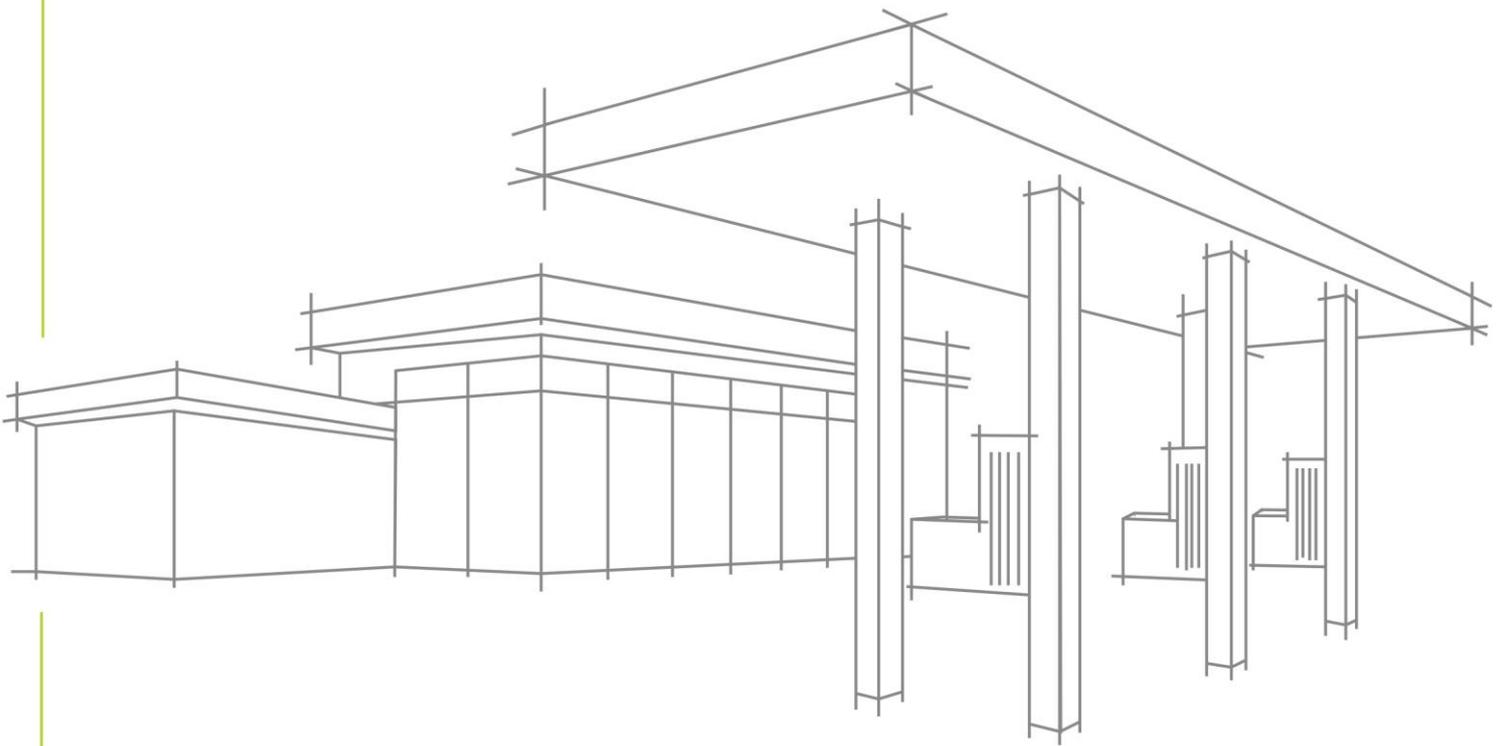


WHITE PAPER

SERVICE STATION APPROVALS – A 15 YEAR RE-CAP & TRENDS AHEAD



CREATE • PLAN • DELIVER

PROJECT MANAGERS | PLANNERS | DESIGNERS | ENGINEERS

WHITE PAPER

SERVICE STATION APPROVALS – A 15 YEAR RE-CAP & TRENDS AHEAD

TFA CONTACT: John Rowell
 John.rowell@tfa.com.au
 Mob: 0400 884 054

Document Control

REVISION	DATE	PREPARED BY	REVIEWED BY	COMMENTS
A	1-Aug-18	J.Rowell	J. Gooch / C.Duffield	For Internal/ External Use

