PRACTICE PAPER

WESTGATE TOWN SQUARE: SHARED ZONE DESIGN ELEMENTS AND LESSONS LEARNT

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ABSTRACT

Westgate Town Square in Auckland is considered the first Shared Zone in a town centre context that has been designed and implemented as part of a greenfield development. The 156–hectare re-development of Westgate in the north–west of Auckland was approved as part of Plan Change 15. The area is designated a Metropolitan Town Centre that will provide a retail and commercial hub for 7,000 residents. The Plan Change provisions identified Westgate Town Square as a Shared Zone along with some preliminary design and operational principles. The refinement of the Shared Zone design revealed conflicting objectives that would need to be addressed through the planning and design process. The location of the Shared Zone at a major intersection into the development meant that its physical design was the critical feature in lowering speeds and achieving a pedestrian-friendly environment while catering for through traffic. This paper discusses the evolution of the Shared Zone design through the planning and consenting process, and captures lessons that have been learnt post–commencement.

1.0 INTRODUCTION

1.1 Background

The former Waitakere City Council (WCC) identified that the north-western area of the Auckland region had insufficient sustainable development to meet the demands of projected growth. To address the situation, it initiated the Northern Strategic Growth Area (NorSGA) project in partnership with land developers with the intention of delivering new employment, retail, commercial and housing opportunities. One of three key areas identified in the NorSGA was 156-hectare Westgate (formerly Massey North) which is 20km west of Auckland's CBD. Land use rezoning through Plan Change 15 (PC15) was approved to enable this.

In accordance with the PC15 provisions, the re-development of Westgate is to be delivered in a three-tier process:

1. **Urban Concept Plan (UCP):** This sets out design standards and Precincts. The UCP identifies the location of land uses and the pattern of roads and pedestrian networks.
2. **Comprehensive Development Plan (CDP):** These set design elements for Precincts as part of resource consent applications. They contain conditions with respect to design of various infrastructure elements including roading.
3. **Resource Consent:** Details of each building and development can be delivered through resource consents.

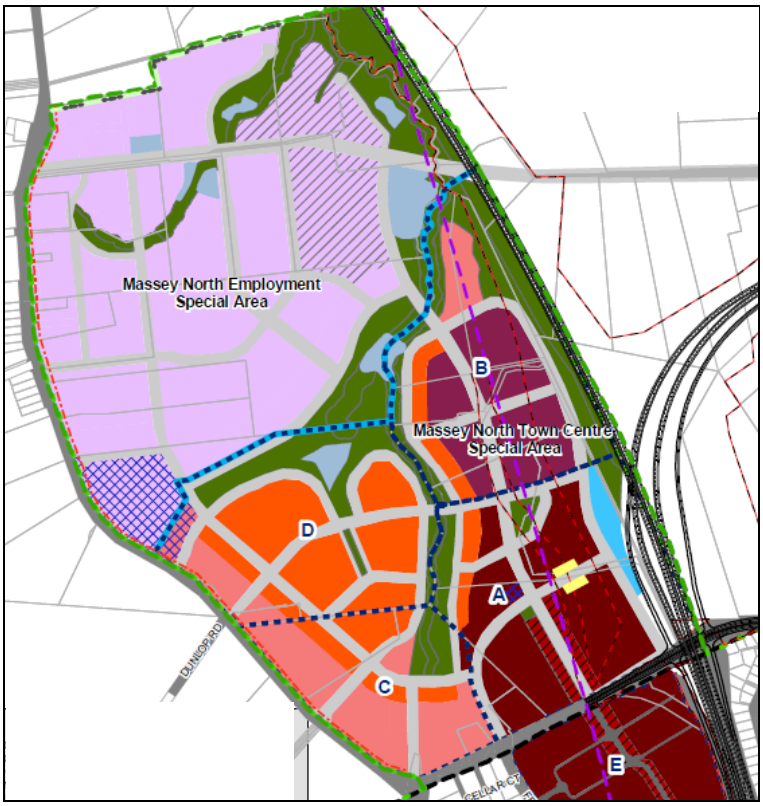

Figure 1: Plan Change 15 Massey North (Westgate) Urban Concept Plan

The development of a town centre was identified in Precinct A for Westgate (see **Figure 1**). The CDP for Precinct A specified that this town centre (Town Square) was to be designed as a Shared Zone, and included design criteria accordingly. Therefore it became the first town centre to be designed as a Shared Zone for a greenfield development in Auckland, through the Plan Change and resource consent process.

1.2 Purpose

The purpose of this paper is to discuss the evolution of the design of the Westgate Town Square as a shared zone from initial concepts documented in the CDP to its constructed design today. Post-commencement observations made are also documented, with an analysis of the findings, and lessons learned applicable to the development of other Shared Zones in greenfield developments.

2.0 WESTGATE SHARED ZONE DESIGN EVOLUTION

The design of the Town Square as a Shared Zone began to take shape via the CDP process for Precinct A. The design evolution can be classified into the following stages:

1. **2010 CDP**: The location of the Town Square within the wider Westgate area was identified along with design conditions that subsequent resource consents for the concept design of the Town Square would have to be in accordance with.
2. **2011-14 Resource Consent**: The more refined concept design elements were reviewed against the CDP condition requirements, and Auckland Transport (AT)'s Shared Zone design criteria that was available at the time.
3. **2015 Engineering Plan Approval**: Detailed infrastructure design of the zone was reviewed and approved for construction. . This, however, will not be discussed in this paper as there was no fundamental design change.

