was those weekly surveys of movement to make sure the bridge was not having that vertical up and down, and I think people would have seen that when they drove over the bridge. I am not sure if that was the delay, but that was the process of making the decision to go to 42.5 tonnes for our engineers.

Wendy LOVELL: Thanks.

The DEPUTY CHAIR: While we are up this end of the table, Ms Watt, would you like to, or Ms Tyrrell, would you like to?

Rikkie-Lee TYRRELL: Who would like to go first? Sheena?

Sheena WATT: I am happy to go first – I just wanted to acknowledge my colleague that had arrived. I have a series of questions, and I understand I have got about 6 minutes, so I might start with some questions around climate change if you are all right with that. Given the really dynamic nature of climate change, can you talk about what mechanisms are in place around the planning system to be adaptable to new policies and data and evidence around climate change in the planning work that you do? I am not sure who is best placed to answer that.

William TIEPPO: Yes, Ms Watt, I think in terms of the planning system, that is probably something that I would probably have to take on notice, because our planning colleagues would probably be best to answer that. But I guess as a department, in terms of climate change, the transport sector is a significant contributor, as you know. Obviously we are working towards a net zero emission target by 2050. We are starting to implement a lot of initiatives in the department that do target climate change and things like zero-emission vehicles and our bus fleet policy around no more new diesel buses beyond 2025. That is one initiative we are rolling out. On state infrastructure, charging stations, fast-tracking emissions – particularly, we do a lot of work with the freight industry, and we just recently announced where EV trucks can travel on our network. We have done a trial with some freight operators to do that. Obviously some of our metropolitan trains and trams will become carbon neutral by 2025. So there are a lot of things the department is actually working on to target that. But in terms of the planning system, I will have to take those on notice, and we can provide more information on that separately.

Sheena WATT: Yes. I did have a few questions in that vein, so I might have less questions than I anticipated, Chair. So what sort of collaborative efforts are going into coastal planning? Is there anyone in the committee that might be able to answer some questions on that?

William TIEPPO: That will be the same, I think.

Sheena WATT: That will be the same?

William TIEPPO: Yes. Sorry.

Sheena WATT: All right. Because I was going into part 10 of the submission, which really talked about implications for future planning decisions and then thinking about that in respect to future responses to flood events, so perhaps that is –

William TIEPPO: In terms of transport and road authorities, we have got obviously the Great Ocean Road and other coastal areas. We work really closely with local government and coastal management authorities around sea rise protection and all those sorts of things. I think we do get involved in those sorts of things, but we do not lead those pieces of work. We provide inputs into what that might mean.

Sheena WATT: That is the nature of having that sort of collaborative submission –

William TIEPPO: That is right.

Sheena WATT: Working out who is best placed to answer questions is sometimes a challenge, because I did have questions about updated flood mapping and structural plans with respect to coastal areas. But perhaps I might direct some of those questions to our witness tomorrow morning. There are some others around land use planning. But perhaps, Chair, if it is all right, could we circle back to me, given some questions from other committee members might come up that are more relevant to the areas that you are covering, if we have time?

The DEPUTY CHAIR: Sure. Were there particular questions that you wanted to clarify in terms of seeking further information or taking them on notice?

Sheena WATT: It seems that they would all be questions that perhaps, given that answer, would be best served by our witnesses tomorrow.

The DEPUTY CHAIR: Okay. Sure.

Sheena WATT: I will come back with some further questions related to the responses. Thank you.

The DEPUTY CHAIR: Thank you. Ms Tyrrell.

Rikkie-Lee TYRRELL: Thank you, Deputy Chair. I will just pick up where Ms Lovell left off on McCoys Bridge. I am just going to ask straight out: when can we expect a finalised date for that to be completed so it can go back to being used as it was before the floods?

William TIEPPO: I am not sure. Anthony?

Anthony JUDD: Thanks for the question.

Rikkie-Lee TYRRELL: Just a date.

Anthony JUDD: Yes. We will have advice for the committee. We have got some additional testing happening over the next couple of weeks, and our engineers are looking at it, so we will have advice within the next month about the timing. There are works likely to be needed, but we are also continuing that weekly surveying to test our risk tolerance and movement of the existing bridge. So there will be messaging out to the community in the next month about what the time frames will be, but the extra work is needed with our engineering teams.

Rikkie-Lee TYRRELL: Okay. I can put that question on notice. When you get that information, could you please provide that for us? Thank you.

Locals are sick and tired of the patch-up jobs. We see patch-up jobs, and then in no time they are worse than what they were to begin with. Are you investigating and re-evaluating the current road engineering to ensure that our roads are more suitable and reliable for heavy use in our flood zone environments?

William TIEPPO: Thanks for the question, Ms Tyrrell. I will continue on from Ms Lovell's questions around some of the works that we are doing and the program for the next three to four months. We have already done in the previous calendar year some significant pavement reconstruction works. Before we proceeded in doing those, we actually said, 'What are the things that we need to do and think about in terms of making sure that those pavements are a lot more resilient to future floods?' You know, we have been talking to my counterparts and our counterparts in Queensland. They have been through this a number of times, and we are using different types of materials that have been quite successful in Queensland. Foam bitumen stabilisation is a treatment that is used in the material underneath the road pavement that stabilises the road underneath the seal, and we have seen in Queensland that for some of those roads that were treated with that sort of material, the structural integrity of the road has stayed but the seal and the asphalt on the top may have gone in a flood. But that makes it a lot easier to repair a road and makes it a little bit more resilient as well. So we are using different types of technology and pavement repairs in our future pavements.