© TFA Group Pty Ltd, trading as Tfa Project Group



**BRISBANE
 (HEAD OFFICE)**
 166 Knapp Street
 Fortitude Valley QLD 4006
 H/O Phone: +61 7 3854 2900
 Fax: +61 7 3854 2999

SYDNEY
 Suite 315
 33 Lexington Drive
 Bella Vista NSW 2153
 NSW Phone: +61 2 8814 5219
 Australia Wide: 1300 794 300

MELBOURNE
 Suite 1401
 401 Docklands Drive
 Docklands VIC 3008
 VIC Phone: +61 3 9640 0206
 Website: www.tfa.com.au

PERTH
 Level 3
 1060 Hay Street
 West Perth WA 6005
 WA Phone: +61 8 9480 0430
 ABN: 34 612 132 233

TABLE OF CONTENTS

1.0	INTRODUCTION	4
2.0	SERVICE STATION APPROVALS – 15 YEAR RETROSPECTIVE	5
2.1	Function over Aesthetics	5
2.2	Queuing Issues	7
2.3	Evolution in Oily Water Treatment.....	8
2.4	The Boom Years	9
2.5	VR2 Issues	9
2.6	Rise of Convenience & Design Aesthetics.....	10
3.0	SERVICE STATION APPROVALS – FUTURE TRENDS	12
3.1	Use Definitions.....	12
3.2	Unmanned & Uncovered	13
3.3	Designing for Disruption	13
4.0	SUMMARY	15

FIGURES

<i>Figure 1: TFA designed and project managed the Caltex truck-stop at Goondiwindi (source: TFA).....</i>	<i>4</i>
<i>Figure 2: A more recent travel centre design (source: TFA).....</i>	<i>4</i>
<i>Figure 3: A typical service station layout with building orientated towards forecourt (source: TFA)</i>	<i>6</i>
<i>Figure 4: Example of architectural screening treatment added to rear building elevation where facing public roads (source: TFA)</i>	<i>6</i>
<i>Figure 5: Example where some fenestration is achieved to the side elevation / street frontage of the building (source: TFA).....</i>	<i>6</i>
<i>Figure 6: Typical site queuing plan (source: TFA).....</i>	<i>7</i>
<i>Figure 7: Example of SPEL P040 proprietary Class 1 oily water separator system (source: TFA).....</i>	<i>8</i>
<i>Figure 8: Example of Stage II vapour recovery (source: http://leg.wa.gov/JLARC/reports/GasVaporReg/p/default.htm)</i>	<i>9</i>
<i>Figure 9: Example of Caltex ‘Foodary’ offer with increased fenestration & quality materials used (source: TFA)</i>	<i>10</i>
<i>Figure 10: The latest Puma ‘7th Street’ barista offer (source: Puma).....</i>	<i>10</i>
<i>Figure 11: BP Kings Way – BP’s pilot project in Sth Melbourne (source: BP)</i>	<i>11</i>
<i>Figure 12: An example where the different uses are more clearly separated (source: TFA).....</i>	<i>12</i>
<i>Figure 13: Unmanned/uncovered truck refuelling facility (source: TFA)</i>	<i>13</i>
<i>Figure 14: Hydrogen refuelling dispenser at service station (source: likeautomotive.com)</i>	<i>14</i>

1.0 INTRODUCTION

The retail fuel and convenience industry is evolving at rapid pace. There are constant advancements in design, layout, technology and environmental / site management. This is one reason that makes working in this industry so exciting and rewarding. It is also challenging as, particularly from an approvals perspective, the industry moves faster than the pace of change of government policy.

