



Taxi Rank Master Plan for Adelaide City

Australian Taxi Industry Association
Taxi Council South Australia

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1. Introduction

1.1 Project Background

MRCagney was appointed by the Australian Taxi Industry Association to prepare a *Taxi Rank Master Plan for Adelaide City* as part of a wider project, completing similar documents for most of the capital cities across Australia. The master plan was intended to be developed from the *Generic Plan and Design Specification* which was developed for the Australian Taxi Industry Association (ATIA) following the successful development of a Master Plan for Brisbane City. This Master Plan is to be specifically tailored for Adelaide City, with the focus on the central business district.

The objective of developing this Taxi Rank Master Plan was to provide the Taxi Council South Australia a document that would help with the negotiation of:

- The importance of the ranks and to ensure that appropriate consideration is given to maintaining the ranks when future CBD projects, either public or private sector funded, are being planned;
- The optimum location and length of new taxi stands;
- The minimum standard of associated rank infrastructure and passenger facilities that will need to be provided, and
- Council long term planning and budgeting for future new taxi rank installations.

1.2 Project Scope

The scope of work for the development of the Taxi Rank Master Plan for Adelaide City included the following tasks:

- Mapping the existing taxi rank locations within the study area;
- Obtaining a priority list of potential CBD taxi stand sites of interest to the Taxi Council;
- Obtaining from the Taxi Council information on known issues with existing ranks (e.g length of facility, hours of operations and associated infrastructure);
- Consulting with the Taxi Council South Australia and Adelaide City Council to prioritise new taxi rank location(s) for future construction; and
- Packaging the *Adelaide Taxi Rank Master Plan*, *Generic Plan*, *Facility Selector* and *Design Specification* into a designer's reference kit suitable for delivery and/or presentation to Adelaide City Council officers.

1.3 Structure of this report

This report has four main sections:

- Background on existing guideline documents and taxi service operations and regulations
- Summary of the taxi rank layout plan documents, the prioritisation levels developed, and the required infrastructure required for these upgrades
- Classification of the taxi ranks across Adelaide
- Further issues and recommendations

2. Background

2.1 Taxi Services in Australia

Taxi services are a recognised form of personal public transport as essential to the mobility of a modern city as are its bus, train, ferry and other traditional forms of mass transit. Taxis operate in a unique public transport niche providing public transport services which cannot be delivered economically using mass transit; namely 24 hour per day, non-fixed route, door-to-door, personal public transport on demand.

State, Territory and Local Governments recognise the crucial role public transport plays in mobility of their citizenry, relieving city traffic congestion and providing a clean air environment, but where governments across Australia have invested billions of taxpayer dollars upgrading mass transit infrastructure over the past decade, very little public funding has been channelled into improving taxi set downs.

In State capital and major regional cities, there has, over the past 3 years, been some public funding directed to infrastructure improvements at *Secure Taxi Ranks* located in entertainment precincts to address the increasing problems caused by late night hooliganism and drunken anti-social behaviour at inner city cab ranks. The Victorian Department of Transport has put in place a \$4 million four year rolling *Taxi Rank Safety Program* enabling smaller Victorian local government authorities to apply for rank safety capital grants for upgrades such as CCTV monitoring, improved lighting, passenger seating and rain shelters, but grants have to date been somewhat limited and excluded ongoing local government facility operating and maintenance costs. Public investment in taxi roadside infrastructure compared to that already provided for bus stops has neither been commensurate with the level of patronage being carried, nor kept pace with continuing taxi patronage growth.

While State and Territory governments regulate and license taxi operations in all Australian cities and towns, it falls within the jurisdiction of their respective local government authorities to allocate, improve and maintain kerbside taxi rank and feeder parking zones, or upon property developers to construct such as a condition precedent to obtaining local authority development approvals. This split of statutory jurisdictions imposes an unfair disadvantage on the taxi industry to achieve State imposed service delivery objectives but within the highly restricted kerbside access limitations imposed upon the industry by local government authorities.

Local government authorities typically produce two key policy documents used to forward plan public transport infrastructure and kerbside parking allocation priorities. The former is commonly known as the city or regional transport plan and the latter as the city parking or kerbside management policy (or strategy). Taxi Councils need to obtain an equitable share of city parking space allocations and passenger infrastructure improvements. The ultimate goal of this liaison should be to establish the taxi industry as a legitimate public transport service provider in the minds of key city decision makers, and to move retention of existing and installation of new taxi ranks higher up the kerbside parking allocation priority list, preferably to a level at least commensurate with that afforded to inner city bus stops.

The taxi industry has sound justification to require local councils to provide high quality taxi ranks. These include the equitable provision of facilities for all PT users (including taxi users), provision of essential services, support for the local economy and improved road safety and personal security. Creation of design specification of taxi facilities will assist negotiations with local authorities by building on the above criteria.

2.2 Existing Guidelines

VicRoads and the NSW Taxi Council have published a comprehensive set of generic *Taxi Zone Guidelines* for State Main Roads Department and Local Government application to the selection of taxi rank kerbside parking locations and design objectives for provision of their passenger facilities. Both these documents are credible guidelines and highly relevant to this assignment. They describe the core rank functional requirements, taxi service operating principles and design criteria for a workable functional city taxi stand built on public roads, and consolidate a lot of preliminary ground work and consultation already undertaken by government and the Australian taxi industry.

Both guidelines contain general statements to the effect that taxi ranks must comply with the *Commonwealth Disability Discrimination Act (1992)*, *Disability Standards for Accessible Public Transport (2002)*, *Australian Standard AS2890.5* for on-street taxi zone parking dimensions, *AS1428* for design requirements applicable to persons with disabilities and *AS1158*, the general lighting code for Australian roads and public spaces.

However neither document references other relevant standards and their content is considered somewhat arbitrary and subjective. Both documents lack sufficient quantitative data to clearly specify taxi rank design parameters thereby leaving them open to liberal interpretation.

We have compared the two taxi rank guidelines with the highly detailed bus stop layout design and construction plans published by State Transport, Main Roads and Local Government Authorities and the numerous Australian/NZ Standard specifications referenced by these plans for appropriate kerbside treatments, lighting, passenger seating, zone identification signage and shelter facilities to be provided at typical kerbside bus stops and recognise some fundamental weaknesses with the two taxi rank guidelines. They contain an extensive wish list of functional requirements that would be costly or impractical for most small local councils to implement, are non-specific about the rank types at which specific passenger facilities must be installed, and are open to “minimalist” interpretation by cash strapped local authorities.

We have built upon the solid foundation of consultation already completed by VicRoads and the NSW Taxi Council. These have been converted into a companion set of engineering reference documents comprising a generic taxi rank layout plan, a taxi rank type facility selector and a generic taxi rank design specification.

2.3 Hierarchy of Taxi Rank Types

ATIA have defined a hierarchy of taxi rank types appropriate to various activity areas within an urban environment. The various types of taxi rank discussed in this report are as follows:

2.3.1 Low Use Rank

Taxi rank installed where there are predominantly low passenger volumes. These ranks will typically service a taxi every hour and are generally located in suburban areas such as Local Neighbourhood Centres.

2.3.2 Medium Use Rank

Taxi rank servicing locations where there are moderate passenger volumes. These ranks will typically service a taxi every ½ hour and are predominantly located in suburban areas such as Shopping Centres and Community Centres.

2.3.3 High Use Rank: (Secure Taxi Rank)

Taxi rank servicing locations where there are high passenger volumes. These ranks will typically service a taxi every quarter of an hour. They are predominantly located at major attractions such as City and Town CBD's, Sporting Venues, Entertainment Precincts, Hotels, Clubs and Major Office Centres. Often a high use rank is provided close to bus stop infrastructure.