We are also looking at working with local governments and catchment management authorities, when we are doing a pavement reconstruction, around what the drainage works are that we need to do. That could be cutting deeper table drains or those sorts of things, and we normally work quite closely with local government around that. But we are in a phase now of doing more of the permanent repairs, whereas I think through the winter – you know, we had probably the two wettest years on record prior to the October 2022 floods. We did a lot of resealing works in the two years prior to that, but we have also seen areas that have deteriorated a lot because of the moisture in the pavements and the heavier loads from trucks and those sorts of things that are having an impact on our pavements.

Rikkie-Lee TYRRELL: Okay. Personally, I copped one on the way down – a big bang. What causes it when the road sinks a little and is smooth? It looks like somebody has been driving over it continuously – like two tyre bumps. What causes that? Because I have noticed that a lot of those are coming up in the roads, especially the bigger roads. So what actually causes that? Is that to do with floods?

William TIEPPO: Yes. That is called rutting.

Rikkie-Lee TYRRELL: Okay. There you go. Good word.

William TIEPPO: Where the wheel paths are on your car, that normally would create a rut, and that is normally caused by moisture inside the pavement and the material underneath the pavement crushing and getting smaller and reducing in terms of volume. So the structural integrity of the pavement gets affected by the moisture that is in the pavement. It is predominantly due to the water that is in the pavement, but there are some materials across the state that have natural tendencies to crush into powder, and those are materials like scoria materials. They tend to have a rock sort of formation, and over time the loads of the vehicles and trucks can crush that material.

Rikkie-Lee TYRRELL: I have just noticed recently that that is happening a lot, especially on, say, the Goulburn Valley Highway and a lot more up north – because I do live up north and I travel a lot. I have never seen it before in my whole, let us say, 23 years of driving – I will not point out how old I am – and it is only just recently that I have noticed this rutting. I have never seen it before, so I am thinking it has a lot to do with this.

William TIEPPO: It does. From the moisture and the length of time that our roads were inundated, we are still seeing moisture in pavements today, even though it has been just over a year.

Rikkie-Lee TYRRELL: So can we improve on that in the future?

William TIEPPO: Yes. Look, I think over time, if we have a dry spell, we might get some pavements drying out, which would stop that rutting effect. But as part of our continual monitoring of the network we always look at safety as foremost and we always make sure that pavements and elements of those pavements are always safe. If it is unsafe or we think we need to do some work, we make adjustments to speed limits and those sorts of things. During the flood event there were some roads that we really needed to open up very quickly. We did not have time to fully seal them. In some cases we actually left them as crushed rock and left them without a seal, but that was done on purpose to allow access to those communities and for some of those freight operators as well.

Rikkie-Lee TYRRELL: Yes. There are far more speed limits being reduced recently. It is taking a lot longer to get anywhere up north; I can guarantee that. Deputy Chair –

The DEPUTY CHAIR: You have got a minute to go.

Rikkie-Lee TYRRELL: I am fine.

The DEPUTY CHAIR: You are done. Okay. My apologies. Thank you. All right. Dr Ratnam.

Samantha RATNAM: Thank you very much. Thank you very much for your evidence today, and please let us know if any of these questions are out of your bounds, because there are different sections of your department – a big department – and we have had some presentations before as well. Could I just ask quickly about the reconstruction efforts for the potholes in the roads that you mentioned. We have heard about betterment funding throughout the course of this inquiry. In that reconstruction work you are doing, are you building back better, or is it like for like?

William TIEPPO: Thanks, Ms Ratnam, for the question. I think generally for pavement reconstruction, normally if you are reconstructing a road generally the cost to reconstruct that road can be the same like for like. The only difference would be is if we are making that pavement stronger and thicker to deal with heavier loads and make it more resilient for future floods. Sometimes in some cases we need to do that because we are constructing to modern standards and current standards, and when a road was built back in the 70s or 80s in many cases the standard was different, so we are rebuilding roads to current standards. In some cases that is described as betterment. Probably Anthony has been dealing with some of those things as well around if we are replacing a bridge: if it is a wooden bridge, we would normally replace it with a concrete bridge, so it is definitely a lot more expensive to repair and replace. I would define betterment as something like: if we have got three drainage pipes across a road and we are putting six in, that would be betterment, but normally we are replacing like for like but to current standards.

Samantha RATNAM: To current standards. So there is betterment, which could be defined as just bringing something up to modern standards depending on when it was built, but then there is also betterment in terms of the ability to withstand a future-like event that caused that destruction in the first place.

William TIEPPO: That is right.

Samantha RATNAM: Is that happening systematically? Could we expect that the reconstruction work the department is doing right now will help us withstand an event like that if it happens in the near future?

William TIEPPO: Yes, I think normally the current standards are, whether it is new Australian standards or new Austroads standards that we work to, we take into consideration previous weather events and new modern materials that we can use. I can say yes. We are allowing that as part of our normal process in rebuilding our assets to current standards.

Samantha RATNAM: Perhaps even a better question then to pick up where you left off – and thank you for that response – is: do you think the modern standards are high enough to withstand what are likely to be more frequent and severe climate disaster events?

William TIEPPO: Different states deal with different standards, so nine times out of 10 most of the standards are the same, but in Queensland and northern parts of New South Wales there are different standards to deal with wind loads and high weather events. Normally the standards would be the same, but you would normally do your flood modelling. If the catchment management authority and the local government are doing a flood model in a particular area, we would work very closely with the councils in ensuring that we are facilitating those improvements to make sure that those sorts of things are being dealt with.

Samantha RATNAM: Are there any restrictions or barriers in the department's ability to build to the highest standard possible – so if there was a best practice, best standard to say, 'This will help us withstand an event that had the same severity as we have just experienced in 2022.' Are there any barriers to that, either accessing federal funding or your own state Treasury funding?

