A NOISE WALL TO PROTECT THE COMMUNITY

1. Introduction

Many Darling Downs residents and users of the Darling Downs Equestrian Park (DDEP) are expressing concern about the forthcoming Thomas Road Upgrade and its impact on the safety of equine activities in the area. During the meeting on 8 February 2024, Mr Hugh Jones, MLA, Member for Darling Range, requested relevant information on the issues.

Therefore, the Darling Downs Residents Association (DDRA) is providing pertinent information so that our local member of parliament can investigate/facilitate the implementation of a noise wall along Thomas Road, which provides appropriate support to the many constituents who utilise the DDEP.

2. Background – The DDEP and the Key Trails

The DDEP is a unique area of trails and public open space reserves. A map of the trails in this area is supplied in Figure 1. This area is used more than 15,000 times per annum, and most of this utilisation is for equine activities. These trails are also utilised by walkers, runners, bicyclists and bird watchers. Many of these users are residents within the Darling Range electorate. However, the DDEP also attracts users from as far away as Upper Swan, Harvey, and Northam. Consequently, the DDEP provides an important facility that supports many people.

Figure 1: The Darling Downs Equestrian Park Trails

One of the most commonly used DDEP trails is known as the Comic Loop, which is highlighted in red within Figure 1. Many riders, walkers and joggers use the entire loop because it provides a convenient set of trails to circumnavigate. Consequently, the Comic Loop is very important to the community.

The southern part of this loop *(Comic Loop South)* runs parallel to Thomas Road. This proximity to the traffic on Thomas Road has already been problematic. In the past, the noise from passing vehicles has spooked many horses. In these cases, the horses have thrown their riders, fallen into the adjacent drain, and/or bolted out into the traffic. Consequently, this section of the trails was dangerous for the community and passing motorists. Therefore, a fence was constructed on the southern boundary of the Comic Loop South trail *(as shown in Figure 2)* to help control these risks.

Figure 2: The Existing Safety Fence on the Comic Loop South Trail

As also shown in Figure 2, the current safety controls include the presence of a barrier of trees, which helps reduce the traffic noise and visually screen the vehicles from the horses. The fence and trees have helped to ameliorate the previous horse-spooking risks and effectively decreased the number of dangerous incidents in the area. However, the planned Thomas Road Upgrade is likely to increase the risks and expose horses, riders and passing traffic to considerable dangers.

3. Thomas Road Upgrade

As you know, the Thomas Road Upgrade is part of a broader integrated project that aims to reduce critical logistic bottlenecks. Therefore, as illustrated in Figure 3 *(overleaf)*, the intent is to create an East-West corridor that will be utilised to truck materials to and from Westport[1]. This corridor is also expected to form a primary freight conduit for Perth, as it can also be used by non-Westport-related traffic to access important north-south road systems. Thomas Road near the Darling Downs area will form the critical eastern end of this ***Anketell-Thomas Road Strategic Freight Corridor***[2].

1. See this link for more information on the Westport project.
2. Access the Anketell-Thomas Road Freight Corridor | Westport link for more information.