3. Taxi Rank Location Classifications

Once we had developed the specifications for each priority classification, we needed to determine the priority levels of each of the taxi ranks across Adelaide. Each taxi rank was evaluated in relation to the demand for taxis at these locations as determined by the Taxi Council South Australia. This input from the taxi industry was to ensure that we best captured local knowledge and specific issues identified by taxi operators.

Taxi ranks have been classified as either 'day ranks', 'night ranks' or 'all day ranks' that relates to both the availability and demand of these taxi ranks. In summary, the total number of taxi spaces in Adelaide ranks is¹:

- 166 unique parks
- 88 parks available/utilised during the day
- 143 parks available/utilised during the evening

The results of these priority classifications are summarised graphically in Figure 1 and Figure 2, and are also listed in detail in Appendix B.

While there are taxi ranks located across the CBD, those in the central area are concentrated around four blocks at the northern end of the CBD, bordered by Grenfell Street, Morphett Street, North Terrace and East Terrace, which accounts for 72% (21 of 29) of the ranks in the CBD area. The majority of these ranks are high priority ranks indicating that taxis comprise a significant and important part of the transport system in Adelaide, particularly in regard to transport to and from the central city.

We note also that there are a number of additional ranks, not captured in the above analysis in the wider Adelaide area. This report does not seek to analyse the geographical scope of these ranks, but does advise that all ranks in Adelaide should comply with the guidelines as attached to this report. These ranks include:

- Henley Beach – Ramsgate
- Shopping centres (multiple)
- Entertainment Centre
- Keswick Rail Station
- Outer Harbour Terminal

¹ Excludes additional ranks listed at the end of this page

Figure 1: Classification of Taxi Ranks in Adelaide CBD

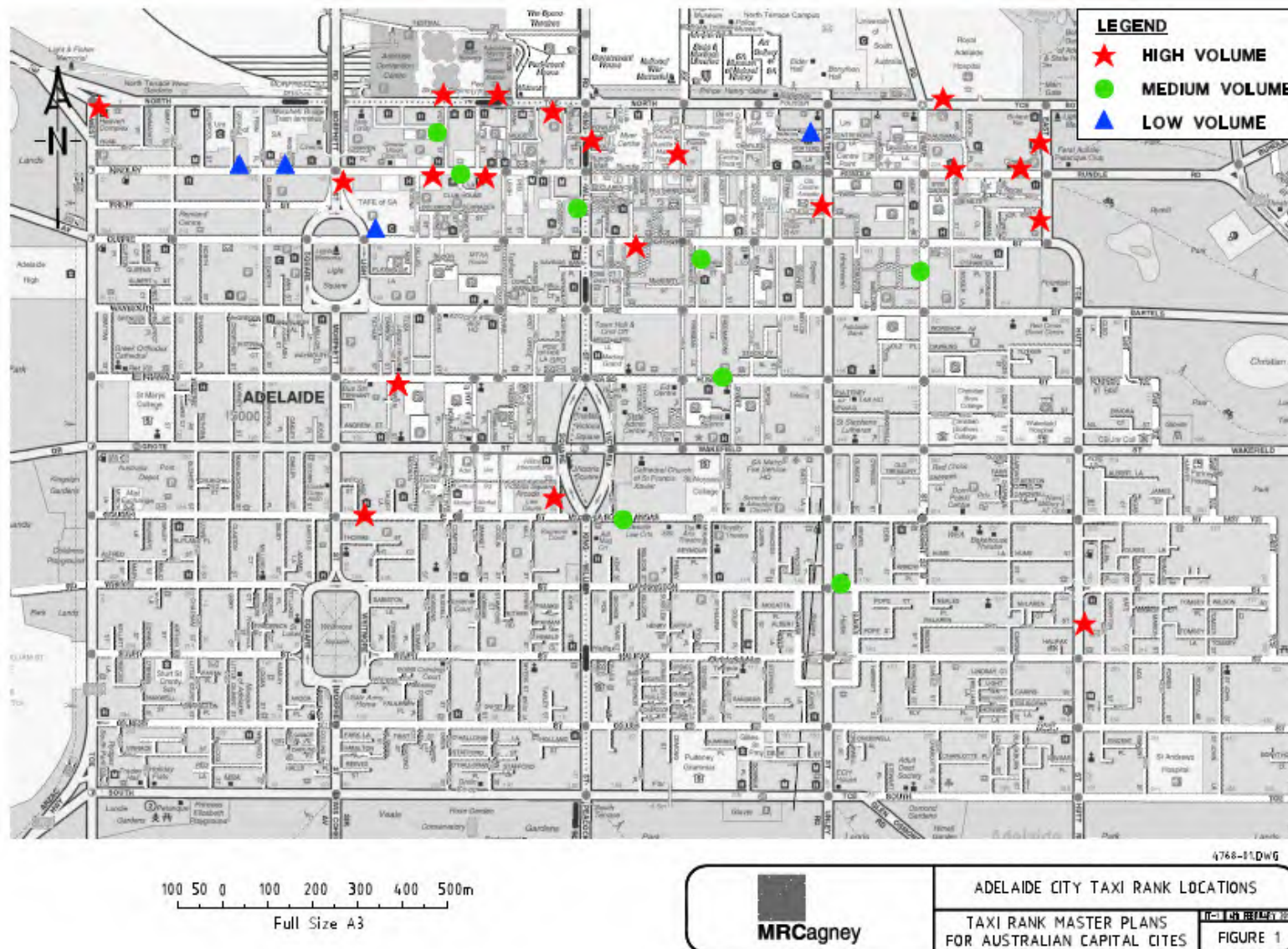
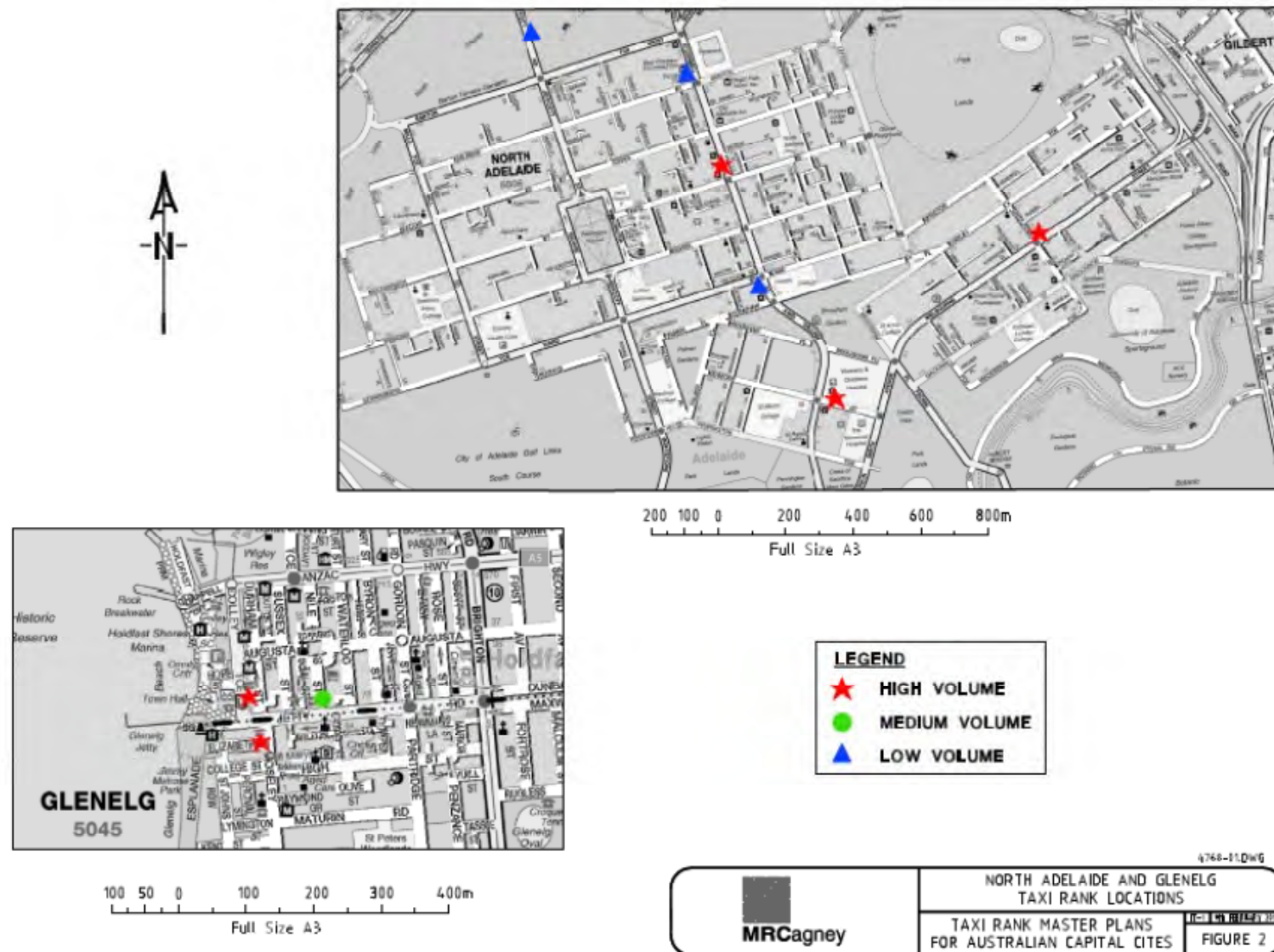