William TIEPPO: Yes, we normally build to the current standards, which are our highest, best standards.

Samantha RATNAM: Okay.

William TIEPPO: The quality of material, the quality of concrete and reinforcement, are all Australian standards that are highest and best quality, and that is what we normally apply.

Samantha RATNAM: Great, because we have heard some councils report that when they are trying to access the state and federal funding for reconstruction, they are only able to build back like for like, and it seemed clear that they felt there was a better standard they could build to if the funding was available. Do you have any comments on that? Are you doing anything to support those councils being able to access that funding to build back a more resilient piece of infrastructure?

William TIEPPO: Yes. Anthony deals a lot with the local government directly around the DRFA process, and that is probably something I can touch on in our closing statements around what are the things that we think the panel might be able to look at into the future.

Anthony JUDD: Thank you. We are working closely with local government. As you would be aware, EMV and ERV hold that relationship around policy of the DRFA and that relationship with the federal government, so those decisions are with EMV and the relevant minister. I am very aware, and I think the committee is aware, of the funding that came – \$9.4 million, I think for 13 or 14 councils – so we support that, absolutely. Our role in the DRFA – we do have staff that support the assessment process for DRFA into the current guidelines, so effectively subcontractors to EMV in councils making those claims. So we work with councils and train councils and support councils and try to build capacity in the DRFA process. Around betterment, look, I think enhancing resilience and assets – that is something that we try to do, and we would support councils trying to do that as well.

Samantha RATNAM: Thank you very much for that. In terms of your role you just talked about in administering the DRFA, is your role confined to supporting that assessment process? Is that the only role you will have in administering that fund?

Anthony JUDD: Yes, so there is training that we hold. We have got approximately 15 staff, and they are funded through EMV, not through our department funds, to train but also to assess. Councils put the claims in, they come through our assessment process and EMV support that. So we are the first point of contact too.

Samantha RATNAM: Are you?

Anthony JUDD: Yes.

Samantha RATNAM: In terms of this requirement councils have been talking to us and others about having to have the invoice that perfectly matches the amount – like one invoice to \$25,000 et cetera, the number of photos you have to take per kilometre of road to be able to access a claim – are they your requirements?

Anthony JUDD: No, they are guideline requirements. So I would say, guidelines and policy – EMV. We are purely implementing the EMV policy and guidelines, and the federal government policy and guidelines.

Samantha RATNAM: Are they guidelines, not rules, are you saying? Is there ability to vary them?

Anthony JUDD: That would be a question for EMV. They are effectively eligibility rules, would be my understanding of them –

Samantha RATNAM: Eligibility rules, yes.

Anthony JUDD: that make a claim either able to go through or not.

Samantha RATNAM: Do you all have a view on those eligibility rules and whether they are onerous, burdensome or appropriate?

Gaelle BROAD: Yes, we have got other words.

Samantha RATNAM: Yes, other words. What is your view on the administrative requirements?

Anthony JUDD: Perhaps not a view – I have been meeting and speaking with a lot of council executives about this, as have you. Whether it be the guidelines or council capacity, none of us want to be in this position where councils have the same battles in five years or 10 years when they have the next one. We will probably touch on this in any closing statement that he is able to make, but we feel like something needs to happen. They have got 87 per cent of the road network across the state. The state government have 13 per cent of the road network –

Samantha RATNAM: We need to make it easier for them to build it.

Anthony JUDD: so in a whole-of-road-network approach, yes, we support recovery.

Samantha RATNAM: Thank you. Yes. I have concluded my time.

The DEPUTY CHAIR: Thank you, Dr Ratnam. Mrs Broad.

Gaelle BROAD: Thank you, that is very insightful. It is encouraging to hear that you want to see change in that area, as do we. Just at the outset, northern Victoria covers the top half of the state, but constantly we hear about the state of the roads and their appalling condition, even before the floods. Even the Grattan Institute was saying \$1 billion is needed to put into the roads, and you are talking about over 8000 kilometres of roads, and that is just the state, not the local council area –

William TIEPPO: That is right.

Gaelle BROAD: which you have said is 87 per cent. Do we have enough funding to fix our roads and get it back?

William TIEPPO: Look, I think I can say that any road authority would always say that they never have enough money, but obviously every asset owner and asset maintainer will prioritise the funds that it has to make sure that the network is operating as safely as possible. The councils have got a significant task, as well as ourselves. If you think about the 87 per cent that Anthony was talking about, it is a significant recovery effort across the board, and the floods have impacted their road network just as much as ours. In terms of that last mile in where you have got trucks going to local farms, having that accessibility is really important. We worked really closely with local government around sharing learnings – how do we do things a little bit differently? We have tried in the past around procuring things so you get some economies of scale. I know some councils are already doing that, but that is still not enough to cover the huge recovery effort that they have got, particularly on their road network.

Gaelle BROAD: It sounds like you are trying to work within a broken system at the moment. I have heard that contractors are being told that there are no funds to do resheeting of roads, and yet we seem to have a lot of people still without access to roads. Just of that 8000 kilometres that you have talked about, is there any still to get back on track, where you are talking with councils on the amount of roads still to be fully repaired?

William TIEPPO: I cannot talk on behalf of the councils and what their roads are, but I guess for our 8500 kilometres, we have got really good data now, as I was saying before. We are prioritising the highest priority this financial year. We have now integrated our road maintenance program together with the flood recovery to make sure that there is a more integrated program. We have got \$770 million this financial year as part of our maintenance program to continue doing the flood recovery and integrating it with our existing one as well. We have reprioritised our program to do more of the pavement major patching repairs instead of resealing of roads, so that has resulted in us doing more pavement reconstruction than waterproofing. Waterproofing is normally when we reseal the road, but we did a lot of that in the two years prior to the flood event.