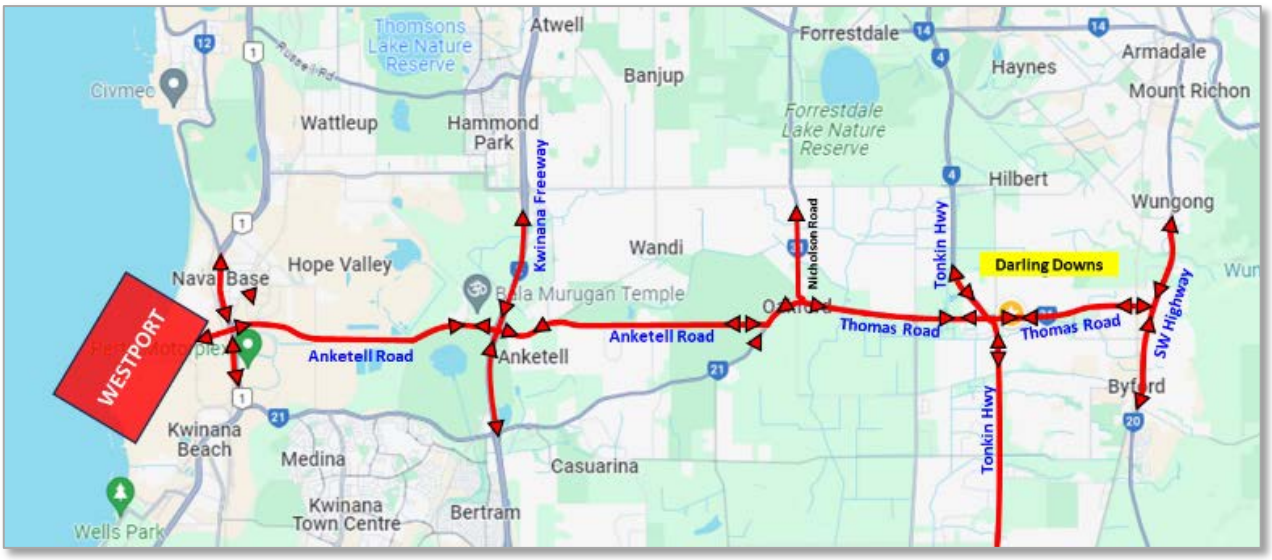

Figure 3: The Anketell-Thomas Road Strategic Freight Corridor

Consequently, the Thomas Road Upgrade in this area has been designed to support high volumes of heavy traffic. This intent is demonstrated by the extensive widening of the road and the large roundabouts designed to handle heavy traffic and wide loads moving through the area. As an example, Figure 4 shows the proposed design of the roundabouts at Malarkey/Masters Roads and Kardan Boulevard[3]. The circuitous configuration of the lead-ins for these roundabouts is designed to facilitate the movement of heavy/wide loads. If the Main Roads' intent was not to use this area for heavy traffic, much smaller roundabouts or traffic lights could have been utilised.

Malarkey Road/Masters Road Roundabout Kardan Boulevard Roundabout

Figure 4: The proposed Malarkey/Masters Roads and Kardan Boulevard Roundabouts

Therefore, the stretch of Thomas Road near Darling Downs is designed to form an important part of this ***strategic freight route*** over the long term. In the next few years, the upgraded section of Thomas Road may also take even more traffic load because of the phasing of the Thomas Road Upgrade and the Tonkin Highway Extension projects.

The latest advice from Main Roads indicates that the Thomas Road Upgrade should be completed in 2026. However, the full Tonkin Highway Extension project is also still in the procurement phase and

3. The 3D pictures of the design used in this document are drawn from the Main Roads animation of the Thomas Road Upgrade, which is provided at this link Thomas Road Upgrade | Main Roads Western Australia.

may not be finalised until at least 2027[4]. Consequently, there is expected to be at least one or two years when the Thomas Road Upgrade is completed, but the Tonkin Highway Extension has not been finished. During this period, the Darling Downs section of the Anketell-Thomas Road Strategic Freight Corridor is expected to be particularly important, as many trucks/vehicles will likely utilise the Southwest Highway to transport goods South or North *(as is already done now)*. In practical terms, this means that during the period between the opening of the Thomas Road Upgrade and the Tonkin Highway Extension being completed, there is likely to be much more heavy traffic using this important road artery in the vicinity of the DDEP, because the longer term route will not be available.

Residential traffic is also expected to increase in this area. According to the Shire of Serpentine Jarrahdale (SoSJ) SJ2050 Planning document[5], 'the shire is expected to add nearly 100,000 people by 2050' (p.10). Much of this growth in population will likely occur in the northern part of the Shire *(e.g. to the south of Thomas Road and east of Hopkinson Road)*, which will add 'approximately 50,000 people'[6] living in this area. As outlined in the Byford District Structural Plan[7], feeder roads will support the access and egress of residents living in the area. In particular, as shown in Figure 5, many of these routes will feed into Thomas Road. For example, Kardan Boulevard, Briggs Road, and Plaistow Boulevard already feed directly into Thomas Road and account for a significant percentage of the traffic on this road. Similarly, local traffic coming from the north will transit from Masters Road and Wungong South Road. As the population in the area increases, and Malarkey Road is also connected by the roundabout shown in Figure 4, ***traffic movements along Thomas Road are likely to grow substantially***.