The past 15 years has seen a modern-day boom in service station developments, both new to industry and knock-down rebuild projects. Much of the investment has been developer-led and spurred on by healthy return on investments margins and new companies entering the market.

All this movement has seen a variety of issues come in and out of play from a local government approvals perspective. What were major concerns for the local authority 15 years ago, are not necessarily their main concerns now.

TfA has kept a strong presence in the retail fuel and convenience industry over the past 25 years. For service station approvals, we thought it was timely to provide a 15 year retrospective, summarising where some of the key trends have evolved. This in turn aids in looking forward as to what future trends and / or issues may look like.

Then (Year 2000)



Figure 1: TFA designed and project managed the Caltex truck-stop at Goondiwindi (source: TFA)

Now (Year 2018)



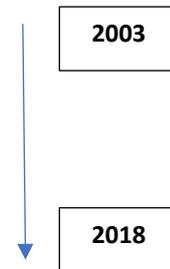
Figure 2: A more recent travel centre design (source: TFA)

2.0 SERVICE STATION APPROVALS – 15 YEAR RETROSPECTIVE

In compiling a list of some key changes over the 15 years, TfA has drawn from its experience across multiple jurisdictions nation-wide and the multiple service station clients for which we have provided town planning, project management, design and engineering services to over this time.

We have selected the following key themes in general chronological order as areas of focus over the past 15 years:

- Function over Aesthetics
- Queuing Issues
- Evolution in Oily Water Treatment
- The Boom Years
- VR2 Issues
- Rise of Convenience & Design Aesthetics



These themes are discussed further under separate sub-heading below.

2.1 Function over Aesthetics

During the 2000s overall service station development activity was fairly stagnant with the exception of the rapid expansion of the supermarket chains (Coles and Woolworths) and then 7-Eleven in the late 2000s.

The first wave of the supermarket service stations during this time was largely focussed on customer throughput and construction efficiencies. Having a site function effectively to cater for high customer volume through the successful shopper-docket scheme, stressed the importance of a site design which was well laid out to facilitate high volumes of traffic. This was particularly the case for those metro sites on 2,000m² or less.

Construction efficiencies were gained through increased modularisation of the build, standardised drawings and minimising the use of high end architectural treatments both internal and external.

Around this time, a lot of the tier 1 fast food operators and supermarkets were beginning to place increased design emphasis on the materials and treatments to their buildings.

Local authorities were starting to request more ‘street activation’ for service station developments. Often, their idea of this being achieved, was to position and orientate the service station building toward the street frontage. Due to the nature of a service station use, this was typically not feasible from a functional / layout and casual surveillance from building to forecourt point of view.

Depending on the site, a variety of measures would typically be deployed to mitigate the concerns of the local authority:

- Meetings held to explain some of the key functional requirements of a service station – lots of talking through site layouts, floor plan restrictions (every building needs a back-of-house) and swept path analysis
- Adding in additional fenestration to the building where achievable as a compromise
- Adding architectural screening treatment or quality landscaping to sides of buildings that fronted public roads

Generally speaking, taking the time to explain to a local authority why a service station was typically orientated the way it was would help facilitate the path to approval. Undertaking extensive / non-standardised design alterations to the project to meet Council’s requested objectives would often come at the expense of a functional layout to support high volumes of traffic.



Figure 3: A typical service station layout with building orientated towards forecourt (source: TFA)



Figure 4: Example of architectural screening treatment added to rear building elevation where facing public roads (source: TFA)



Figure 5: Example where some fenestration is achieved to the side elevation / street frontage of the building (source: TFA)

2.2 Queuing Issues

The late 2000s, early 2010s saw the supermarket shopper docket scheme ratchet up a notch with discounts as large as 40 cents per litre being offered at the bowser. This coincided with the petrol price cycle facilitating a 'cheap Tuesday' bonanza.