2.1 Design through CDP, 2010

The CDP for Precinct A in Westgate required the provision of a Town Square in the PC15 area. This was intended to be '*A high quality urban open space where people are encouraged to linger and gather which can form the community heart to the town centre. A shared space approach will help to provide a more pedestrian focused experience as kerbs and road markings are removed resulting in slow vehicle speeds with pedestrians given priority*'.

Even though the CDP did not set any conditions that *had* to be adhered to for designing the Town Square as a Shared Zone,'aspirational design standards' were set as follows:

- The Town Square was to extend across the intersection of Tahi Rd (Maki St) and Waru Rd (Kohuhu Lane)[1] and as a shared contiguous space upon a raised platform.
- The tracking radii for a 13.5m bus was to be provided for in all directions, and the tracking path delineated by paving treatment, banding or placement of street furniture and planting.
- The intersection of Tahi Rd (Maki St) and Waru Rd (Kohuhu Lane) was to be priority controlled. Road markings would be defined by material change rather than painted line marking. The street space would allow for future signalisation should safety considerations require this.

It is noted that the bus interchange through Westgate was proposed to be located immediately west of the Town Square, which set the requirement for bus tracking to be accommodated in the design. The concept of the CDP is in **Figure 2**.

It is noted that the Land Transport (Road User) Rule 2004 10.2 requires that within a Shared Zone *1) a driver of a vehicle entering or proceeding along or through a shared zone must give way to a pedestrian who is in the shared zone. (2) A pedestrian in a shared zone must not unduly impede the passage of any vehicle in the Shared Zone.*

[1] Now referred to Maki St and Kohuhu Lane respectively. Names differ between CDP, consent documents and updated plans. Therefore names that are consistent with plans shown in the paper have been used.

By requiring signalisation and priority control as part of the design guidelines for the Shared Zone, the CDP conditions were inherently conflicting with the Road User Rule. In addition, the schematic above also shows that the pedestrian route was segregated from the vehicle route, with specific pedestrian crossing points marked. Thus it was apparent that in order to meet the CDP's own intention of providing a space of *'slow vehicle speeds with pedestrians given priority'*, there would need to be a departure from CDP design standards governing the Shared Zone design in subsequent resource consents.

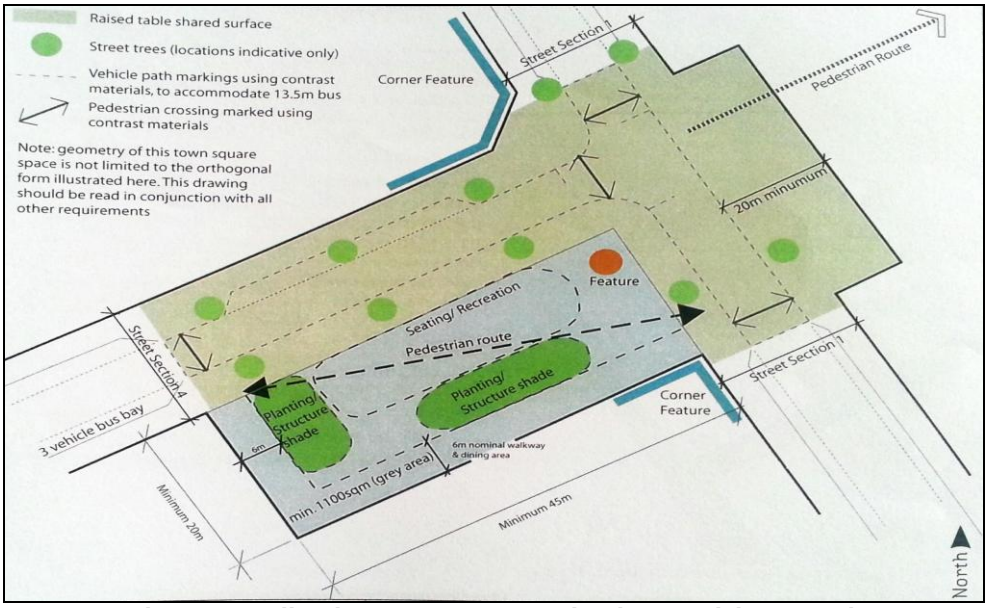

Figure 2: Indicative Town Square Plan in CDP (circa 2010)

2.2 Design through Resource Consent, 2011

The first resource consent application was lodged by Auckland Council's Major and Special Projects Team circa December 2011. While the design of the Shared Zone departed from CDP conditions with respect to the priority control and signalisation, the Zone was designed to accommodate buses tracking in all directions with a provision of a shared space on a raised platform. The Shared Zone design on the intersection of Tahi Rd (Maki St) and Waru Rd (Kohuhu Lane) is shown in **Figure 3**. Raised tables were also to be provided on the three approaches towards the Shared Zone. The wider road network is shown in **Figure 4**.

AT[2] and the independent road safety auditors for the Shared Zone raised serious concerns with respect to the following:

1. Modelling for the wider PC15 area showed that 716 hourly traffic movements were predicted to travel through this intersection, with approximately 350 of these on the straight section of Tahi Rd (Maki St). This amount of vehicular traffic would create significant conflict, which may compromise the intention of providing a high quality urban space.

2. The routing of buses towards the bus interchange immediately west of the Shared Zone, with tracking required for all directions, resulted in very wide 'carriageway' requirements. On the straight sections, this was 11m at its narrowest point, which fanned out to 22m at the intersection as indicated in **Figure 3**. This would not only create a significantly intimidating environment for pedestrians, which is directly in conflict with the objective of providing a Town

[2] Auckland Transport was formed in November 2010 and therefore was not directly involved in any planning and design stages preceding this resource consent.