Gaelle BROAD: It sounds like the budget is kind of gradually decreasing. We had one of the most significant flood events in the history of the state so obviously, yes, a lot of work is needed in that area and further funding, I would expect. Just with the closing of the roads, we heard from locals that roads were very quick to close and took a very long time to open. You have mentioned DTP do that work, so your department is responsible for the reopening of the roads.

William TIEPPO: Yes. I will sort of make a general comment. I might get Jimmy, because Jimmy was working hand in glove within the incident control centres around the process – but generally once we know and we are directed to close a road because it is inundated, we normally deploy crews to get to as many of those as possible. I think, just broadly, because this event was so long and we had water sitting over roads for weeks and weeks, some people were going around the road closure signs, and that was just something that we needed to work with. But I guess some of the things that we have learned from this are how we monitor those roads that are already closed and as quickly as we possibly can do an assessment so that we can reopen them. Sometimes the road might –

Gaelle BROAD: How many staff do you have working on that?

William TIEPPO: That depends on the event. We were bringing people from, you know, Geelong to Bendigo. We had probably the least affected regions during that event going up to where the event was, so we pulled resources from everywhere. We even had our contractors from other parts of our regions in the state going up north to help out.

Gaelle BROAD: But when half the roads are closed – because I remember looking at it and trying to get from A to B and thinking which road. Is there a better way as far as recommendations in future? Who are you notifying to get those roads reopened? And also the emergency app – I guess it was so out of date because there are millions of roads, but is there a better way or a recommendation to improve in future?

Jimmy O'CONNELL: Sure.

William TIEPPO: Go for it.

Jimmy O'CONNELL: I think first and foremost it was the accountability of the incident controller to close the roads, so in this instance the SES. We were taking direction from them at the time. When it was safe to do so then the Department of Transport and Planning undertook surveillance of the roads to make sure that they were suitable to be reopened. So often, I think as Will has touched on, roads seem like they can be okay but until you have conducted the necessary surveillance – so we would drive coaches and heavy vehicles on them to make sure that there were no washout periods on the roads and it was safe to reopen.

Gaelle BROAD: Is there a way that can be done faster in future?

Jimmy O'CONNELL: Oh, look, there are after-action reviews that have been conducted with EMV and within the Department of Transport and Planning as well. I think speed is always something that can be done quicker. I think in this instance we are looking at some really unprecedented floods here. Although things may have seemed like the roads were looking like they were okay, we need to make sure that they are really suitable to drive on before we reopen them. We are trying to do them as quickly as we can, but it does take time with something of this significance for the roads to come back to normal.

Gaelle BROAD: And just with the work that has been done on improving some of these roads, I am interested in box culverts, I guess, on Murray Valley Highway between Kerang and Swan Hill. You are smiling – you might be familiar with that one. And also the Pyrenees highway in Carisbrook has been mentioned – whether or not there is work to investigate additional culverts for that, because they have experienced flooding even with the levee going in. Is there work being done, because sometimes improving roads then creates a levee, but getting those box culverts to keep the water –

William TIEPPO: Yes. I do not know whether Anthony knows the specific locations that he can probably talk to, but generally if the local catchment management authority or the local government have identified a greater capacity to pass an arterial road for floodwaters, we will always work with council to do that. Nine times out of 10 those culverts are part of the drainage scheme that the councils need to operate and maintain even though it is an arterial road. For those specific locations, Anthony, I am not sure –

Anthony JUDD: Yes. Thank you, Will. Probably the two different examples, but both with culverts. We absolutely have started investigating the Wandella Creek on the Murray Valley Highway. We understand that that blocked that connection between Swan Hill and Kerang for a long period of time. The team is starting to look at that, and we do have a study with that. The ones at Carisbrook, near Maryborough – I viewed them the other day and have spoken to the council and spoken to the flood plain manager. They were put in as part of a broad mitigation system and a whole-of-levee system. They have gone through hydraulic engineering modelling, and I am told they have been peer reviewed. I am not saying that we would not revisit them, but that would be based on the advice of probably the flood plain manager and the council. The council constructed those with our support and with our surveillance and our approval absolutely. And we would have had staff involved in that whole-of-town mitigation plan. But yes, there is work still to happen, and we are looking more broadly. We have a project in the north of the state – so Loddon–Mallee, Hume – and our key freight routes, where there might be other sort of choke points that we could find mitigation solutions for. That project is about to kick off.

Gaelle BROAD: Thank you.

The DEPUTY CHAIR: Thank you, Ms Broad. Ms Bath.

Melina BATH: Thank you. Thank you, gentlemen. Rating your department from 1 to 10, how would you rate the response to the flood emergency?

William TIEPPO: I do not know. I think probably a seven out of 10. I think there are always improvements to make around exactly what Ms Broad was saying – how do we better communicate road closures and road reopenings, more integrated together with local government, because they have got a lot of roads and we have got ours. In some cases some of the local roads or our own roads were used as detours. So I think how we communicated road closures to the community and freight industry in particular – I know we did a lot of work with the freight industry to try and facilitate heavy vehicle detours wherever we possibly could, and we did have freight industry people that were affected getting in the room together and working out what those were. But I think there are a couple of things that I might say in my closing statement.

Melina BATH: All right, we will make sure you have got time for that. Thank you very much. Just for clarity – and I just want to go back to Ms Broad’s question – on state roads, who is responsible for their closure?

William TIEPPO: State roads, I think if the incident controller says that that road needs to be closed, then we will close it.