Figure 2: Classification of Taxi Ranks in North Adelaide and Glenelg



4. Opportunities for improvement

There are a number of opportunities for the improvement of both the spatial distribution of taxi ranks, and signage and spacing at particular ranks that would increase the effectiveness of taxis in Adelaide as an important part of the public transport network.

4.1 Taxis as an important component of the PT network

During our interviews with various organisations involved in the taxi industry in Adelaide, we have noted that there is a lack of understanding as to the importance and value that taxis add to the wider transport network. Recent discussions around city improvements have included such proposals as extensions of pedestrian rights-of-way, and the removal of on-street parking along some major roads, both of which could displace existing taxi ranks.

While these proposals should be evaluated on their merits, they will need to keep in mind the potential impacts on taxi travel any removal of taxi ranks may have. Taxis form an important part of the transport system, allowing for many trips that may otherwise be very difficult, particularly at times outside of normal PT operating hours, and to locations with demand that is insufficient for a dedicated PT service. Taxis fill an important role in these situations, and there should be due thought given to the location and infrastructure requirements of taxi ranks so as to best serve those who require them.

4.2 Geographical distribution of taxi ranks

The Taxi Council of South Australia has indicated that they see scope for increased taxi ranks in Adelaide, particularly in the CBD area to meet ongoing demand for taxi transport. Potential locations for these stops are shown in Figure 3.

We have not sought to analyse the impacts of these potential new taxi ranks, but we note that this discussion is an important part of the ongoing relationship between the Taxi Council and City and State Government agencies. We would advocate for ongoing discussions surrounding the development of high quality taxi ranks in centrally located areas that are well known for taxi users. This may lead to rationalisation of some smaller stops and the improvement of infrastructure at other stops to improve the overall taxi experience for users.

4.3 Improved rank infrastructure

For visitors and tourists to the Adelaide CBD it becomes problematic to identify the location of taxi stands in proximity to their accommodation or shopping and tourist activities. While signage of taxi stands is readily identifiable by passing motorists to prevent inappropriate parking the signage is usually positioned facing the carriageway and not discernible by the pedestrian. Pedestrians should be able to easily find taxi ranks. If the ranks have been located adjacent to high pedestrian use areas, it should be intuitive for people to be able to locate them. For example, at suburban strip shopping centres, there is often a pedestrian mall or a predominant pedestrian precinct. Many people would expect to find a taxi rank adjacent to this area, rather than in a quieter less pedestrianised location.

The sight of multiple taxis queued at a taxi rank is an obvious indicator as to where the taxi rank is located. Signs directing people to taxi ranks are particularly important in larger areas, and when pedestrians need to make choices in their direction of travel to reach a rank. For example, signs are important at sporting venues to advise people the route to take to find the taxi rank. Similarly, signs within a pedestrian shopping mall should advise at which end of the mall the rank is located.

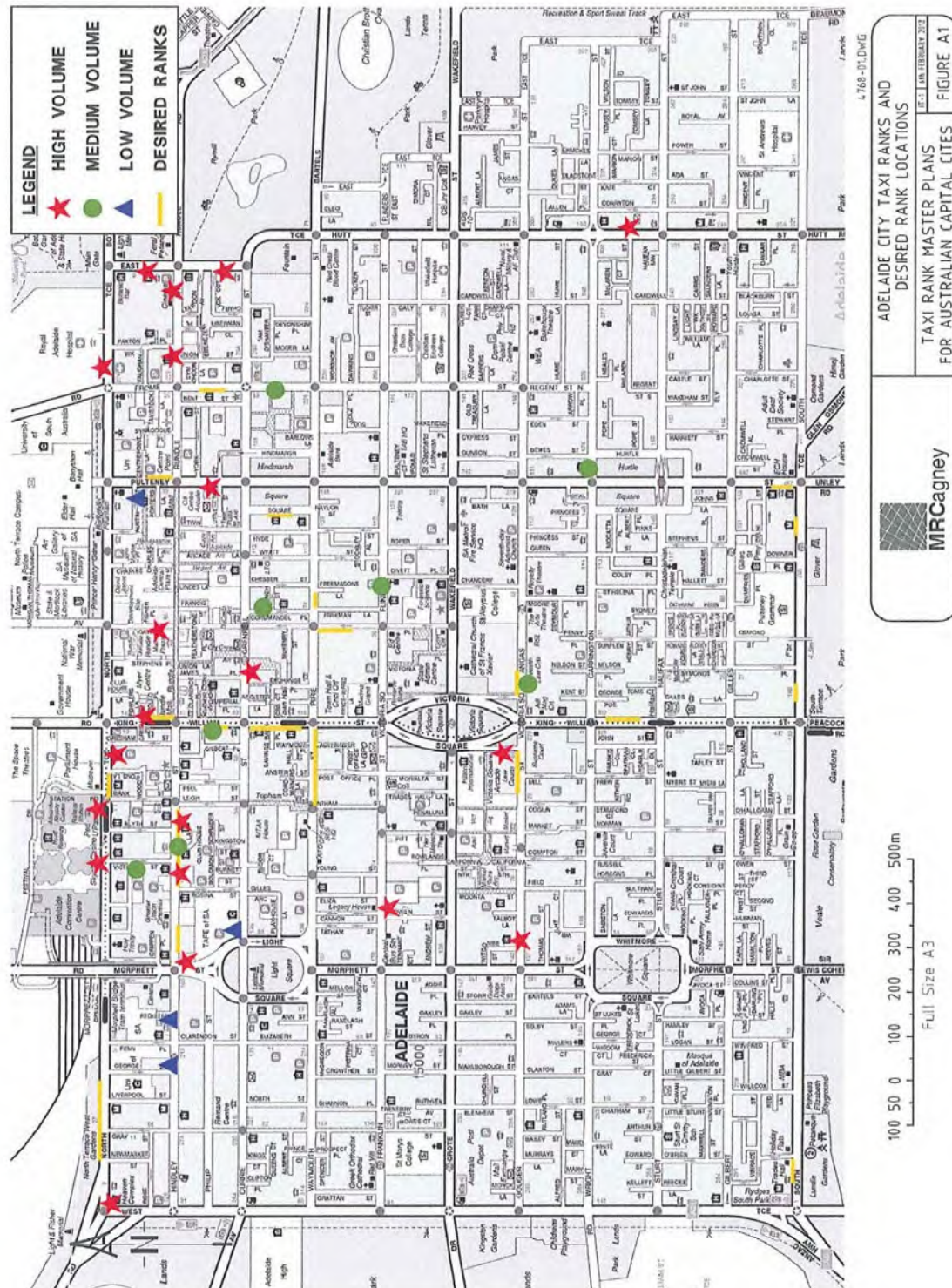


Figure 3: Potential new stops identified by the Taxi Council of South Australia

Appendix A: Taxi Rank Design Specification

Taxi Rank Design Specification

April 2012



1. Introduction

This specification provides guidance to the process of designing taxi ranks appropriate for various facility types located in urban centres of Australia. Users should read this document in conjunction with the 'ATIA City Taxi Rank Layout Plan Set' and 'ATIA Rank Type Facility Selector', included in this document as Appendices A and B respectively.