Square in Westgate, but the unpredictability of activities that could occur within a Shared Zone would also severely and adversely affect trip reliability of buses. Bus movements in vicinity of 12 per hour were anticipated following opening increasing to 30 per hour in 2030.

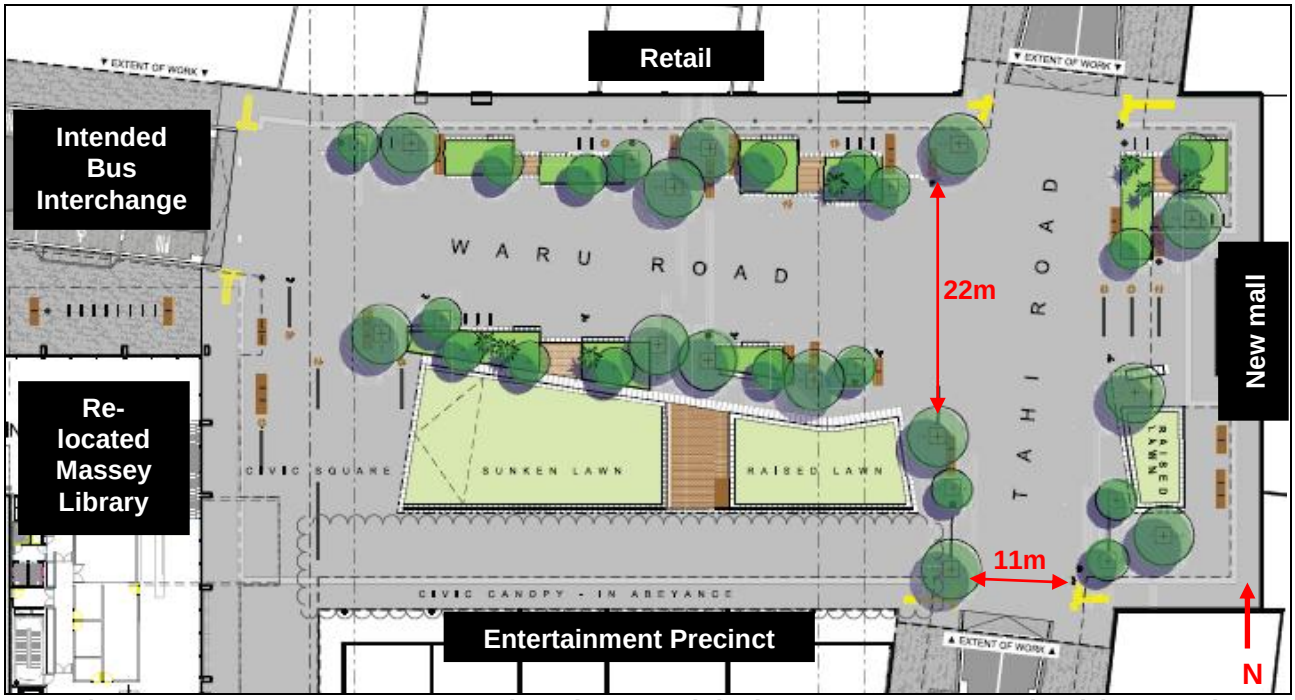

Figure 3: Westgate Town Square Shared Zone Original Resource Consent Plan (circa 2011)