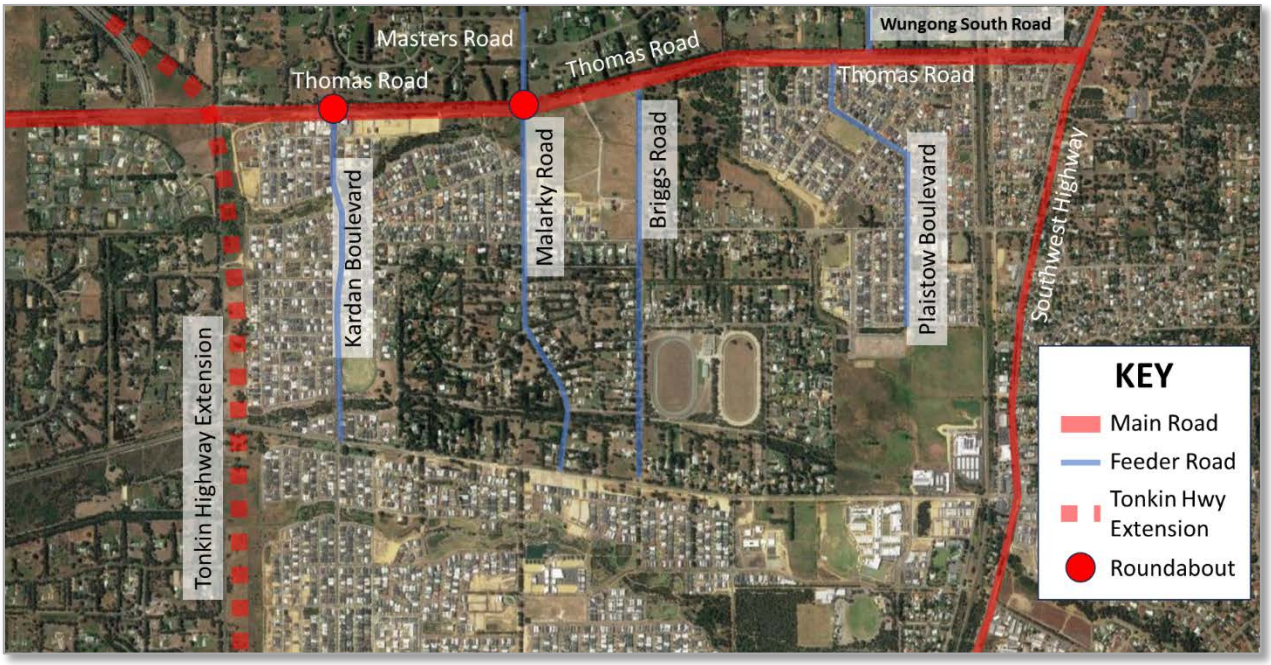

Figure 5: Traffic feeds into/out of the rapidly growing suburbs near Byford

4. See Tonkin Highway Extension - Stage Three - Infrastructure Pipeline.
5. The SJ2050 Planning document is available at this link: 1043-attachment-3-sj2050.pdf (sjshire.wa.gov.au).
6. See Section 4 on Page 4 within the Serpentine Jarrahdale Shire Scheme Amendment provided at this link: Byford_Development_Contribution_Plan_-_Scheme_Amendment_208_-_Final_for_advertising_May_2020.pdf (sjshire.wa.gov.au)
7. See SCM005.2.05.18.pdf (sjshire.wa.gov.au).

4. Impacts of the Thomas Road Upgrade on the existing DDEP trails

The Main Roads design will reset the footprint of Thomas Road to the north between about 15 and 55 metres, dependent on the location. This change is required to implement the multiple traffic lanes needed to support the increased traffic load. For instance, to the west of the Kardan Boulevard Roundabout, the planned road footprint will support up to eight lanes of traffic flow *(as illustrated in Figure 6)*.