Almost overnight, a lot of suburban service stations and those along high streets of regional towns which were part of major roads / State highways, had peak demand at condensed periods of time and this exacerbated queuing issues at many sites. In some cases, vehicles would queue out onto a major road for some distance and result in traffic safety concerns.

Pre-application meetings with the authorities during this time would often start with a local government or main roads officer recalling their own personal example of how they were significantly inconvenienced the last time they attempted to fill up at their local suburban service station.

The development of queuing plans to support development application drawings became standard to try and alleviate the concerns of the authority. Unfortunately, the Tuesday night (worst case example) was increasingly seen as the standard with which the service station should accommodate. Where a metro site was deemed to have insufficient on-site queuing provision, often an over-compensating road upgrade or deceleration lane would result, rendering many sites unfeasible and leading to many a court approval to assist in the case against the unreasonable road upgrade request.

In some instances, the traffic / queueing concern was of such paramount importance to the authority, that other site / design issues one might expect to be raised during the approval stage, were overlooked.

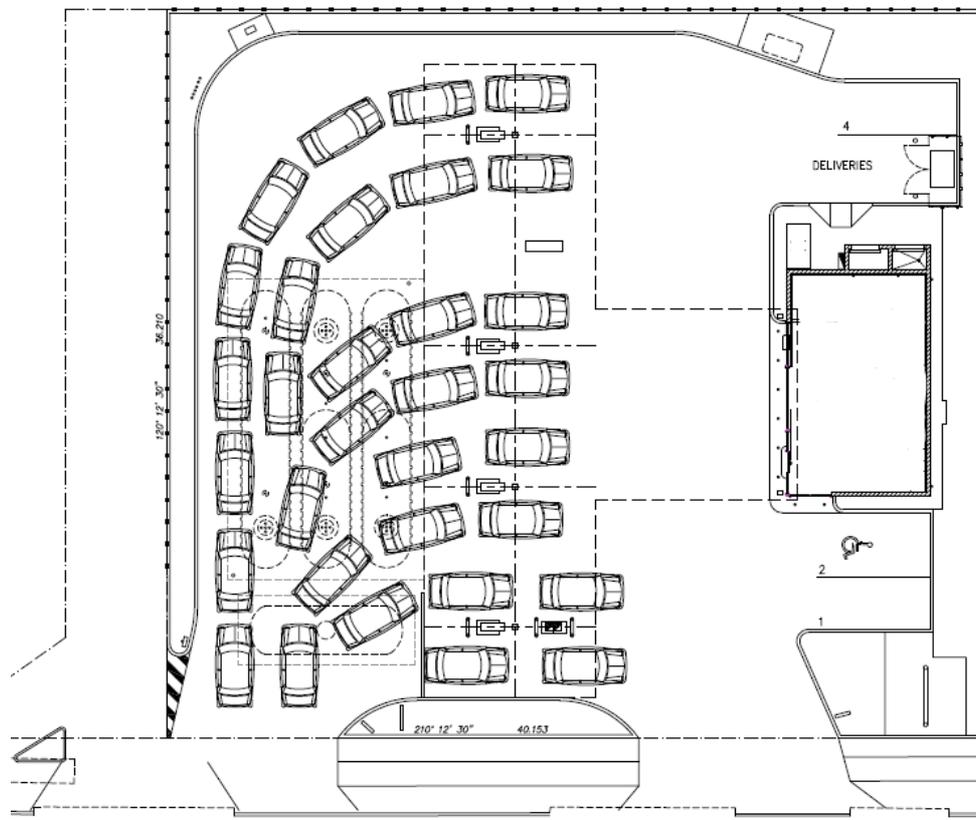


Figure 6: Typical site queuing plan (source: TFA)

2.3 Evolution in Oily Water Treatment

A rough timeline of oily water treatment would look as follows:

- No oily water considerations
- Oily water capture via blind sump
- Oily water treatment via VGS/CPS and discharge to sewer
- Oily water treatment via class 1 oily water separator and discharge to stormwater.