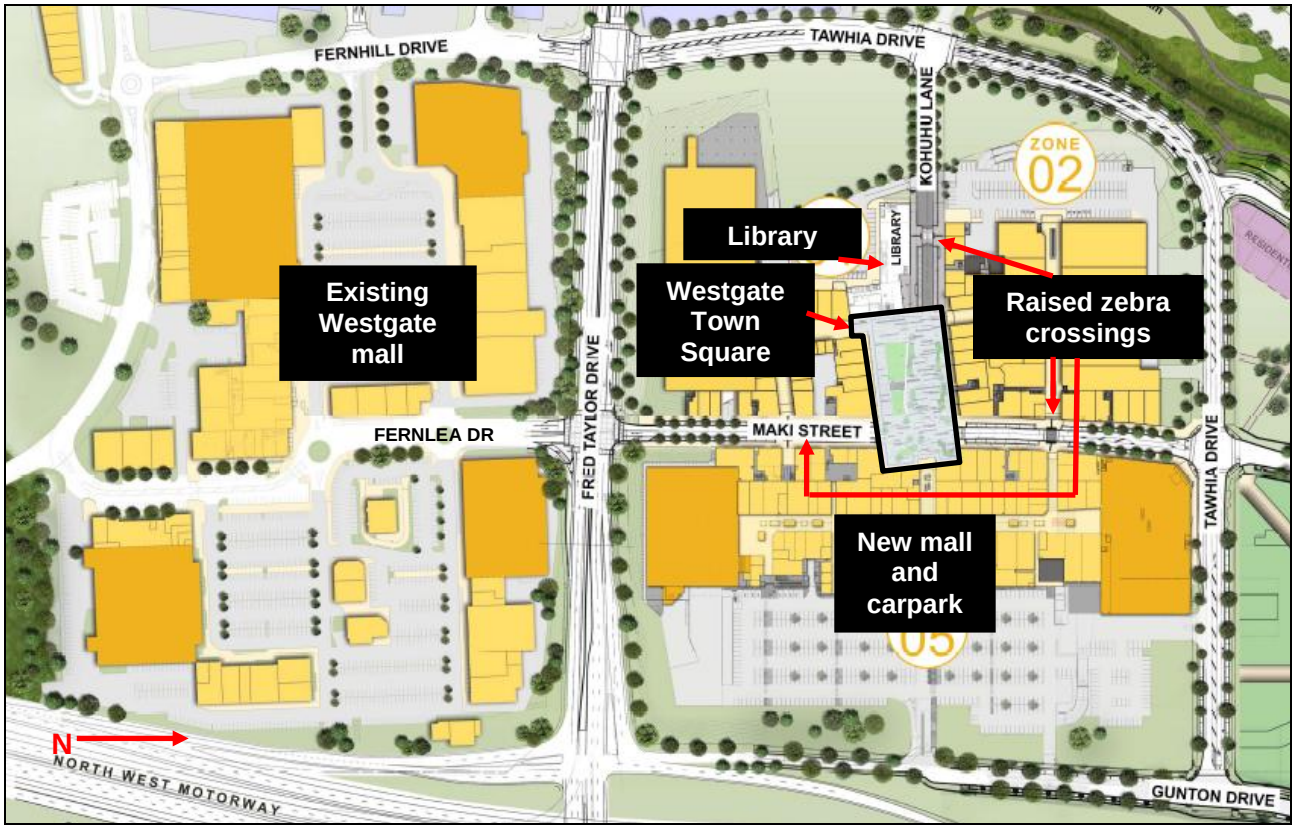

Figure 4: Wider Westgate Road Network

As bus operators opposed the design, it was clear that buses would need to be re-routed in the wider Westgate area for an acceptable Shared Zone design to be considered.

2.3 Design through Resource Consent, 2014

With the re-routing of buses away from the Shared Zone, a revised design with a significantly narrowed carriageway at the intersection (from 22m to 11m) was presented. Auckland Transport's Paramics model was upgraded to reflect slower speeds approaching, and within the Shared Zone. The resultant traffic volumes were revised to approximately 500 vehicles per hour compared to the 716 vehicles originally predicted.

Despite the narrowing of the carriageway at the intersection to 11m, and some re-routing of extraneous traffic away from the Shared Zone predicted, all other elements remained the same as shown in **Figure 3**. Subsequently, the following outstanding issues were identified:

1. **Traffic Volumes**: In order to reduce traffic volumes through the Shared Zone, the applicant recommended the following measures to reduce the attractiveness of Tahi Rd (Maki St) in particular:
    a. Reducing green time for right-turners from Fred Taylor Dr into Tahi Rd (Maki St),
    b. Banning the through movement from Fernlea Dr into Tahi Rd (Maki St), and
    c. Providing real-time parking information at the nearby intersections of Fred Taylor Dr / Tahi Rd (Maki St) and Fred Taylor Dr / Tawhia Dr. This would advise drivers how many parking spaces can be accessed off these roads.

    However the implementation of all these measures lay outside the control of the applicant. Auckland Transport recommended that the focus should be on delivering a design that reduces vehicular speeds through Shared Zone, independently of the design / configuration of the network in the vicinity. As the design of the Shared Zone was being pursued through the resource consent process, there were also constraints on how notification of affected parties would eventuate. While the above options may have been worthy of implementation, it would have been more appropriate to consider these in response to any issues that would eventuate post-commencement of the Shared Zone.

2. **Linear Alignment**: The carriageway of the straight movement of Tahi Rd (Maki St) still followed a linear path. Raised tables were being provided within 50m of all approaches to the Shared Zone as part of the development of the new mall to the east, and the Shared Zone itself gained entry from a raised table.

    However, as shown in **Figure 4,** Tahi Rd (Maki St) follows a straight alignment through the larger Westgate area, including south towards the existing Westgate mall through Fernlea Dr, and north towards the commercial precincts. Without any horizontal deflection, an 11m carriageway would have created a visual cue that would encourage drivers to speed. This design would consequently discourage pedestrian movements, especially along the east-west desire line (i.e. between the Mall and the proposed re-located library).

    Auckland Transport recommended introducing more uncertainty for motorists by physically delineating the section of Tahi Rd (Maki St) into a 'Y-intersection' through strategic placement of street furniture. In addition, one-way entry thresholds were recommended at all the three entry/exit points.

3. **Pedestrian Routes**: Pedestrian desire lines, on the east-west alignment between the mall and the proposed library, and on the north-south alignment between the retail and Entertainment precincts, were required to be catered to. Consideration for the visually impaired along these alignments was especially requested. The applicant undertook extensive consultation with the

Royal New Zealand Foundation for the Blind to accommodate this request.

In summary, the consented design of the Shared Zone shown below included the following specific revised design elements:

- One-way entry/exit points on to raised tables at all approaches into the Shared Zone.
- Non-linear route on the straight section of Tahi Rd (Maki St). Delineation is provided through placement of street furniture such as benches, arbor poles, light poles and rubbish bins.
- Accessible route for the visually impaired is provided on the east-west alignment, with darker pavement on the north-south alignment. Tactile ground surface indicators (TGSIs) are provided at the crossing points along all these alignments as shown in yellow below.
- Paving pattern on Waru Rd (Kohuhu Lane) is at right-angles to the direction of travel to provide a sense of uncertainty.
- Maximum clear width of the straight sections for the vehicular travelling lane is less than 7m with appropriate tracking provided at the intersection for turning cars.