Melina BATH: Right. And council roads?

William TIEPPO: Same.

Melina BATH: Same? Right, thank you very much. And then reopening?

William TIEPPO: Reopening – normally the incident control will say the floods have dissipated, the floods have gone, and then they will say, ‘Well, that’s okay, we can hand those roads back to the responsible road authority’, being us or local government, and we would do our assessments to make sure that they can be reopened or are suitable to be reopened. In some cases we have got to do road safety audits – sometimes guideposts have gone or guardrails have gone – and sometimes we have got to reopen roads.

Melina BATH: So there can be a delay between saying yes and then opening?

William TIEPPO: Yes.

Melina BATH: I am interested in VicTraffic. Information is key. People are stressed. They are desperate to know how they can get home or get out, one or the other, for a variety of issues. You have got the VicTraffic website; you have got the VicEmergency app. I have just looked up the VicEmergency app, and it says ‘road closures’. Here is the sign: ‘There are four partial road closures. Note: Not all road issues are reported on this site.’ I am stressed; where do I look? If I am a local up there in Rochester, where do I look?

William TIEPPO: Well, I would say the VicTraffic website.

Melina BATH: How were you communicating that to people? Because our VicEmergency app goes ‘ping, ping, ping’ and we look at that instantaneously. If there is continuous improvement, how can there be better improvement between those two agencies or apps?

William TIEPPO: I think that is one of the things that Jimmy and the team are working on at the moment. As I said in my opening statement, one of the things that we are looking at is around the functionality of the VicTraffic website and how that works together with local government and connectivity with other forms of information, normally council websites in those sorts of events. We worked closely with council, because sometimes people will look at council websites for information as well. Jimmy might want to supplement my answer, but there are a lot of things we are doing together with EMV and others to make sure that there is one single source of truth.

Melina BATH: Will it migrate to the VicEmergency app? Will the road closures migrate to that? Is that your recommendation?

William TIEPPO: That is something I can probably take on notice. We probably have not gone that –

Melina BATH: I mean, we need to make recommendations to government about better information updates for people who are going to be in these situations, and it could be next week, in effect. In the department’s report – on page 40 it goes to flood recovery – the department talks about \$165 million to upgrades post the

repairs. You have got nearly 1400 roadside activities – or kilometres, I think it is kilometres – and yet you have got 8400 kilometres of roads. That is 17 per cent. I am interested in the breakdown of what still needs to happen. I am interested in that \$165 million. How much of that has been spent – take it on notice or tell us now – or where has it been spent? Where are the gaps still, and how have you identified those gaps?

William TIEPPO: I can actually say that the \$165 million has been spent, because that was a Treasurer's advance that we received immediately during the event, as a Treasurer's advance. So that was provided to the department to commence the response process as well as commence the recovery. As part of our normal budget process, we have now received \$770 million for this financial year to –

Melina BATH: Is that going just to flood-affected roads?

William TIEPPO: No.

Melina BATH: It is across the state?

William TIEPPO: No, that is across state arterial roads only, to undertake normal maintenance as well as flood recovery. So that work, as Anthony said, is part of that \$770 million. Not all of that has been fully developed yet, because we are only halfway through the year. That is being integrated, so the \$770 million will be part flood recovery, and then next year we have got another package, which we have yet to go through the budget process for, for further recovery.

Melina BATH: I guess there has been monumental damage to those flood roads – the state flood roads as well as council roads. I am just dealing with state at the minute. We still have a normal budget. You go down to Gippsland South and there are roads everywhere with potholes the size of small craters. How are you going to ensure, with that amount of money, that you can actually cover off on these very, very important roads? Because you talked about stock and health and connecting communities.

William TIEPPO: What I said before was the \$770 million is – we are now integrating our flood recovery with our normal maintenance program so that we are prioritising that fund to the highest priority roads that are either flood affected or strategic routes such as key freight routes that have a really important connectivity to communities.

Melina BATH: Thank you. Lincoln Fitzgerald, the CEO of Loddon shire – and it goes to the previous question – said:

The evidence burden is totally unrealistic.

This is to do with the grants scheme. He speaks about 4800 kilometres of roads and photos et cetera:

Now, the Department of Transport and Planning is assessing those –
this was back a few months ago –

... and they are still dealing with claims from 2021.

How can these people get their roads fixed when there seems to be this bottleneck, and what are you doing about moving that bottleneck of assessments?

William TIEPPO: If it is in particular for that council – Anthony might be able to supplement this – I guess the assessment process that we talked about before, there is a fair bit to get through. There are 15 people processing that as quickly as they possibly can. They are processed as quickly as possible. I do not know, Anthony, if there is anything else you want to add.

Anthony JUDD: That 15 has increased. That has gone up from six pre flood, so we have really increased resources to try and pick up with the increased effort as well. So we have increased the amount of resources in that area.

Melina BATH: I am getting waved at. I have got loads more questions, but thanks, Deputy Chair.

The DEPUTY CHAIR: We will see how we go when we get around the table. Mr Batchelor.

Ryan BATCHELOR: Thank you, Chair. Have we seen an event like this before in terms of its impact on Victoria's road network?

William TIEPPO: Look, I think there have been a lot of significant events, particularly in my time in transport, and obviously we have seen horrific bushfires as well. Both of them have different effects on our transport network. Normally some of the flood events that I have experienced in the last 15, 20 years in transport, a lot of the flood events have come and gone very quickly. This one in particular was one that was really long, and the roads were inundated for a long, long time. So that is probably the key difference between this event, which has probably been the most significant that I have experienced, and others.

Ryan BATCHELOR: It is the duration of time.

William TIEPPO: It is the duration of time.