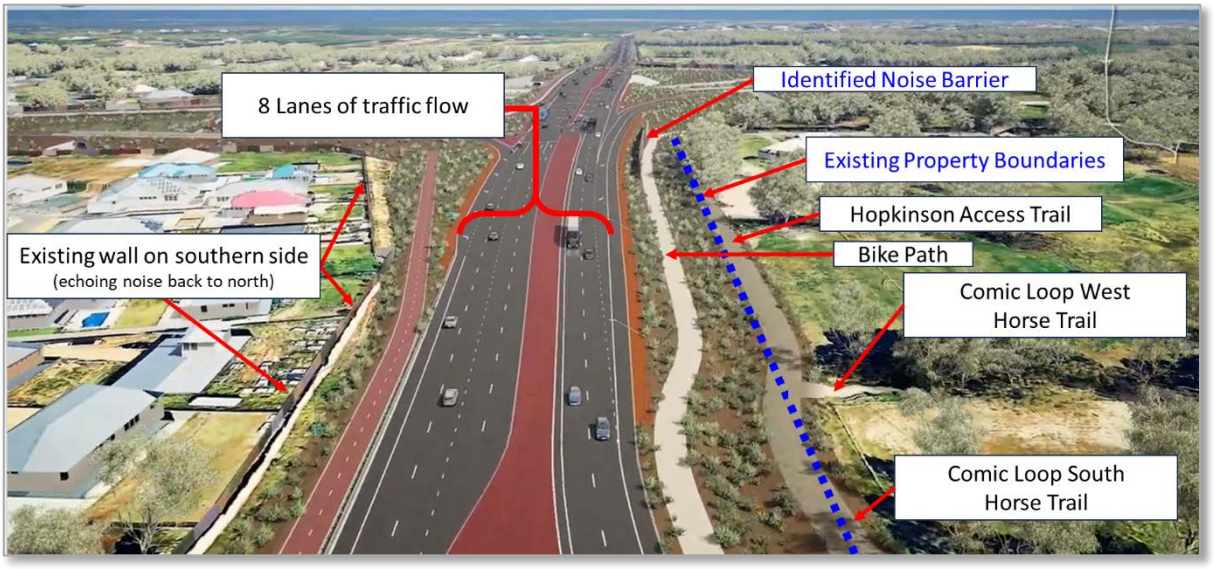

Figure 6: Thomas Road footprint and surrounding Reserves to the west of the Kardan Boulevard Roundabout

These modifications also reflect that Main Roads has identified the importance of keeping the Hopkinson Access and Comic Loop South trails open. Therefore, the Thomas Road Upgrade plan reroutes these trails, as shown in Figure 6 and Figure 7. To help gauge the extent of this move, the blue dotted lines in the diagrams on this page show the approximate positions of the existing boundaries of the adjacent properties. The existing trails are located a few metres to the south (left) of these lines.