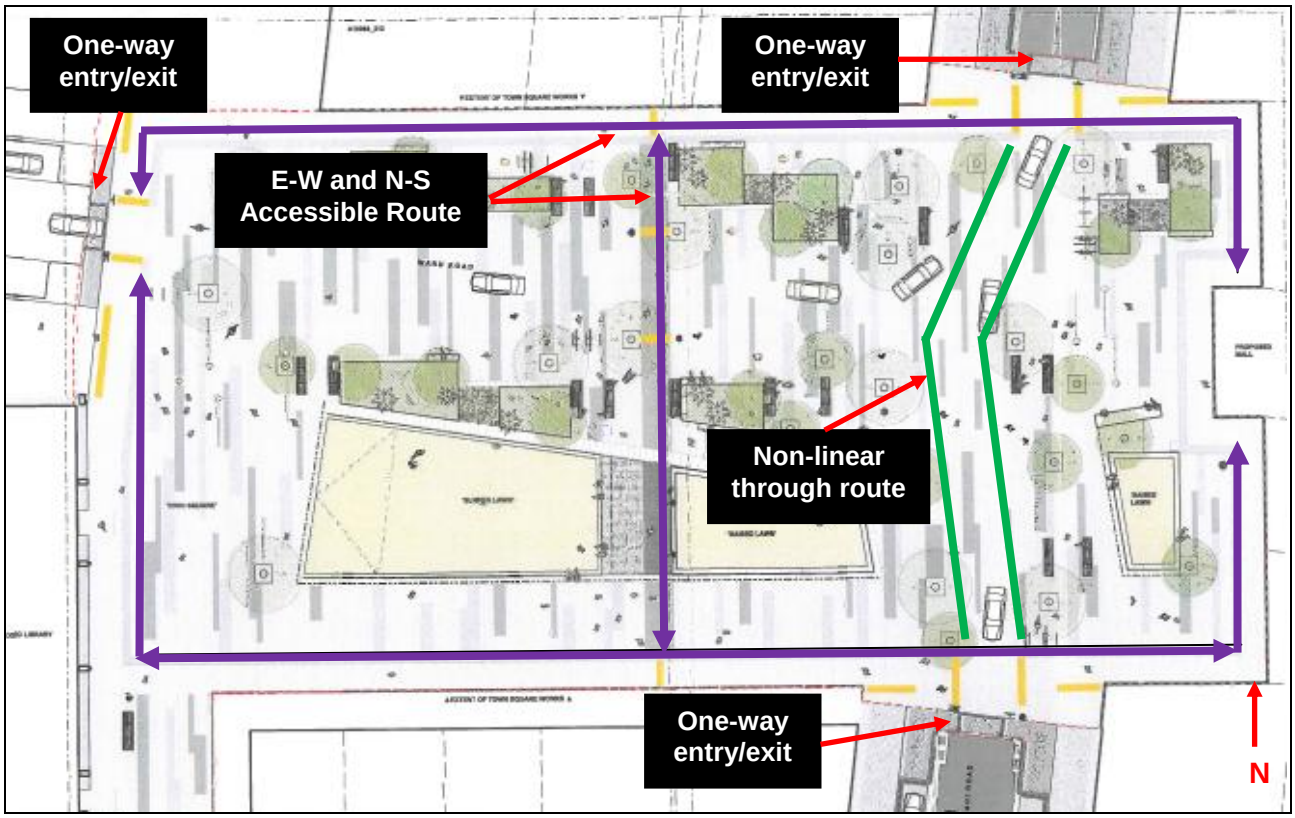

Figure 5: Consented Westgate Town Square Shared Zone Design

3.0 POST-CONSTRUCTION ANALYSIS

Westgate Town Square opened to the public on 30 September 2015, to coincide with the opening of the Northwest Mall to the east. Figure 6 shows Shared Zone from Tahi Rd (Maki St) south and Waru Rd (Kohuhu Lane) approach. Feedback on design and operation became available from the following sources:

- Post-construction Road Safety Audit findings,
- Feedback from the general public including: complaints made to AT's Customer Response Management (CRM) team, feedback from the Local Board, and anecdotal evidence, and
- Speed and volume data, and site observations.

Figure 6: Shared Zone –Tahi Rd south approach (left) and Waru Rd (right)

3.1 Road Safety Audit

An independent Road Safety Audit (RSA) was required to be undertaken as a condition of consent. The post-implementation RSA identified no serious or significant concerns. Moderate and minor concerns were identified, and have been resolved.

The non-linear vehicular path to lower speeds on Tahi Rd (Maki St) was considered to provide a better road safety design, and a point of difference compared to the linear design of earlier shared zones in Auckland's CBD. The use of TGSIs to assist the visually impaired was also recongnised as a positive feature. Overall the auditors "*were impressed with the changes in design with this shared space and commend the designers and contractors alike"*.

3.2 Public Feedback

AT's Customer Relationship Management team received three complaints within two weeks of the Shared Zone opening. Two of these complaints were formal feedback from the Local Board who were vehement in their opposition to the Shared Zone. Coupled with anecdotal evidence, the complaints could generally be categorised as follows:

1. 'Congestion' at the intersection creating queues on all approaches
2. Motorist confusion with the one-way system
3. Pedestrian safety concerns due to high traffic volumes and conflicts

To consider the complaints in context, it is important to note that the Shared Zone was opened to coincide with the much-publicised opening of the mall to the east (see **Figure 7**). The main carpark for the mall is accessed off Gunton Dr which gains entry from State Highway 18 northbound on-ramp. However, this is not a legible entry as it requires entering the on-ramp before a left-turn can be made into Gunton Dr. Therefore most visitors choose to enter via Fred Taylor Dr. As the Tahi Rd (Maki St) entry from Fred Taylor Dr was also banned due to temporary construction works, visitors to the mall were using Tawhia Dr and proceeding to Waru Rd (Kohuhu Lane) in order to access the mall. This caused perceived 'congestion' at the intersection.