The purpose of this specification is to guide and streamline the taxi rank engineering design procedure from start to finish by:

- Specifying the preliminary site surveys to be undertaken by rank designers;
- Providing a concise set of design criteria to be met for particular rank types;
- Listing critical facilities and layout dimensions to be included in each rank type and allow for current ranks to be assessed against this standard (checklist provided in Appendix C); and
- Identifying the relevant standards and their specific parts required to complete the engineering design of taxi rank facilities.

2. Legislation

All new and upgraded taxi ranks must now comply with the following Commonwealth Legislation:

- Australian Road Rules – February 2009 version
- Disability Discrimination Act (1992); and
- Disability Standards for Accessible Public Transport (2002)

Additional State legislation will be applicable also.

3. Australian Standards

The relevant Australian Standards applying to this specification are:

- AS1742.11:1999 Manual of uniform traffic control devices: Part 11: Parking controls;
- AS2890.5:1993 Parking facilities: Part 5: On-street parking;
- AS1428 Design requirements applicable to persons with disabilities; and

4. Types of Taxi Rank

ATIA have defined a hierarchy of taxi rank types appropriate to various activity areas within an urban environment. Guidance on the type of taxi rank that should be provided at a given location is set out in the 'ATIA Rank Type Facility Selector', included in Appendix B. The various types of taxi rank discussed in this specification are as follows:

4.1. Low Use Rank

Taxi rank installed where there are predominantly low passenger volumes. These ranks will typically service a taxi every 60 minutes and are generally located in suburban areas such as Local Neighbourhood Centres.

4.2. Medium Use Rank

Taxi rank servicing locations where there are moderate passenger volumes. These ranks will typically service a taxi every 30 minutes and are predominantly located in suburban areas such as Shopping Centres and Community Centres.

4.3. High Use Rank

Taxi rank servicing locations where there are high passenger volumes. These ranks will typically service a taxi every 15 minutes. They are predominantly located at major attractions such as City and Town CBD's, Sporting Venues, Entertainment Precincts, Hotels, Clubs and Major Office Centres. Often a high use rank is provided close to bus stop infrastructure.

High use ranks may also qualify as 'Secure Taxi Ranks' that implement a safety program as defined by State Government. Refer to section 7.18

4.4. Premium Rank

Highest quality taxi rank servicing locations where there are high passenger volumes and high demand for taxi services. These ranks may service local and regional areas and are generally located in conjunction with other public transport facilities such as Airports, Railway Stations, Park and Ride facilities and Transport Interchanges.

Premium ranks may also qualify as 'Secure Taxi Ranks' that implement a safety program as defined by State Government. Refer to section 7.18

5. Taxi Rank Location

This section outlines a framework for the placement of new taxi ranks and review of existing ranks.

5.1. Application

The requirement for new taxi ranks or re-siting of existing taxi ranks generally occurs when new developments open, or changes are made to existing taxi services.

Ideally, any new major development should include a transport facilitation process that includes a consideration for taxi access. By including these at the planning stage, it can reduce the need for expensive retrofitting and reduce local traffic issues.

Road and public transport authorities should review the location of existing ranks on an ongoing basis as part of general accessibility or safety reviews.

In addition to the details outlined in this specification, wherever new taxi ranks are proposed, or an existing taxi rank is to be moved, discussions should be held between the taxi operators, the local road authority and the Police, in order to determine the most suitable location. It is recognised that property owners also need to be consulted in this process.

5.2. Where should taxi ranks be located

People expect to find taxis in locations where passenger demand determines a requirement for taxis to queue to cater for the large volume of passengers exiting or entering a specific location. Ideally, these should be located where a natural queue forms to reduce passenger walking, and increase the level of passive security.

The Passenger Transport Regulations prohibit taxi drivers from allowing a taxicab to stand anywhere other than at a taxi rank whilst they are “for hire”. This means taxi ranks are the only place where vacant taxis may stand. If no taxi rank space is available, vacant taxis have no option but to leave.

The general acceptable standard practice for taxi rank location relative to a major venue entrance and exit is a maximum 400 metres walking distance. This distance equates to approximately a five-minute walking journey, which is a maximum distance that most people will find acceptable, however this distance may also depend on weather, topography and other passenger characteristics.

In urban centres, wherever possible, taxi ranks should be located to maximise the number of people within 400 metres walking distance of a taxi rank. This can be achieved by locating taxi ranks close to intersections (provided they do not compromise their safe operation), walkways or other pedestrian paths. Section 5.3 outlines the benefits of locating taxi ranks near intersections or pedestrian crossings.

Conversely, in suburban areas the availability of taxi rank space is critical in determining the availability of vacant taxis that can respond to bookings in surrounding areas.

Common locations that require nearby taxi ranks include, but are not limited to:

- ✦ City and Town CBD's
- ✦ Airports and Railway Stations
- ✦ Transport Interchanges
- ✦ Shopping and Community Centres
- ✦ Sporting venues (e.g. Racecourses)
- ✦ Entertainment Precincts (e.g. Casinos)
- ✦ Hotels, Clubs, Office Centres and Hospitals

It should be borne in mind in many cases the availability of taxi services to provide transport to and from suburban shopping centres, medical and community centres is a key factor allowing independently living for those who cannot access other forms of public transport or drive independently and are completely reliant on taxi services to provide essential door-to-door transport.

Finally, taxi rank locations should consider the egress from the rank, ensuring that taxis are able to leave the rank in all directions of passenger travel safely and easily.

5.3. Taxi rank proximity to intersections

Taxi ranks should be located in close proximity to intersections/pedestrian crossing facilities for the following reasons:

- ✦ Existing crossing facilities for pedestrians (at intersections) are likely to be located where there is already a demand for crossing.
- ✦ Walking distances between origins, destinations and taxi ranks are reduced for passengers.
- ✦ Taxi passengers are able to use/benefit from the existing pedestrian crossing features generally provided as part of intersections, such as dropped kerbs, pedestrian refuge islands or signals. This makes road crossings generally easier and safer at intersections.

Taxi ranks should be located on the departure side of intersections wherever possible for the following reasons:

- ✦ Results in fewer traffic delays and better safety: i.e. taxi clears intersection blocking fewer movements and sight lines.
- ✦ Improved access will result in better pedestrian and vehicle sight distances.
- ✦ Assists taxi movements and reduces taxi delays: i.e. a taxi that must turn right at an intersection may have difficulty reaching the right-hand lane of a multi-lane approach from a kerbside taxi rank immediately prior to the intersection.

5.4. Siting Taxi Ranks

The traffic regulations of the relevant State generally identify criteria where taxi ranks are not permitted.

Tables 5.1 and 5.2 below outline the primary and secondary criteria that taxi rank designers should consider when determining the appropriate locations of taxi ranks to service a major development. In practice, these criteria may not all be achievable in every instance, in which case safety considerations should dominate.