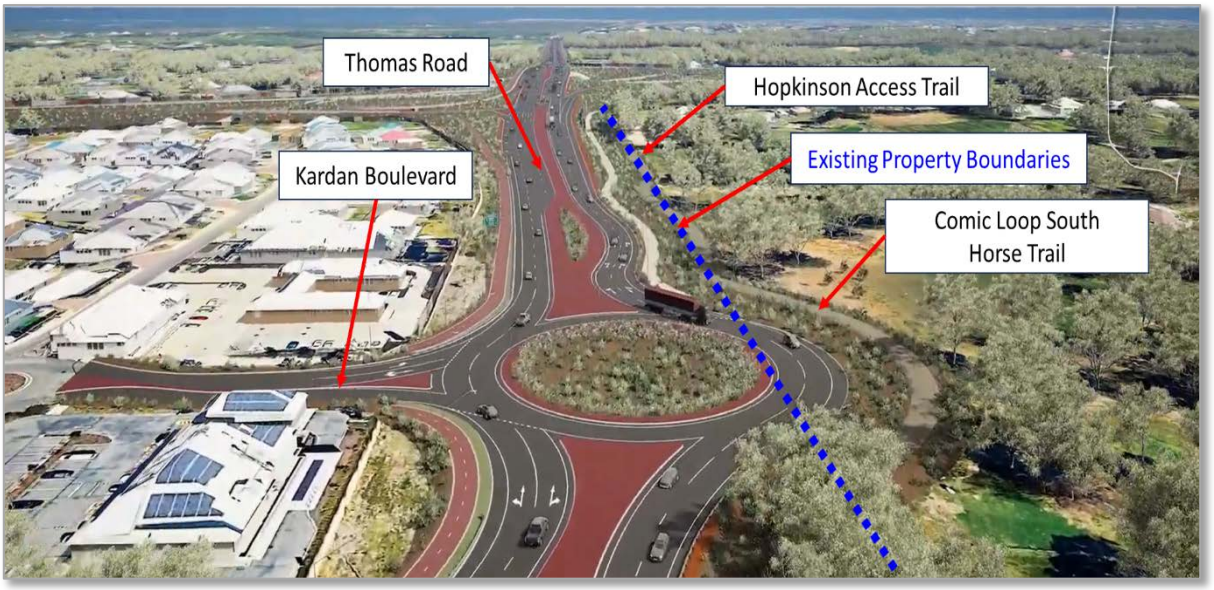

Figure 7: Thomas Road footprint in the vicinity of the Kardan Boulevard Roundabout

The existing barrier of trees that screen the trails (see Figure 2 on Page 2) will also be removed to implement these changes. Although Main Roads plans to plant foliage along the verges, it will take many years until this provides a suitable noise/visual barrier. It is also unlikely to be suitable in the longer term. The expected increased traffic flow in the area would make even the existing tree barrier along this trail ineffective. Consequently, a foliage barrier is unlikely to provide adequate protection for the user community.

Additionally, as shown in Figure 6 and Figure 7, the new trails will be positioned in very close proximity to Thomas Road. Noting the likely high traffic volumes in this area and the presence of numerous large trucks using this road, it becomes much more likely that vehicle noise and movement will spook horses using this important trail. These circumstances may directly lead to catastrophic accidents.

Therefore, a noise wall[8] will be essential to manage these risks. However, the ***Main Roads plan does not currently include a suitable noise wall alongside the trail***. For instance, the Main Roads' animated design fly-through only includes a short noise wall near Hopkinson Road, as shown in Figure 8.

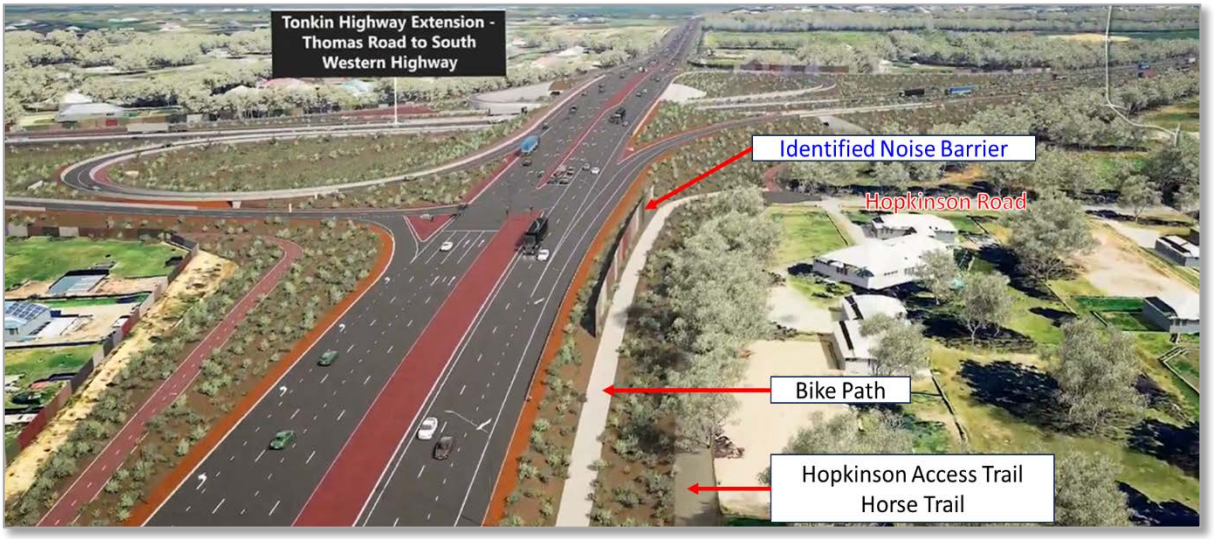

Figure 8: The only noise wall/visual screen section currently identified by Main Roads

According to the current preliminary design, the rest of the trail is currently unprotected, which will make this area dangerous. For example, horses may be spooked and injure themself or their rider. Just as importantly, the lack of a solid barrier between the road and the adjacent trail may mean that horses get out onto this busy road and cause accidents.