The Local Board raised significant concerns over the Shared Zone operation and requested a workshop to discuss these. It was requested that Waru Rd (Kohuhu Lane) leg of the Shared Zone is to be shut to traffic. Comparisons were drawn with shared zones in Auckland's CBD, which were cited to be different because higher pedestrian densities effectively influence drivers to slow down during activity periods, thus improving pedestrian safety. It is noted that of the three intended active

frontages on the Shared Zone, only the mall to the east is open. The library on the south–west frontage of the Shared Zone is not expected to be open until 2018, and the timing of the Entertainment Precinct to the south and retail developments to the north is unknown. Admittedly, there is little pedestrian density on the Shared Zone at present. The current built environment is shown in **Figure 7**.

Figure 7: Shared Zone in context of surrounding area

Anecdotal evidence suggested that drivers were generally confused as to the legibility of the one–way entry to Shared Zone. The RG-19 (Single Lane – Give Way) sign seen in **Figure 6** was meant to signpost the one-way operation. The Local Board requested Give Way to replace the supplementary bridge sign as it was considered too confusing to drivers.

One official complaint from the public was received as to the hazard of pedestrians being in a location which is the 'main route to the mall'. This sentiment was echoed in feedback from the Local Board and from anecdotal evidence. The Local Board also requested for signage to educate pedestrians in particular about the Shared Zone.

3.3 Traffic Counts and Site Observations

Traffic speed and volume data for both streets within the Shared Zone was obtained in December 2015 over a two-week period. As shown in **Figure 8** , Tahi Rd (Maki St) carried as much as six times of vehicular traffic as Waru Rd (Kohuhu Lane) at midday. The average daily traffic on Tahi Rd (Maki St) and Waru Rd (Kohuhu Ln) were approximately 4,500 and 800 vehicles per day respectively.

The vehicular speed profiles of the two streets were similar in the range of 20–27km/h, while noting that the 85th percentile speeds do not exceed 25km/h for the peak periods of 11am–2pm . The lowest operating 85th percentile speeds were during the midday peaks around 1–2pm with higher speeds recorded during off-peak periods, particularly at night. Traffic speeds on Waru Rd (Kohuhu Lane) were generally 2–3km/h higher than those of Tahi Rd (Maki St). The above is consistent with site observations made by driving through the Shared Zone on multiple occasions, where speeds did not typically exceed 30km/h.