Ryan BATCHELOR: And the spread –

William TIEPPO: And the spread.

Ryan BATCHELOR: of inundation of our road.

William TIEPPO: That is right.

Anthony JUDD: And I would add 63 out of 79 LGAs under the DRF are eligible. That is the majority.

Ryan BATCHELOR: So we are looking at something that is quite different to that which has come before. I will come back to that in a minute. Obviously we have had two of the worst years on record, and we are about to go into what some people are suggesting might be our hottest summer. What effect will the heat have on our road network?

William TIEPPO: Look, I think on really hot days normally the effect on our roads, particularly in country Victoria where you have got bituminous seals, if they are getting really hot, they will bleed, and what I mean by bleed is they will look like wet bitumen. So that is a pretty standard potential – if there are long days of repeated heavy and hot days, you can get that sort of effect on some roads.

Ryan BATCHELOR: How will that affect the repair job that you are clearly still trying to do, because as you say, some of the road base is still wet? What is the effect a really hot summer is going to have on fixing –

William TIEPPO: In terms of our major repairs that Anthony and his program are doing, I think that is not a bad thing because it is always good to repair roads when it is not wet and the weather is really good. I guess the only major impact that we will have will be the risk of seals bleeding on our road network.

Ryan BATCHELOR: Just following up a little bit on Dr Ratnam's questions about standards, I assume that the standards we build to are the ones set by the relevant standards-setting authority, whether it is Standards Australia or Austroads or whoever it is. How frequently are those standards reviewed and how much of that review process is taking into account how the climate is changing and the increased frequency of extreme weather events?

William TIEPPO: Standards are reviewed quite frequently. I am a member of the Austroads board. One of the things that we have is a constant review of our standards. We are in a process at the moment where we are trying to harmonise standards across Australia, and we are finding that that has been a really useful process because we have been able to use the lessons from our experiences. And New South Wales, Tasmania and South Australia sort of look at our standards, and they try and adopt them where we have used the lessons learned. A lot of the work that Queensland has done – we have adopted a lot of their standards around providing some more resilient different pavement materials and those sorts of things. So I think they are done more regularly. Normally, Austroads is within the authorities of the state. With Australian standards there is always a program of Australian standards that is always renewing, but if there is a specific standard that we want Standards Australia to look at, we normally provide that and there is a process to do that.

Ryan BATCHELOR: Following on from Ms Bath's questions about funding, I could not tell from the whole of government submission exactly how much additional funding had been provided to do repairs post the

floods. So maybe on notice could you give us a table of how much additional funding has been provided to do road repairs since the flooding event, and if that has not all been acquitted now, what is coming in future years, and then probably also more generally what the relevant funding streams are for generalised repairs and maintenance. So I assume there was some particular money for flood-related response and then there is probably a BAU stream.

William TIEPPO: That is right.

Ryan BATCHELOR: Could you give us, as you see fit, a table that can break that down for the benefit of the committee so we can understand just how much funding is there and available? To come back to where I started, what do you think the key lessons are out of this event for the road network?

William TIEPPO: Look, I think I might do what I was going to do at the end now. Some of the things that I was talking about are around communications – making sure there is one source of truth for community to use, whether it is the VicTraffic app or whatever – so I think that is a huge piece of feedback that we got. Sometimes we were getting phone calls about roads that were open that we thought were closed, so that is a huge lesson for us.

We talked about the DRFA process; we know that is being reviewed. I think the work that Anthony's team does to support local government – what are the things that we can do to try and streamline that process? What is the absolute minimum required from local governments to process those as quickly as possible?

Some of the things that we have talked about are a lot of work that we have had to do with the freight industry, working very closely. Sometimes there were particular industries, whether it was the milk industry or grain, where sometimes the information intelligence was sitting with the local government but we would have liked to have had some of that. But we have learned that we need to do a lot more in the ICCs or regional emergency management centres to better cater for freight routes that are diversions, that are safe, that heavy vehicles can go on without damaging other roads during an event.

The other one we touched on in some of the questions was around betterment – trying to better define and clarify what betterment is and what it is not. We are insured; our road network is insured. So there are always better ways of defining betterment, particularly when you are replacing an asset to a current standard. So that can sometimes be a little bit grey in terms of what is defined as betterment for a current standard versus what you said, Ms Ratnam, around whether we put more culverts in to make an area more flood-prone.

So they are probably the three or four key areas that we have learned from. We work really closely with local government, and we know that we can work closer with them during these events. They are really stretched. In the areas where the floods happened, some of those small councils were really stretched with resources, and we were helping as much as we possibly could with the resources that we had. I think about what other assistance the councils can get during an event and also during the recovery as well, because those are huge pieces – not only just on roads but for all their other community assets as well.

The DEPUTY CHAIR: That is your time. I am happy, though, that you did your closing comments before closing, because with a roomful of politicians you were never going to get the last word in. Mr Batchelor, did you have any more?

Ryan BATCHELOR: I am fully satisfied.

The DEPUTY CHAIR: That is beautiful. That is a beautiful thing. Okay. Thanks. Thank you for that closing comment, because that actually picked up a couple of issues that I wanted to speak to or to ask about. You talked about the Australian Road Research Board, I think, quantifying works. Is that purely for state roads?

William TIEPPO: Yes. They did 8500 kilometres with what is called the iPAVe machine. It travels along the network at the speed limit generally and captures information at various intervals along the road. It picks up road characteristics like rutting and cracking and all those sorts of things. That information is quite detailed, and sometimes it needs interpretation from subject matter experts around pavement characteristics and those sorts of things.