Table 5.1 - Primary factors to consider when siting taxi ranks

Primary Factors	Comments
Convenient to access and maximises the catchment area (maximises the number of people in close proximity to the taxi rank)	✦ Route to taxi rank should be as direct as possible. ✦ Locate taxi rank near intersections, side/minor roads, where possible to maximise coverage and decrease distance that passengers have to walk. ✦ Co-ordinate location of taxi ranks with neighbourhood walking path connections and building entrances. ✦ If there are no existing paths, investigate the feasibility of creating new pedestrian 'short cuts' that lead directly to the taxi rank. Look for opportunities to link these with the wider pedestrian network.
As close as possible to all major trip generators and key community facilities	✦ Major trip generators include employment, retail, commercial and educational centres. Attention should be paid to areas with high potential population growth that will generate new passenger demands. ✦ Key community facilities include community halls, sports centres, pools, parks, libraries, day-care centres, rest homes/elderly persons' housing, laboratories, hospitals, pharmacies, etc.
Close to journey transfers	✦ Taxi ranks should be located close to where other passenger transport services meet/intersect, to minimise walking time for transfers.
Close to intersections and pedestrian crossing facilities. <i>Note: Relevant State traffic acts/regulations should be consulted to determine legal criteria regarding proximity</i>	✦ Taxi ranks should be located near to and on the departure side of pedestrian crossings, but must not be closer than six metres to a pedestrian crossing. ✦ Taxi ranks should be located near to and on the departure side of intersections, but must not be closer than six metres to an intersection. ✦ Consideration must also be given to the location of barriers or pinch points that may increase actual walking distances (rather than area proximity), such as the need/ability to cross a railway, motorway, river or busy road only where a formal crossing has been provided.
Road Safety	✦ Taxi ranks should be located where the road geometry provides safe sightlines for oncoming vehicles and taxi drivers. ✦ Taxi ranks must not be located near a corner, curve, hill or gully, traffic island or intersection, if that creates 'blind spots'/blocks sight lines for pedestrians and vehicle drivers along the road.
Minimise opportunity for crime and increase perceptions of personal security	✦ Locate taxi ranks in clearly visible locations, e.g. away from vegetation and other objects that can be used to hide. ✦ Locate taxi ranks near existing activity centres, e.g. service stations, stops, rest homes, where natural public surveillance can occur - although it should be acknowledged that some residential properties would prefer some screening from the taxi rank. ✦ Locate taxi ranks in well-lit areas, e.g. near street lighting or other existing sources of illumination (should the shelter/taxi rank not be provided with its own illumination). CCTV may be considered in high use or high risk areas.
Location relative to infrastructure and other road activity	✦ Taxi ranks must not be located: a) on 'no stopping' lines (where applicable); b) where signage indicates the road is reserved for other vehicle classes c) Within 0.5m away from a fire hydrant or "FH" yellow letter marking d) Near from sewer and electricity pits; e) In or near stormwater drains or pits (to prevent splashing water)

Taxi Rank Design Specification

Table 5.2 - Secondary factors to consider when siting taxi ranks

Secondary factors	Comments
Consider taxi rank 'type' and potential impact on surrounding land use	- Some commercial and industrial businesses are more compatible with taxi ranks than other types. The type of business in the surrounding area should be considered when taxi ranks are being positioned. - Taxi layovers/feeders can negatively affect adjoining landowners due to extended noise, fumes etc., and on the operation of intersections. Where possible, taxi ranks used for taxi layovers should be located away from residential areas, driveway frontages or other sensitive frontages where ongoing noise and disturbance are undesirable. - Taxi rank signs should not be positioned directly adjacent to the front door of a property, if possible, to maintain privacy.
Footway widths	- Where possible, taxi ranks should be sited on footways that are sufficiently wide to avoid obstruction to pedestrians by waiting taxi passengers, especially when located near retail activity and licensed venues. - If the existing footpath is not wide enough, consideration should be given to locating the taxi rank where the footpath can be widened, without compromising appropriate spacing/other location criteria.
Consider potential use by other conflicting users	Some sites may be undesirable for taxi rank locations due to potential use by other conflicting users, e.g. Adjacent to areas that generate large amounts of short-term high-turnover parking. Examples include ATMs, lotto shops and video stores. This is because visitors to such locations often park illegally within taxi ranks.
Taxi service frequency and safety	Authorities may wish to categorise taxi ranks by level of service and safety, e.g. low frequency, medium frequency, and high frequency of services near nightclubs and hotels, to determine funding support and identification of the taxi rank as a Secure Taxi Rank if they have implemented a Taxi Rank Safety Program.
Driveways	- Many taxi ranks will be located near driveways. However, taxi rank shelters, especially ones with non-transparent advertising panels on the ends can affect driveway sightlines of on-coming traffic, especially where taxi rank shelters are located to the right of the driveway. - The siting of taxi rank shelters either side of driveways should take into consideration pedestrian and vehicle visibility splays from driveways. - Figure 5 in AS 28901.1 recommends a two-metre minimum pedestrian visibility splay. - The appropriate (and feasible) visibility splay for each site will need to be considered on its own characteristics. However, the setback from the road carriageway may be more important than the distance from the driveway in determining the ability to see past the shelter.

In summary, taxi rank locations should aim to minimise pedestrian travel distances, be central to areas or precincts that they serve and have good access and egress for taxi vehicles.

When determining taxi rank locations, there are often tradeoffs between providing optimum pedestrian access and optimum vehicle access. When tradeoffs need to be made, it is preferred that pedestrian access is favoured over vehicle access. For example, at railway stations, best practice would be for the rank to be located close to the platform entry and exit points thereby serving passenger needs. Ideally, this location would also have a high level of access and egress for taxi vehicles. If this is not possible, then the passenger needs should be met first.

There will be situations where the optimum location for pedestrian access will mean that taxi access will be significantly less than ideal. This is particularly relevant for ranks outside large office buildings where the predominant direction of travel is in the opposite direction to the rank. If U-turns are not permitted or are difficult to make, drivers will either take risks or need to travel extended routes. To address this issue it may be appropriate to provide ranks on both sides of the road with improved pedestrian facilities.

5.5. Helping People Find Taxi Ranks

Pedestrians should be able to find taxi ranks easily. If the ranks have been located adjacent to high pedestrian use areas, it should be intuitive for people to be able to locate them. For example, at suburban strip shopping centres, there is often a pedestrian mall or a predominant pedestrian precinct. Many people would expect to find a taxi rank adjacent to this area, rather than in a quieter, less pedestrianized location.

The sight of multiple taxis queued at a taxi rank is an obvious indicator as to where the taxi rank is located.



Busy taxi ranks easy for would-be passengers to locate

Signs directing people to taxi ranks are particularly important in larger areas and where it is not immediately clear the direction in which taxi ranks are located. Way finding signs should be installed at sporting venues, pedestrian shopping malls and transport interchanges to improve pedestrian accessibility to taxi ranks, particularly for passengers who may be unfamiliar with the location.



Signage directing pedestrians to the taxi rank

5.6. Taxi Rank Vehicle Capacity

Taxi rank capacity is an important consideration in the planning of taxi ranks where service frequencies are high. This includes taxi ranks along key passenger transport corridors and those located at main destinations such as the CBD; retail, business and town centres, universities, hospitals, etc.

Poor capacity will result in taxis queuing on the road, with resulting confusion for passengers and drivers, as well as congestion of general traffic flows. It is therefore important to provide the appropriate level of capacity for a taxi rank commensurate with the number of taxis servicing it at any one time.

The capacity of a taxi rank is typically expressed by the number of taxis that can enter the rank within a specified peak period (usually a one-hour peak). A taxi rank capacity is determined by the length of time a taxi spends occupying the taxi rank (dwell time) and the number of taxis that could pass through the rank within that peak hour.

To determine the required capacity, a 10-minute dwell time for each taxi can generally be assumed during the peak period, taxi drivers generally will not dwell longer than 10 minutes at a busy rank, they tend to leave the rank after 10 minutes and dwell at an alternative rank. However, it should be noted that this might create problems in quiet periods with many taxis trying to access a popular rank.