During the last 15 years, slowly but surely, the majority of respective local and State government authorities have moved away from allowing discharge of oily water to sewer. In the absence of a Class 1 oily water Separator (e.g. SPEL Puraceptor, or similarly approved proprietary system), a blind sump was typically required.

At the time, there was 1. Wide-spread general lack of maintenance on traditional oily-water (coalescing plate) separators.; and 2. Risk of fuel entering the authority's public sewer network and affecting both other connected users (i.e. residential, commercial and industrial) and the authorities treatment plant alike.

In minimising the operation and maintenance burdens of blind sump arrangements, options included extending canopy overhangs to minimise wind-blown rain or trying to explain to the relevant authority the merits of the latest inground hydrocarbon treatment system.

Companies such as SPEL travelled the nation extensively to present to the respective local and State authorities on the merits of their system and ultimately have had their system reflected in the authority's environmental and planning policy documentation.

Some local authorities were quicker than others to update their environmental policies. TfA was involved directly with the Brisbane City Council in 2015 in driving change for their blind sump only policy to be updated. At the time, only Brisbane City and Dubbo Shire Council's held firm against any proprietary Class 1 oily water separator system in favour of the blind sump.

This area continues to evolve. As proprietary systems offer pollution control that encompasses the whole site, the traditional canopy is more for the purposes of branding and customer shelter than for oily water management. Some local authorities are starting to recognise this and revisiting standard conditions which reference canopy overhang requirements.



Figure 7: Example of SPEL P040 proprietary Class 1 oily water separator system (source: TFA)

2.4 The Boom Years

The service station boom for new-to-industry sites kicked into gear around 2013 and has had a fairly solid run since. It was predominantly investor / developer-led and spurred on by healthy return on investment margins and new companies entering the market. Certain areas would now be close to saturation but others, particularly in expanding areas of greater south-east QLD, Sydney and Melbourne, still arguably have room to go.

From an approvals perspective, what is interesting about this predominantly developer-led service station boom is that traditional oil companies had less involvement / influence at DA approval stage.

A typical developer-led DA application would involve the concept plan being approved by the prospective oil company tenant and then the DA lodged by the developer. During DA, alterations might be undertaken by the developer to facilitate a timely approval. For a developer looking to develop, then on-sell the site, time is of the essence. For the tenant or future purchaser, alterations at DA stage can have an impact on how a site is run operationally. When time is of the essence in an approval, there can be a tendency to accept more onerous conditions of approval from an operational perspective. In our experience, an oil company as the principal proponent, would be more inclined to challenge any operational conditions considered unreasonable.

Where the developer may have limited experience in service station developments (and their operation), there is an inherent value in utilising consultants that specialise within the industry in order to minimise the extent of approval modifications down the track. Typically, the longer a condition of approval goes unchallenged, the longer the authority's perception is that it has been accepted by the proponent. Ultimately, the unchallenged condition finds its way into the authority's set of "standard" service station conditions to then apply to all future applications.

A good example of an operational condition which has become 'standard' and which would more likely be challenged by the operator of a service station (as opposed to the developer) is the installation of Stage 2 vapour recovery (VR2).

2.5 VR2 Issues

The NSW EPA / DECC policy on Vapour Recovery Stage 2 (VR2) was initially implemented by the NSW government in 2010 for new and modified service stations within the confined Sydney basin area and where supplying more than 0.5 million litres of petrol per year. This requirement for VR2 expanded over time and now includes a broader Sydney metropolitan area.