The DEPUTY CHAIR: Okay. I think we need to find an alternative to ‘rutting’ actually, but we will come back to that one. It is just messing with my head. So you then get data that would presumably form a basis for cost plans in terms of repairs that are required to bring it up to an acceptable standard?

William TIEPPO: Yes. Sometimes that data we can plug into models. We have got deterioration models for assets. So if we have found through the data that some of the pavement’s strengths have been reduced because of the moisture that has been in the material, we will be closely monitoring. They may be good at the surface at the moment, but we are closely monitoring some of those that have not failed but where we know that the strength of the pavements has been affected by the water. The other ones that we are doing the major repairs on are the ones that have actually already failed, and we have got speed limits out in place at the moment to try to keep them safe while we have got contractors scheduled to do that work over the summer.

The DEPUTY CHAIR: Okay. So presumably then that in turn links to cost plans and you can get quantity surveyors around it and what have you?

William TIEPPO: Yes.

The DEPUTY CHAIR: Do you do capital planning for the roads over a longer term?

William TIEPPO: Yes, we do.

The DEPUTY CHAIR: And presumably you then make a provision for catastrophes and natural disasters in addition to that?

William TIEPPO: We do not normally. Our budgets are not normally set up for future emergency events, but one thing that the state government has provided over the next 10 years is certainty of funding. There is a total of \$6.6 billion over the next 10 years for our road network. That gives us the ability to model our network and use the data that we are getting to formulate our capital programs into the future. We are using the latest data coming from our new contract models around how many hazards are on the road network and how many different repairs need to be done. That is just for our road pavements, but we have also got models of data on other assets – you know, structures, bridges and drainage culverts as well – so that we make sure that we have got a forward program of those.

The DEPUTY CHAIR: Right. So process wise – I am going to take a big leap here and suspect that you work to what you can achieve with the \$6.6 billion rather than \$6.6 billion being exactly how much you need. Is that correct?

William TIEPPO: Well, I think the funding that has been allocated over the next 10 years is the funding that we have got for the next 10 years, but that does not – we will still put budget submissions in every year based on what we think we still need as an asset manager. We will continue to do that. Part of the work that we do every year is refining our program, and I mentioned before we are integrating our road maintenance program with the flood recovery, so in some cases where roads have been damaged as part of the floods, we may already have that on our network for the next three years, but we have had to bring it forward, and some we have had to push back. So we take a prioritised approach and we use the data to best make those decisions.

The DEPUTY CHAIR: Okay. So if we interlay, then, into that discussion that Dr Ratnam led before about betterment in its many complexities, in working up that budget you do that on the basis of repairing these roads to a superior or a current methodology and materials – that is sort of what we are talking about. But then I think Mr Judd talked briefly about enhancing resilience. When we look at that \$6.6 billion, that is not talking about enhancing resilience, that is really just betterment in the sense of making what is there more robust rather than accounting for significant, ongoing climate change.

William TIEPPO: That is right, so if we have got pavement reconstruction works that have been programmed for the next three years in certain areas, we have learned from the lessons from this flood event that we will use a potentially different material that will make that pavement more resilient, but it is still part of our normal annual maintenance program.

The DEPUTY CHAIR: Okay. So then if we want to look at that situation, we know we are going to have more floods, we know we are going to have more heat and we are going to have to build better, but we are also

going to have to possibly build differently to enhance that resilience. I think we got to this point when Mr McKeegan was here with us, and I think he fingered you guys for having to answer this question: who is planning that? Who is budgeting for that?

William TIEPPO: In the Department of Transport and Planning, in my group I have got an assets and engineering team that do the strategic asset management program, and they use all the data and they prioritise the maintenance programs on an annual basis, whether it is road pavements, whether it is bridges or it is road signs or street lighting or traffic lights, and then they work that up together with our regional staff, either in Anthony's team or one of our other regions, and those programs come together. Sometimes you have got to make decisions around prioritising different things, but normally we try and make our decisions around the data that we have got and prioritising that. We have got a lot of data around the life of our structures, what needs different repair on bridges to keep the life of those structures going, and we do the same with our pavements. Sometimes –

The DEPUTY CHAIR: Okay, but again you are just talking there about existing assets. I guess I am trying to get this sense, and I think a number of the committee members are really keen to know, in terms of when it is not 'Make the road surface more robust' but it is actually 'Given floods, we're going to have to lift the road' or 'We have to put in a lot more culverts to get the flow'. Is there actually a strategic process happening somewhere that is going –

William TIEPPO: Yes, that is probably something we talked about before, where a local government or a flood management authority might come to us and say 'We might need to lift that road' or 'We need five new culverts' or extra culverts to deal with the flood model that they have just completed. So there is definitely a process in place to capture those improvements that are needed. In terms of –

The DEPUTY CHAIR: So where would we – sorry, I am just conscious of the time – actually see something that says, in terms of adapting to climate change, this is what we reckon is going to have to be done and this is what we reckon it is going to have to cost? Where do we actually see that? Where does that exist in a tangible form?

William TIEPPO: Well, it is probably through the community engagement that we do and the work that we do with local government. If we are doing major network improvements or we have got a major road project, those sorts of – if we are talking about a future Shepparton bypass, they go through really rigorous planning processes. There are public panels, they go through rigorous technical reviews on flood mitigation, so when we are doing new roads and major new roads, we go through really rigorous planning processes.

The DEPUTY CHAIR: Okay. So I get that. I absolutely get that, and that is fabulous.

William TIEPPO: You are talking about the existing network.

The DEPUTY CHAIR: I am going to have to call time on myself, which is always disappointing, but is there a big picture? I guess that is what I am looking for. Is there somewhere where you can sort of point to sources or collate sources and say, 'Ballpark figure: we are going to need to do X amount of works at X amount of costs over X amount of time'? Does that exist, or who is driving it?