Example taxi rank vehicle capacity

- ✎ A high use taxi rank that services a taxi every three minutes during the peak hour has a capacity of 20 taxis per hour.
- ✎ If each taxi has a maximum dwell time of 10 minutes, a maximum of four taxis could be at the taxi rank during any 10-minute period. (10 minutes / three minutes rounded up).

Taxi rank capacity will influence the amount of road space required for the taxi rank. The required capacity at a taxi rank should be determined on a case-by-case basis and, for very busy taxi ranks, will often require detailed analysis. Similarly, where fleets utilise a number of longer vehicles, these calculations may need to be altered.

It is desirable that taxis stop parallel to the kerb, facing in the direction of the main traffic stream so that waiting taxis may progress from the tail of the taxi queue to the head.

Minimum length of taxi ranks as specified in AS 2890.5: 1993 is $(5.4n + 1.0)$ metres, where 'n' is the number of taxis to be accommodated.

In the above example, four taxi spaces are required, therefore 'n'=4 so the rank length is as follows:

✎ $5.4m \times 4 + 1m = 22.6$

6. Level of Infrastructure Provision

As discussed in section 4, these guidelines have divided the taxi ranks into four main 'types' as a tool to help determine the appropriate level of taxi rank infrastructure.

A schematic illustration of each type of taxi rank is shown below.

Figure 6.1 – Schematic illustration of a Low Use Taxi Rank

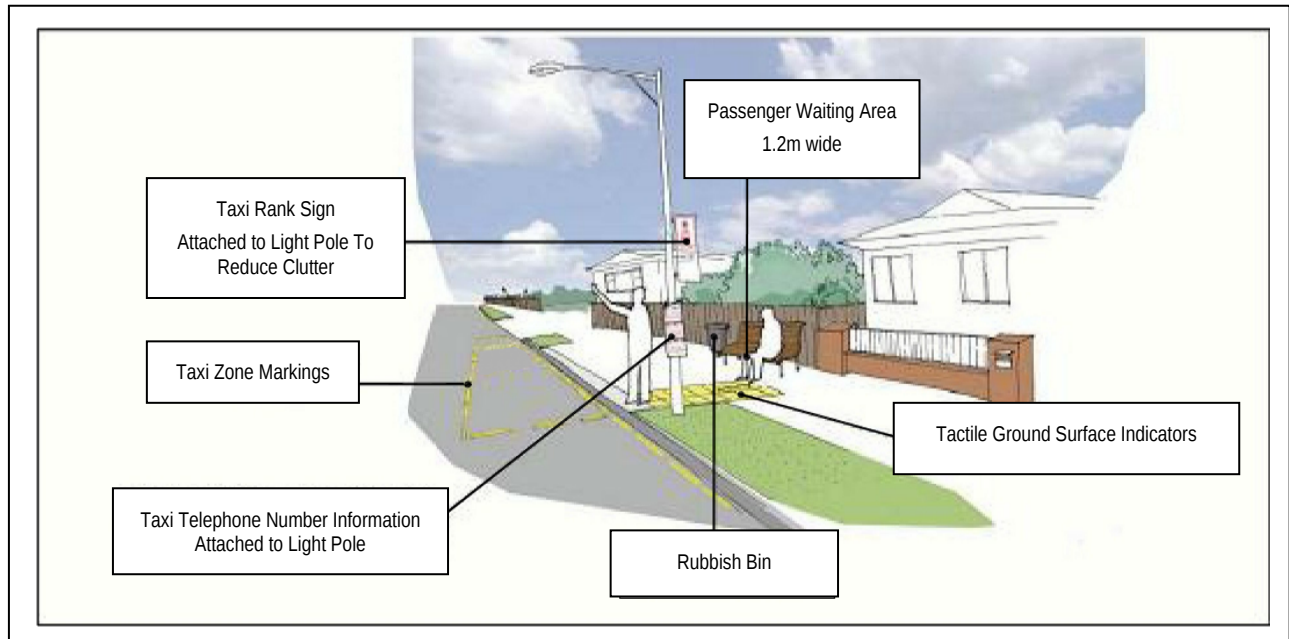
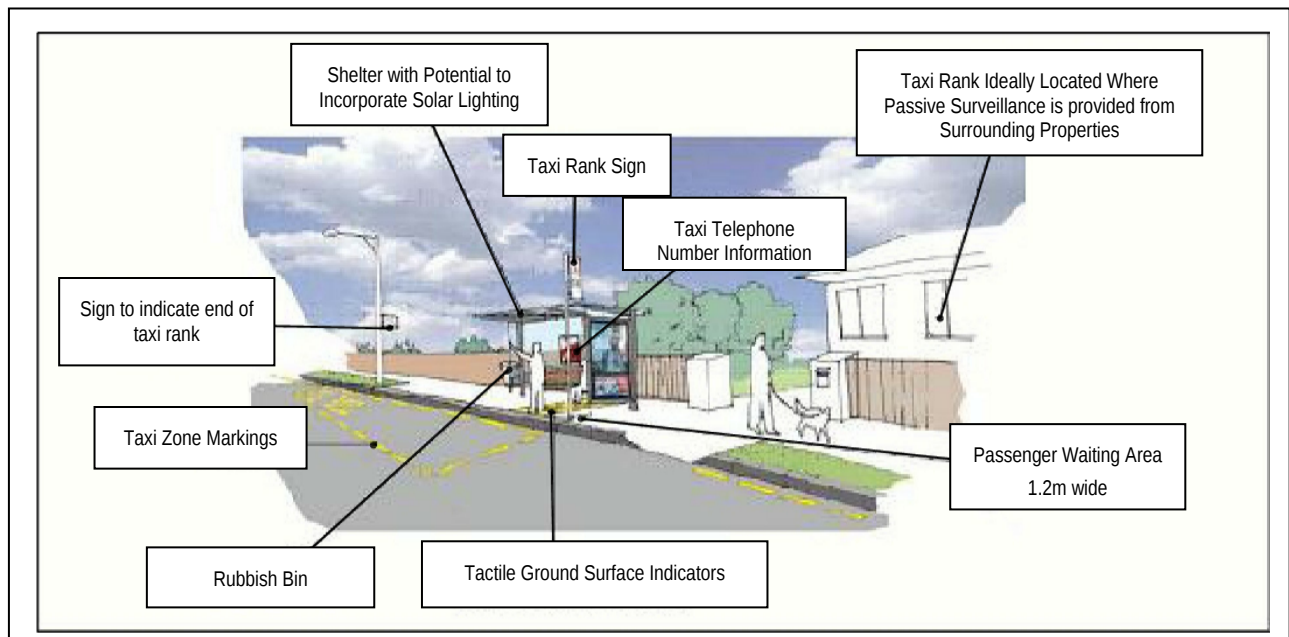


Figure 6.2 – Schematic illustration of a Medium Use Taxi Rank



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Figure 6.3 – Schematic illustration of a High Use Taxi Rank