Over this time, a lot of government authorities around the rest of Australia followed the NSW EPA / DECC policy on VR2. Whilst the policy for the Sydney area had volume supply thresholds for when VR2 had to be installed, it was often improperly applied by other authorities across the country. Irrespective of supply thresholds or proximity to sensitive receiving uses, the Sydney-based VR2 policy would find its way into conditions of a development approval in other metropolitan and regional areas of Australia.

In many cases, this has been exacerbated where developers have accepted these conditions of approval either without seeking comment from the prospective fuel tenant, or particularly if the approval was obtained before selection of a tenant was finalised.

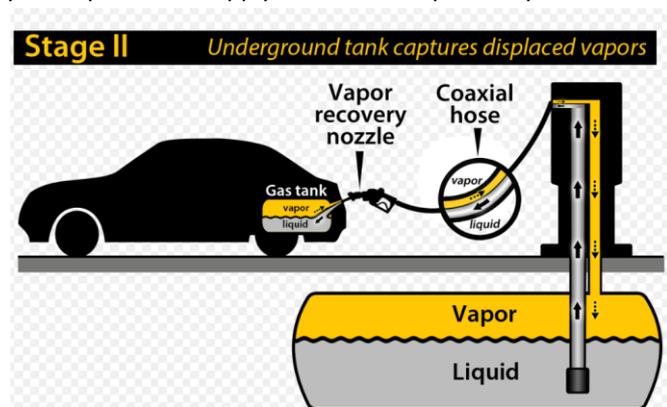


Figure 8: Example of Stage II vapour recovery (source: <http://leq.wa.gov/JLARC/reports/GasVaporReq/p/default.htm>)

2.6 Rise of Convenience & Design Aesthetics

Reflecting over the last 15 years, it is interesting to note that whilst many a local government authority had been pushing for improvements in design, including buildings with increased fenestration and higher quality materials, it is the market that has ultimately now moved in this direction, somewhat independently of approval requirements.

The majority of new service station developments now incorporate a much higher level of design detail than they did even as little as five years ago. Much of this has been driven by the enhancement and supplementation of the convenience offer within the building, with most service station operators now offering barista-style coffee, higher quality fresh food offering and some form of internal seating.

In terms of approvals, there are noticeably fewer queries / RFIs around design and appearance. There are however, increasing queries in relation to the extent of the convenience / retail function and whether this can be considered as 'ancillary' to the overarching service station use. TfA has not encountered any major issues here as yet, but they are increasingly being questioned. Depending on site zoning / local policy provisions, this can cause issue in some instances and may be something councils' pick up on more in the future.



Figure 9: Example of Caltex 'Foodary' offer with increased fenestration & quality materials used (source: TFA)



Figure 10: The latest Puma '7th Street' barista offer (source: Puma)



Figure 11: BP Kings Way – BP’s pilot project in Sth Melbourne (source: BP)

3.0 SERVICE STATION APPROVALS – FUTURE TRENDS

From a national perspective, the boom of new sites has largely run its course and the service station industry is in a period of consolidation and re-imaging. Where five years ago the majority of service stations approvals across our desk were NTI, greenfield developer-led sites, the majority are now ‘alterations and additions’ for knock-down rebuilds and DA modifications for extensive re-imaging or forecourt enhancement projects driven by the service station operator.

Some of the trends we are just starting to see and expect to see more of in the future, with regard to the approvals process, are discussed separately below.

3.1 Use Definitions

As discussed in section 2.6 above, the increasing food and beverage offering within the service station building is leading some local authorities to query the extent to which the traditional ‘service station’ use definition should still be applied.

Under a local government planning scheme document, and depending on the State jurisdiction, this can have implications as severe as introducing a ‘prohibited use’ if in unfavourable zoning or more moderate impacts such as increasing the number of car parks over the site or any restrictions to total gross floor area.

This is often where the market trend moves ahead of the government policy. In this instance, where an outdated definition of ‘service station’ in a local government planning document does not appropriately cater for ancillary retail and /or food and drink uses.