William TIEPPO: Well, we do in terms of our asset management programs. In terms of our asset management programs, we take into consideration all those things, and we submit those on an annual basis through our budget process. So for some of them we need to consider different things, like there may be a strategic plan that has been done by a local government that affects our road, and we need to make changes to that road as a result of that plan. It is not always just triggered by us, but we work in partnership with everyone that uses the transport network to do that.

The DEPUTY CHAIR: Could I ask you perhaps just take on notice – I sort of feel like I am asking you for the answer to life, the universe and everything. But could I ask you just maybe to apply your minds to something that you can send back to the committee that sort of gives us some sense of what that future call on funds and resources might be arising from that change?

William TIEPPO: Yes.

Ryan BATCHELOR: Chair, could I suggest, would that be something that Infrastructure Victoria does in its 30-year infrastructure plan?

William TIEPPO: We worked pretty closely with Infrastructure Victoria on its 30-year plan, so most of those things, whether it is climate change mitigation treatments, are embedded in our strategies and our corporate plan. There are probably other public documents that we can provide to the panel that talk about that.

Ryan BATCHELOR: Fabulous.

The DEPUTY CHAIR: That would be really useful if you could provide some sort of a summary that we can incorporate into the report and raise that. I guess if we do not catch you on this inquiry, we will catch you on the next one, which is about adaptation and resilience. But it would be great if we could try to lock something down. That would be fabulous. Okay, so I have gone well over time, my apologies. Other questions. Rikkie?

Rikkie-Lee TYRRELL: Yes, of course. I could do this all day long. Okay. Who has the best roads in the world?

William TIEPPO: I could not tell you really.

Rikkie-Lee TYRRELL: Okay. I have done a quick Google search, so if you do not know off the top of your head: the United Arab Emirates, Singapore and Switzerland. Now, the United Arab Emirates, they probably have similar weather conditions to us, if not worse. And Singapore, they have high humidity and high heats. Okay, Australia is ranked 33rd, and we actually have Third World countries ranking above us in roads. How come we are so far down? What can we do to improve?

William TIEPPO: Look, I think the condition of road networks is always contingent on a whole range of things from funding levels through to different types of geological materials that are underneath the pavement and the weather conditions and the climate, so it is probably hard to answer that question comparing apples for apples.

Rikkie-Lee TYRRELL: Have you been investigating top ranking roads in the world to see how we can apply their structure and maintenance there here in Victoria?

William TIEPPO: I will take that on notice. I personally am not sure that we are doing that sort of level of research, but we can take that away.

Rikkie-Lee TYRRELL: Okay. Do you think that would help?

William TIEPPO: When we look at standards, and we sort of talked about standards before, normally standards and how you do things and how you do undertake maintenance is pretty – we do have people from the US and other countries come and share their ideas. Sometimes they look at us and say, ‘You do it really well’ and then we look at what they do, and we think they do it really well. And even between states sometimes we have different methodologies on how we actually do different types of work, so there are always ways of learning and taking on lessons learned from others to take on best practice from other places.

Rikkie-Lee TYRRELL: There are 32 reasons there that we could look into on ways to improve.

William TIEPPO: Yes.

The DEPUTY CHAIR: Thanks, Ms Tyrrell. Ms Bath.

Melina BATH: Thank you, Chair. Has the department investigated rural levees and the importance of and the advantages of rural levees in terms of protecting major arterial – so state-owned – roads?

William TIEPPO: I would say no, because that is probably a function that the catchment management authorities have delegation on or authority on, or local government. We would not look at that level of detail, but we would work with local catchment management authorities or local government to look at, if it is a really strategic road –

Melina BATH: I will give you an example. The Seymour road – there was a levee and state funding put forward a number of years ago. There was a whole plan about putting a levee around the Seymour – I am not sure what the river is now, forgive me. It has been quite a contentious issue. The council said no, and then business groups and entities are saying yes. Clearly that levee would protect the major arterial going through Seymour, which is a state-owned road.

William TIEPPO: If there was an issue around or a decision to be made around building a levee, we would be involved in that process, but we would not be making the decision.

Melina BATH: You would be a stakeholder in that engagement.

William TIEPPO: We would be a stakeholder, yes.

Melina BATH: So a refresh of those sorts of questions: what would be the expectation of either council or the catchment management authority? Would they come to you and say –

William TIEPPO: That would be the normal process.

Melina BATH: And you would make a response, like a recommendation back to them.

William TIEPPO: They would probably seek permission from us to work on our road or within the road reserve, if it is within the road reserve, but generally the modelling, the flood mitigation treatments and those sorts of things are normally dealt with by those drainage authorities, not by us.

Melina BATH: Keeping a road open is a good thing. It ends up being less maintenance.

William TIEPPO: It is. But I guess we do not own the flood model, and we rely on those experts to do that.

Anthony JUDD: I was just going to say, having sat on the other side when I was in an LGA, absolutely, regional DTP staff would sit on a steering committee, taking it through that journey and providing input along the way, and that would be our expectations for regional staff, wherever there is a flood study – Carisbrook, Donald and Charlton, where I am from.

Melina BATH: Great place, Donald – and Charlton too, lovely area.

Anthony JUDD: I live in Charlton, so yes.

The DEPUTY CHAIR: Are we done?

Melina BATH: Thank you.

The DEPUTY CHAIR: Okay. Thank you very much. That was fantastic. Can I just on behalf of the panel thank you for your participation this afternoon. You will receive a copy of the transcript for review about a week before it is published on the website, so feel free to review that. At this point in time we will declare proceedings closed for the day.

Committee adjourned.