5. Next Steps

It is understood that Main Roads is conducting noise monitoring and modelling in this area to determine the expected noise levels along this stretch of Thomas Road. A Main Roads spokesperson has advised that this data will then be applied in accordance with State Planning Policy 5.4 – Road and Rail Noise (SPP 5.4)[9]. Unfortunately, this planning policy predominantly focuses on assessing

8. Noise walls are defined and explained in Section 4.2 of the Road and Rail Noise Guidelines - State Planning Policy 5.4 Road and Rail Noise Implementation Guidelines (www.wa.gov.au).
9. This document can be found at this link State Planning Policy 5.4 - Road and rail noise (www.wa.gov.au).

noise in relation to buildings/residences. It does not appear to explicitly cover this type of situation, where the bridle trail will be in very close proximity to Thomas Road.

Consequently, there is a risk that the outcomes of this analysis may focus on the distances from the road to the housing within the adjacent Darling Downs blocks and not on the real risks associated with horses on the bridle trail. Such measurement should also consider the noise walls, which have been installed (see Figures 6 and 7), and are being extended, to the south of Thomas Road. The presence of these walls means that the noise levels to the north of Thomas Road *(where the bridle trails are located)* are likely to be higher because of the reverberation of the traffic noise.

If the State Government is going to implement effective duty of care in this design, it will be critical to treat this situation as a form of 'noise-sensitive land use'. For example, when measuring the noise exposure of the trail in proximity to Thomas Road *(as per Table 2 on Page 9 in the SPP 5.4 Guidelines[10]),* this situation would equate to Exposure Category D or E. In these circumstances, a Noise Management Plan will need to be developed. In practical terms, this will also require the implementation of a barrier, which will include the provision of:

- an appropriate noise wall as outlined within Section 4.2 of the SPP 5.4 Guidelines, which extends from the west of Hopkinson Road along the southern side of the Hopkinson Access and Comic Loop South trails and into Reserve R38471 *(to meet the requirements for the construction of an appropriate end treatment)*; and
- an overlapping barrier section in the vicinity of the Kardan Boulevard Roundabout, as there are numerous residents whose children walk from school or the bus drop-off and use the existing gate to get home.

In terms of the provision of the overlapping barrier, this would best be implemented to integrate with a crosswalk at the Kardan Boulevard Roundabout and the termination of the bike path.

6. Conclusion

The Thomas Road Upgrade aims to deliver an important part of a critical ***Strategic Freight Corridor***. As explained in this synopsis paper, the Thomas Road Upgrade is likely to ***substantially increase traffic flows, and particularly the movement of heavy trucks, in the area***. This increase in vehicular movements on Thomas Road is expected to significantly increase the associated traffic noise. Such noises and movements can create startling incidents for horses. As an example, a large truck approaching the Kardan Boulevard Roundabout is likely to be changing down gears and braking. These activities can generate loud, disturbing noises that can scare horses.

Additionally, the changes in the road footprint mean that Thomas Road will be very close to the adjacent bridle trail. In some places, they will just be a few metres apart. Most worryingly, in the existing preliminary designs, a noise wall has not been included to protect horses/riders on the trails and vehicles using Thomas Road. There are very real fears expressed by community members that this lack of a noise wall could lead to fatalities.

10. See State Planning Policy 5.4 Road and Rail Noise Implementation Guidelines (www.wa.gov.au)

7. Recommendations

Therefore, it is highly recommended that the design of the Thomas Road Upgrade be amended to include an appropriate noise wall where the Hopkinson Access and Comic Loop South trails run parallel to the road. The footprint of these types of noise walls is generally thin, so this should not change the overall design significantly.

If we are going to be diligent in our duty of care to a large user community, providing a noise wall along this stretch of the trails in the DDEP will be essential.

Figure 9: Just a few members of the user community who utilise Comic Loop South Trail

It is requested that the local member, Mr Hugh Jones, MLA, investigate this matter to resolve it early. Doing so is likely to ***improve safety in the community***. Just as importantly, experience has shown that adding this type of structure later in the design is likely to substantially increase costs for the Government. Therefore, including this wall in the fundamental design now is likely to ***help reduce the final project price***.