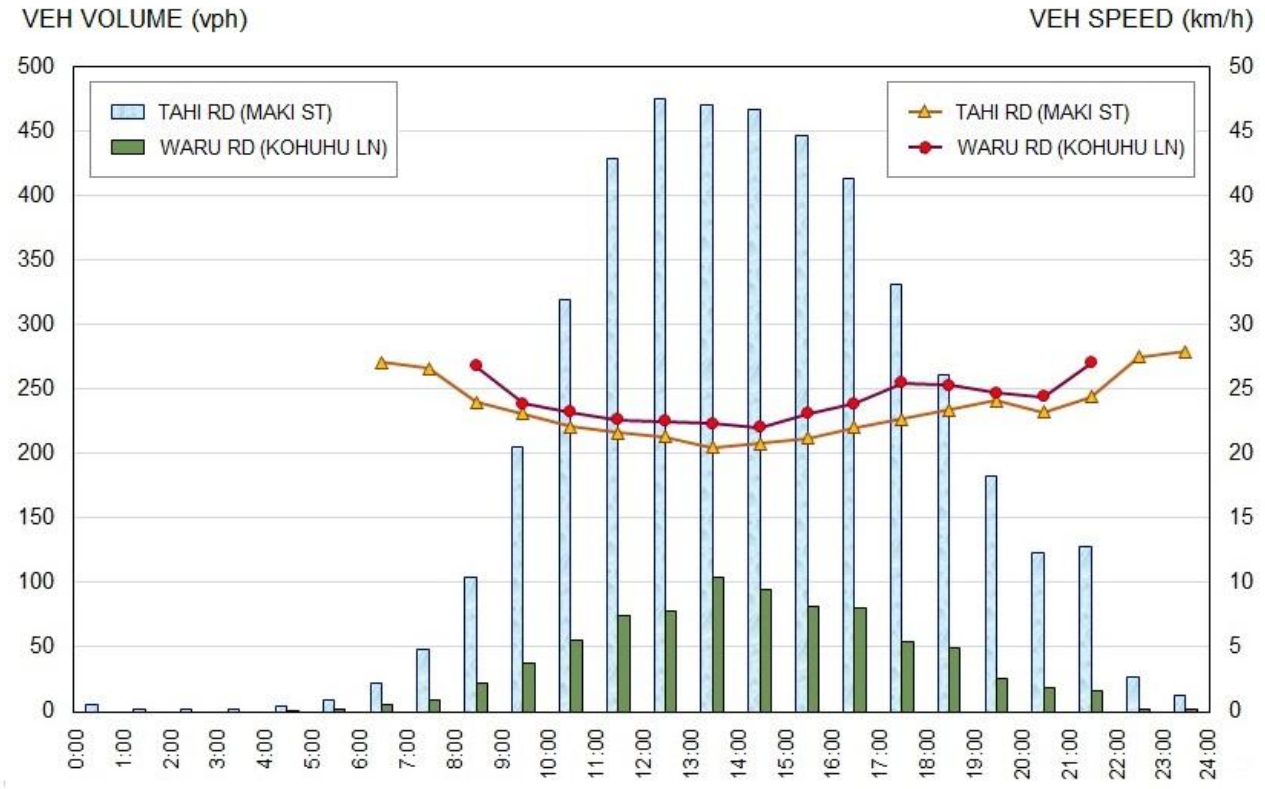

Figure 8: Vehicle (85th percentile) Speed and Volume in Shared Zone

During site observations on a typical mid-day hour on a weekday, seven drivers were seen undertaking a u-turn at the intersection of the Shared Zone. Anecdotal evidence suggests that this was due to the drivers perceiving Tahi Rd (Maki St) to be the main access to the carpark of the mall, and realising their mistake after having entered the Zone. There was also inconsistent behaviour observed with respect to how drivers were yielding to on–coming traffic at the one–way entry/exits on Tahi Rd (Maki St). While some drivers entering from Tahi Rd (Maki St) north yielded to exiting traffic, others waited for all the through traffic from Tahi Rd (Maki St) south to exit towards the north, before entering the Shared Zone. This was observed to create contribute to driver queues on Tahi Rd (Maki St) north in particular. Tahi Rd (Maki St) is also signalised at Fred Taylor Dr in the south, and Tawhia Dr in the north (see **Figure 4**), which meant that platoons of traffic approached the Shared Zone creating the perception of 'congestion'.

3.4 Post implementation Improvements

As a result of the post-construction observations and feedback received after the opening of the Shared Zone, the following measures have been implemented or under investigation:

1. Limit lines were installed at all three approaches to the Shared Zone in order to indicate the priority of vehicles exiting the Zone. These can be seen in the foreground in **Figure 6**.

2. Replacing one-way supplementary bridge sign with Give Way signs.

3. Development and installation of a billboard informing drivers that pedestrians have priority within the Shared Zone (see **Figure 9**).

4. Installing signage indicating the location of off–street parking areas, to enhance awareness of alternative routes to the mall and thereby remove extraneous traffic from the Shared Zone.

5. For the long–term, a suite of communication options relating to Shared Zones is being developed. The purpose of this is to raise awareness of Shared Zones, what these are, how they are operate, and expected user behaviours. The focus would be on raising awareness that pedestrians have priority within a Shared Zone, and of key visual cues that would immediately signal a slow–speed environment, and therefore different expectations from drivers within the Shared Zone. It is noted that Shared Zones in town centres cater to a wider audience than Shared Zones in residential settings (Home Zones). Therefore, the communication plans for Home Zones will be developed separately.

Figure 9: Billboard developed (left) and installed at entry to Shared Zone (right) post–commencement

4.0 DISCUSSION

Observations made within the first three months of opening have identified a number of lessons that can be applied to similar planning and design processes of Shared Zones in a town centre environment. Lessons from the planning, design and post-construction phases are discussed as follows.

4.1 Lessons Learnt: Planning Phase

As discussed in Section 2.1, the CDP that governed the refined design of the Shared Zone set conditions that were completely conflicting with the shared space concept. Buses were required to route through the Zone, and traffic signals were part of a design in a location where pedestrians were meant to have priority with enhanced amenity. The original placement of a bus interchange immediately west of the Shared Zone meant that removing bus routes from the area (albeit for safety reasons) had wider planning implications for the applicant and could have resulted in possible delays in the consent process for the Shared Zone implementation.

Therefore, if and when introducing a Shared Zone into a town centre through the CDP or other high-level planning process, more attention to detail is necessary. This could be in the form of a Stage 1 or 2 Road Safety Audit. Notwithstanding this, it is acknowledged that Shared Zones were a relatively new concept at the inception of the CDP at Westgate, and with more refined design guidelines currently available for Shared Zones in Auckland, this would perhaps be less of an issue today.

With the increased housing demand in Auckland, and the creation of civic spaces through the consent process (rather than a Council–led process) becoming more common, how public buy-in

into the design and implementation of public spaces needs to be considered. In contrast with the Shared Zones that were retrofitted in Auckland's CBD with public input being sought as part of Auckland City Council's Local Government Act processes, the Resource Management Act has a different criteria for consideration of public input into a proposal. This could potentially be a hindrance in not only obtaining support from the general public, but also raising awareness of and educating the public about expected behaviour within the Shared Zone. This is discussed further in **Section 4.3**.

It is noted that contractual obligations meant that the Shared Zone had to open to coincide with the opening of the adjacent mall. Advertising of the opening of the mall commenced more than nine months in advance of opening day. There was no advertising of the Town Square or Shared Zone within it.

4.2 Lessons Learnt: Design Phase

While there are a number of criteria that need to be considered in the design of a Shared Zone (e.g. vehicular volume, speed, active frontage, universal access and location of parking), the crux of the design should be to achieve low speeds, preferably commensurate with walking speeds of pedestrians i.e. 10–20km/h.

As a Shared Zone inherently features a continuous surface, with no differentiation between footpath and carriageway, incorporating horizontal deflection into the design becomes a key design element to reduce speeds. Linear design of the vehicle travelling lane coupled with a wide carriageway should be discouraged. Karndacharuk, Peake & Wilson (2014) note that streetscape elements should be used as traffic calming by way of defining a restricted vehicular path through the zone, preferably with some lateral shift to limit straight sections of the street and to break up sight lines. Traffic count data and site observations suggest that employing one-way entry and shifting the linear path of travel in the Town Square has played a role in limiting speeds through the site, although this has yet to be proven through quantitative data for a longer period

In the case of the Shared Zone being developed through a resource consent, adjacent land is outside the influence of the consent process i.e. design changes or conditions cannot be imposed on adjacent landowners to aid preferred outcomes of the Shared Zone operations. Therefore, it is imperative that the design of the slow speed environment is achieved independent of any external factors. The design of the Shared Zone itself should result in low speeds through it. This becomes imperative within Shared Zones developed in greenfield areas where adjacent land uses are at differing stages of development, and consideration needs to be given to how the Shared Zone would work in the interim.