In our opinion, particularly for stand-alone service station sites that are not part of a multi-tenanted arrangement with separate retail / food and drink uses, any action by the local government to apply more than the ‘service station’ use should be challenged so as not to set a potentially damaging precedent on future sites.

TfA has held meetings with a number of local governments that have raised this issue and successfully abated concerns (for the time being). Like the example of the SPEL units, the government policy will catch up in due course and will likely lead to more flexibility for ancillary uses / activities within the traditional ‘service station’ use definition. It is a matter of challenging it in the interim and avoiding any unwanted precedent which can spread like the VR2 issue.



Figure 12: An example where the different uses are more clearly separated (source: TfA)

3.2 Unmanned & Uncovered

With Class 1 oily water treatment devices not requiring canopies and above-ground self-bunded storage tanks with improving inventory and payment technology, unmanned refuelling facilities enable a more cost-effective model to facilitate a fuel company's network expansion between the major city nodes.

At approval stage, these facilities typically get categorised as 'service station' and can fall down at approval where a local government or road authority applies their service station policy too rigidly resulting in unreasonable requirements around extent of hard surfacing over a site, kerb and channelling or significant road upgrades.

These facilities have traditionally been directed at servicing heavy vehicles and storing diesel fuel and AdBlue only. They are increasingly being used by major transport terminal and logistics companies to refuel their own truck fleet.

Where diesel can be managed through a range of oily water treatment devices, AdBlue is not a product that is detected in a typical hydrocarbon sensor. Whilst it is non-hazardous, it is a product some authorities are beginning to recognise as undesirable to being discharged directly to stormwater. This issue may be raised more in the future.

Where risks can be appropriately managed on-site, the unmanned facilities will likely expand to the light vehicle user. Customers have had 20 plus years adapting to having to fill up a vehicle themselves. Such facilities could be deployed in more metropolitan areas such as shopping centres where good visibility / security exists.



Figure 13: Unmanned/uncovered truck refuelling facility (source: TFA)

3.3 Designing for Disruption

Particularly for larger, highway service centre sites, authorities are increasingly looking for the proponent to demonstrate the manner in which the site is designed to cater for the predicted future increase in electric and fuel cell (hydrogen) vehicles (EV & FCV).

Tfa has been involved as far back as 2014 in designing for electric charging provision over service centre / truck-stop sites and are currently working with overseas companies in retrofitting hydrogen refuelling as an addition to the traditional line of dispensers.

At a high level, electric vehicle charging requires large power draw, has hazardous zone implications and is traditionally located away from the main forecourt area within car park areas, which has the added benefit of not disrupting the flow of traffic around the forecourt. Hydrogen refuelling also has hazardous area considerations, however as we have seen in trial sites overseas, the actual hydrogen refuelling dispenser can be located adjacent/within the traditional fuel dispensing area.

Unlike current EV charging, the refuelling time of an FCV is on par with traditional internal combustion engine refuelling. Therefore, this form of 'future' refuelling can be more easily integrated into the traditional service station operational model.



Figure 14: Hydrogen refuelling dispenser at service station (source: likeautomotive.com)

Whilst authorities are mainly calling for this future provision to be accommodated on larger highway service centre sites, we are now seeing the introduction of trial metro sites led by distributors pushing the market boundary and testing consumer (and vehicle manufacturers) appetite. We therefore foresee it is only a matter of time before it filters through to local government policy and more questions are raised at local/urban metro sites.

For more information on the application of EV/FCVs into service station developments, refer to our White Paper 'The application of innovative technologies for transportation'.

4.0 SUMMARY

Looking back over the past 15 years of service station approvals, the focus of attention by authorities on key items of assessment has shifted as different trends and technological advancements in the industry have shifted.

Government policy typically lags behind the trend so it is important to have specialist knowledge on service station approvals to ensure the best possible outcome for the client.

TfA is passionate about the fuel retail and convenience industry and is committed to being at the forefront of the evolving nature of the industry.