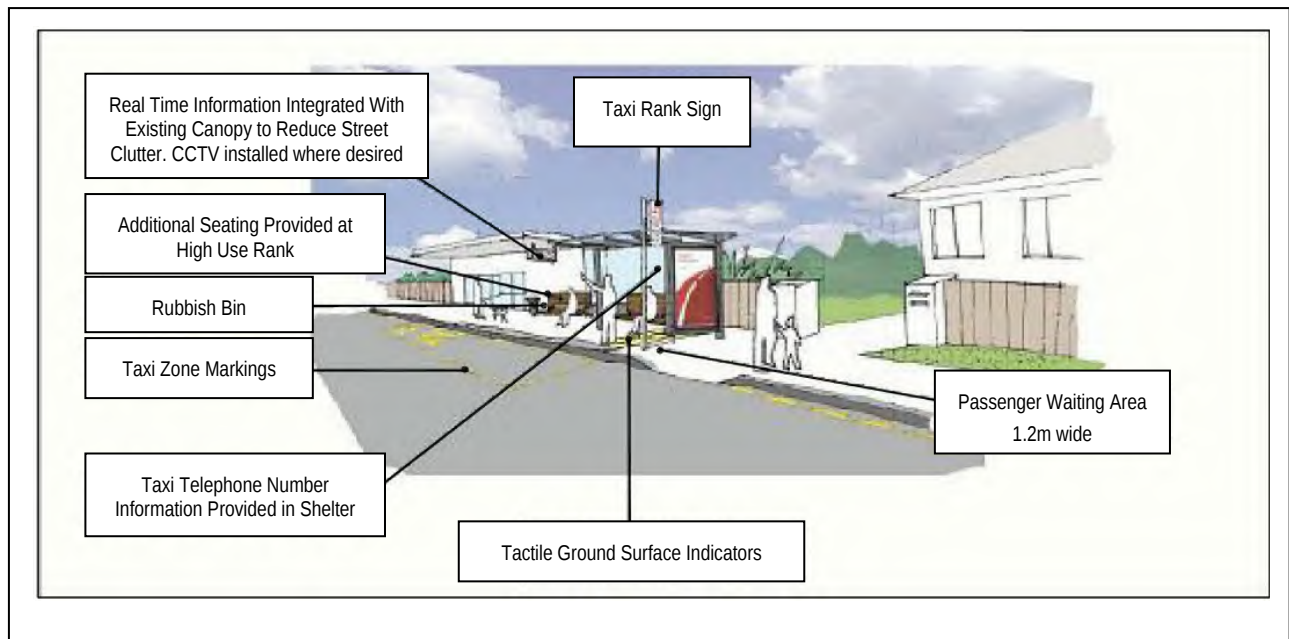
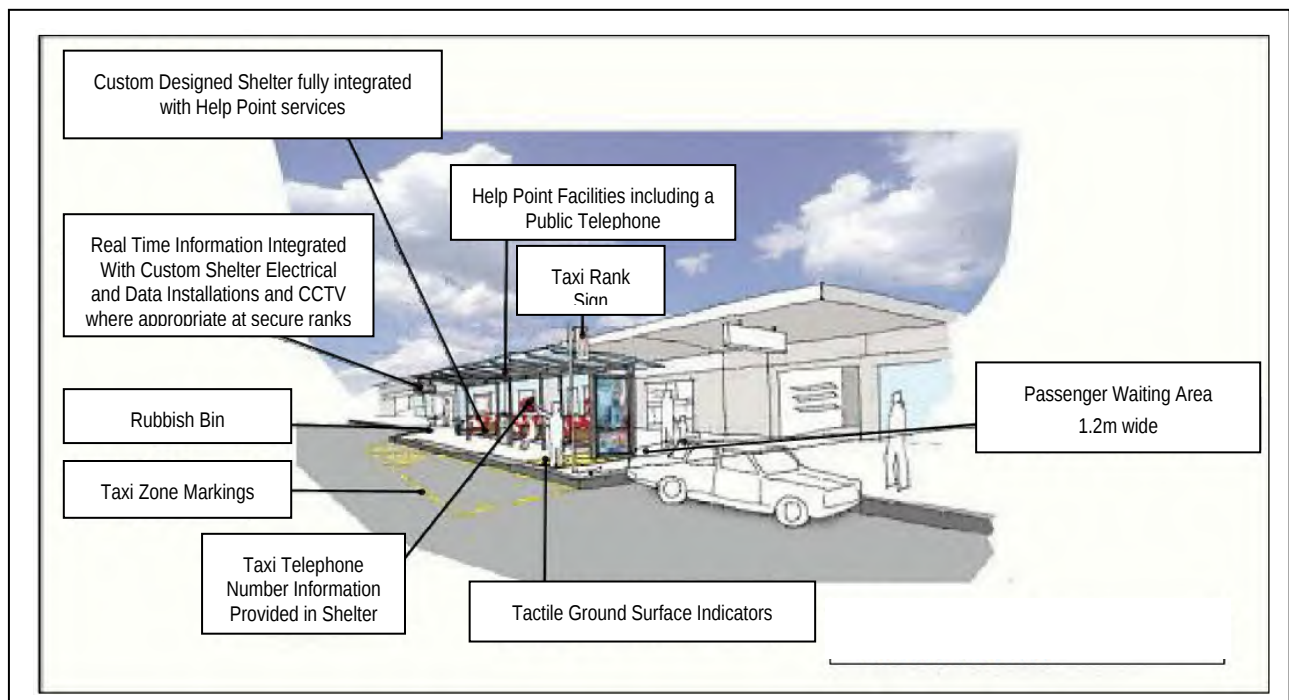


Figure 6.4 – Schematic illustration of a Premium Taxi Rank



The above schematic illustrations are only indicative of the infrastructure requirements of each taxi rank type. In fact, only the taxi rank sign and the taxi zone line marking are the only legal requirements at taxi ranks. The remaining components depicted in these illustrations are necessary to achieve the passenger transport growth and accessibility aspirations of the various context of national and state transport policy that taxi services should be integrated into. There are a number of other features that would be desirable at all taxi rank stops, including a sign to show the end of the rank, and seating. These are discussed in the following section.

6.1 On-road and kerbside design features

Taxi Rank design involves designing the necessary features of both the on-road features and the kerbside features.

On-road design features:

On-road taxi rank feature design should ensure taxi-waiting areas are clearly identified by appropriate parking controls and private vehicles are actively discouraged from using them.

On-road taxi rank design features include:

- A.** Boarding and Alighting Areas;
- B.** Taxi rank queue is sufficient to accommodate the required number of waiting taxis¹;
- C.** Coloured road surface treatments;
- D.** Line marking;
- E.** Pedestrian infrastructure including links to pedestrian crossing, kerb heights etc.;
- F.** Street lighting;
- G.** Roadside facing signage and marking; and

Kerbside design features:

Kerbside taxi rank design elements should ensure the passenger waiting area has a consistent and predictable layout, taking into account the needs of waiting, queuing, and boarding passengers, and the queuing and layout of taxi vehicles. The kerbside areas should also facilitate ease of access for disabled passengers.

Kerbside taxi rank design features include:

- H.** Passenger waiting area;
- I.** Seating and other street furniture, including rubbish bins and trolley bays where applicable;
- J.** Passenger shelters, including sufficient lighting and security measures (e.g. CCTV);
- K.** Telephone access including both signs and telephone availability;
- L.** Help Point;
- M.** Real time information messaging (waiting time);
- N.** Footpath facing signage;
- O.** Queuing rails;
- P.** Footpath pavement slope controls, including ramps for prams and disabled passengers;
- Q.** Tactile Ground Surface Indicators (TGSIs)

These design features are categorised into functional components as follows:

Component	On-road design feature	Kerb-side design feature
Information	C, D, G	M, N
Accessibility	A, B, E	H, O, P, Q
Street Furniture		I, J
Safety and Security	F	K, L

¹ Feeder ranks may be able to be used where sufficient length cannot be achieved

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Table 6.1 below summarises the level of provision envisaged for each taxi rank type endorsed by the ATIA.