4.3 Lessons Learnt: Post-Commencement

4.3.1 Design

Traffic speed and volume data shows that speeds within Westgate Town Square Shared Zone are comparable to Shared Zones within Auckland's Central Business District. Given the lack of pedestrian activation and densities however, this does seem attributable to the physical features of the design (i.e. raised tables being placed in advance of the Shared Zone in combination of the one–way raised table located at the entry of the Zone and, the non–linear vehicular path).

While it has been accepted in the industry that operating speeds of 30km/h are desirable within areas where pedestrian activity is expected (e.g. residential areas), it is noted that AT's recommended design guidance for speeds within the Shared Zone is 10km/h, i.e. commensurate with walking speeds of pedestrians. Data obtained shows that 97% of all traffic within the Shared

Zone exceeded the desirable level of 10km/h. This raises the question of how far the physical design of a Shared Zone could lower speeds through a Shared Zone until pedestrian activation becomes necessary to further reduce it to a desirable 10km/h.

AT's design guidelines recommend investigating Shared Zone schemes only where there is a significant proportion of active street frontage along the street, or where there are significant pedestrian movements within the street, both laterally and transversely. These characteristics help to lower vehicle speeds and limit the dominance of motor vehicles in the Shared Zone (Auckland Transport, 2013). Given that pedestrian activation is delayed for at least another two years, it is imperative that short–term options for pedestrian activation be explored (e.g. by scheduling community events to increase pedestrian presence in the Town Square).

Furthermore, it is noted that average daily traffic on Tahi Rd (Maki St) is approximately 4500 veh/day. As partially evident from **Figure 7,** Northwest Mall is the only significant traffic generator along Tahi Rd (Maki St), representing approximately 20% of the land gaining access from this road. With the remaining 80% land yet to develop, it remains to be seen how the increase in traffic in the surrounding area and lack of pedestrian activation on two of the three frontages of Westgate Town Square Shared Zone, will affect vehicular speeds through it.

4.3.2 User Perception

One of the key themes in feedback received post-commencement is that there has been inadequate communication to educate potential users of a) the presence of a Town Square, b) the fact that the Town Square is a Shared Zone and c) expected behaviours within the Zone.

The positive feedback from the RSA and the negative response from the Local Board demonstrates the gap of perception between the industry and the general public towards Shared Zones. While data suggests that a slow-speed environment is being achieved, the negative perception of vehicle speeds and pedestrian safety risk by the general public reveals a pressing need to raise awareness of the legal definition of Shared Zones (i.e. that pedestrians have priority) and the importance of slow-speed environments.

Section 4.1 has considered how constraints of the consent process potentially hinder buy-in from the wider public, which in turn prevents users from a sense of ownership of a civic space. While appropriate consultation of the design is necessary with the wider public, there is a need to actively educate a wider audience to instinctively demonstrate expected behaviours within Shared Zones irrespective of their familiarity with the area. There is a need for AT to refine Shared Space design guidelines so that key visual cues (e.g. non-linear vehicular route, raised table entry) are required to be incorporated by designers.

It is too early to say whether the Shared Zone has been a success or not. This would require analysis of both quantitative data (i.e. volume and speed) and qualitative analysis of the perception of the Shared Zone. Karndacharuk, Wilson & Tse (2011) lists five objectives that determine how a successful public space performs its functions of place, mobility and access:

1. **Placemaking**: the quality of the street environment and its attractiveness to pedestrians to spend time within the space.

2. **Pedestrian Focus**: an environment with improved pedestrian priority to enable pedestrians to freely roam the street.

3. **Vehicle Behaviour Change**: street design to reduce the dominance and priority of the motor vehicle and driver within the space.

4. **Economic Impetus**: a street space that complements surrounding land uses, particularly economic activities in an activity centre.

5. **Safety for All Road Users**: a safer environment for all users, including the elderly, the disabled and children.

With at least two years till development of the surrounding land uses (besides the shopping mall), and therefore active frontages of the Shared Zone, there is limited scope to comprehensively gauge its success in the short term. In such a case, achieving low speeds through the design becomes even more essential.

5.0 CONCLUSION & RECOMMENDATIONS

Based on the findings and analysis, the design of the Westgate Town Square Shared Zone through the consent process, and data obtained post–commencement identifies a number of lessons for designers and stakeholders of these spaces.

The design of the Shared Zone needs to **achieve low speeds independently** of the development of adjacent land use, and any changes in travel patterns in the surrounding area. While a non–linear vehicular route is key part of the design of such a space, designers must consider how vehicular speeds commensurate with pedestrian walking speeds could be achieved especially if the adjacent land use has not been developed to the extent that **pedestrian activation** would occur.

While a civic space may be technically well–designed, communication of its intended use to the future user needs to considered and implemented. Methods to **achieve public buy–in** should especially be considered when a civic space is being delivered through the non–notified consent process. In the case of Shared Zones in particular, there is a need to develop a comprehensive **education and awareness** campaign for these and expected behaviours within them, well in advance of public use. For a Town Square environment in particular, consideration needs to be given to how a wide audience would be reached.

As the Westgate Town Square Shared Zone can still be considered to be in its early stages due to surrounding land use not fully developed yet, its success or failure cannot be gauged conclusively. Both **quantitative and qualitative data analysis** will be required in the long–term to determine how successfully it performs its functions of place, mobility and access. In such a case, achieving low speeds through the design in interim becomes even more essential.

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