Table 6.1 – Infrastructure provision required at ATIA endorsed taxi ranks

M	Mandatory (legally required)
HD	Highly desirable / preferred
R	Strongly recommended
O	Optional
NA	Not appropriate

Category	#	Infrastructure	Low	Med	High	Prem.
Information	1	Taxi Rank Signage (R5-21)	M	M	M	M
	2	Taxi Zone (line marking)	M	M	M	M
	3	Taxi Rank (road marking)	HD	HD	HD	HD
	4	Coloured road surface	NA	O	R	HD
	5	Taxi telephone numbers	R	R	HD	HD
	6	Waiting real time information	NA	NA	NA	R
Accessibility	7	Boarding and alighting areas	HD	HD	HD	HD
	8	Taxi rank queue	HD	HD	HD	HD
	9	Passenger waiting area	M	M	M	HD
	10	Queuing rail	NA	NA	R	M
	11	Tactile ground surface indicator (TGSI)	HD	HD	HD	HD
	12	Pedestrian crossing close to rank	R	R	HD	HD
Street Furniture	13	Seating	HD	HD	HD	HD
	14	Shelter	NA	O	R	HD
	15	Rubbish bin	O	R	HD	HD
	16	Trolley bay ²	NA	NA	O	R
Safety and Security	17	Public telephone on-site or nearby	NA	O	R	HD
	18	Secure taxi rank services	NA	O	R	HD
	19	Street lighting	M	M	M	M
	20	Shelter lighting	NA	O	R	HD
	21	Help point services	NA	NA	NA	O

The following section describes the design criteria or warrants for each of the above 21 infrastructure components that may be provided at a taxi rank.

² Trolley bay suitability will depend on location primarily, rather than rank type

7. Infrastructure Design Criteria

This section is a concise set of design criteria to consider for each of the above 21 infrastructure components. Where appropriate, the relevant standards and their specific parts have been identified and discussed to assist the design process of a taxi rank.

7.1 Taxi Rank Signage

Rule 182 of the Australian Road Rules requires all taxi ranks to have a Taxi Zone sign, (R5-21 as described in Standards Australia AS1742.11: 1999 Manual of uniform traffic control devices: Part 11: Parking controls), located at the head of the taxi rank queue. Signs at the end of the rank are also desirable. The R5-21 sign types are pictured below:



An alternative to using the standard Taxi Zone sign, the R5-405 sign pictured below may be used if a time limit is to be applied for waiting taxis. The time limit on the sign can vary and should reflect the dwell time permitted at the rank. Note that the 1-minute exception signs are those used in NSW.



Side facing the road

Side facing the footpath

At transit centres and interchanges there may be general no parking zones identified with line marking, in these areas taxis may be permitted where a R9-Q01 sign is used, refer sign below:



Signs are important indicators to passengers and taxi drivers and act as 'control points' for the layout of the taxi rank infrastructure components. These signs serve both an enforcement purpose (by informing other vehicles of the existence of a rank) and also an advisory purpose for passengers.

The sign can be placed on a standalone pole or attached to an existing light post to reduce street clutter. However, it should always be placed at the head of the taxi zone area, unless it can be demonstrated that this would not be safe or effective. This ensures a consistent and predictable environment to be created at the taxi rank. Taxi drivers will know to align the front door of the vehicle with the taxi sign and pole, which is where key infrastructure components are provided, i.e. Passenger Waiting Area and use of TGSI's. This is particularly important for disabled or visually impaired passengers.

The Australian road rules state that where there is a taxi zone sign and there are no road markings indicating the extent of the taxi zone you may not stop, stand or park within six metres of the taxi zone sign. When there is a taxi zone sign and an area marked out you may not stop, stand or park within the area marked out.

In addition to the Taxi Zone sign, additional taxi rank information signage may also be provided to advise on:

- the location where 'pre-booked taxis' wait
- the hours of operation of the rank (if relevant),
- the location of other nearby ranks, and

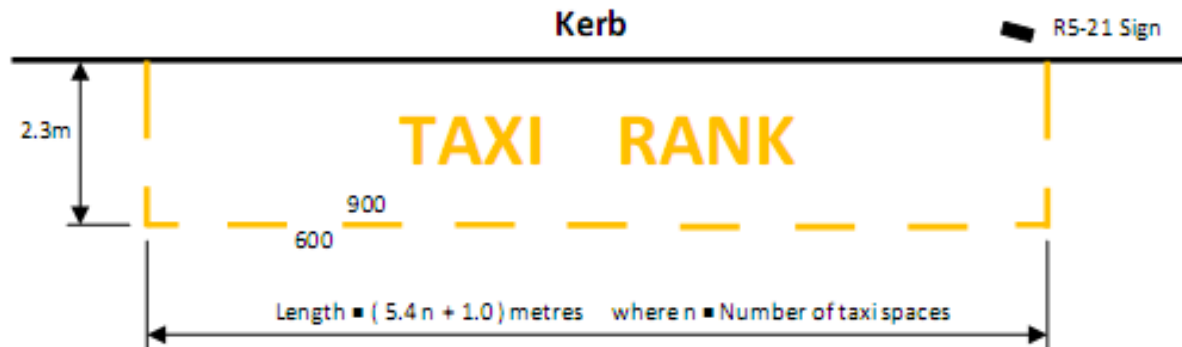


Information signage attached to walls and shelters should be centred around 1400 mm from the ground, with the bottom edge not less than 900 mm from the ground and the top edge up to a maximum of 1800 mm above ground. Typefaces used should be Sans Serif, at least 16 point in size and should use lower case lettering, which is more readily distinguishable than upper case (capital) lettering. There should be a good colour contrast between text and the background of the sign, e.g. dark blue on white.

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7.2 Taxi Zone Line Marking

Line marking of taxi ranks is mandatory and the Australian Standard AS 1742.11-1999 defines taxi zones as a Special Purpose Parking Zone. Clause 7.1.2 of the Standard describes special use parking zones as spaces marked by broken yellow lines 80 – 100mm wide, with line and gap lengths 900mm and 600mm respectively as shown below.



The colour yellow used for the line marking is Golden Yellow, Colour Y14 as defined in AS 2700. The type of paint used is a premium water-borne road marking paint suitable for use with drop-on beads in compliance with AS 2009. The paint must comply with the requirements of AS 4049.3. The paint should be applied at 400 to 500 microns wet thickness.

The dimensions of taxi rank parking spaces are defined in the Australian Standard AS 2890.5-1993. Clause 2.2.2 describes the minimum width of the parking space as 2.3m, and Clause 4.3 describes the minimum length of the taxi rank as $(5.4n + 1.0)$ metres, where n is the number of taxis to be accommodated.

7.3 'TAXI RANK' Road Marking

The 'TAXI RANK' road marking is optional and may be used to supplement sign controls. The lettering is written in yellow paint and must be at least 300 mm high, written parallel to the kerb and facing to the middle of the roadway. Refer diagram above.

The letters should be similar to Series D lettering, as defined in AS 1742.

The yellow paint is the same paint used for marking the yellow taxi zone lines (Golden Yellow, Colour Y14 AS 2700), and must comply with the requirements of AS 4049.3.

7.4 Coloured Road Surface

The pavement surface area defined as the Taxi Zone by line marking can be highlighted further with coloured surface treatment. This makes the taxi rank more prominent to all: passengers, taxi drivers and other general vehicle drivers. Although it is recognised that the treatment imposes additional costs, the highlighted Taxi Zone may prove an effective deterrent to illegal parking and reduce enforcement problems, refer photo below.



7.5 Taxi Telephone Numbers

At each taxi rank there should be signage erected which provides the contact details of local taxi networks. Many passengers may not be familiar with local taxi protocols and may be visiting from overseas. It is important that unfamiliar passengers be provided with clear and up-to-date contact details to provide reassurance when travelling alone and/or at night.

7.6 Waiting 'Real time' information

'Premium Taxi Ranks may be provided with real time 'Waiting time' information signs. The following criteria provide further guidance on which taxi ranks should be prioritised for real time information sign provision:

- ✦ Ranks where passengers need to make decisions to wait for the next taxi or make alternative arrangements for travel. This is particularly relevant travelling between domestic and international airport terminals.

- ✦ Taxi ranks near transport interchanges.

The information displayed would be 'Waiting time' until the next taxi arrives at the rank. The technology required to provide 'real time' taxi information services is expensive and as such is normally integrated with other passenger information systems found at major transport interchange facilities.

The electrical and IT specification for 'Real Time' information services is discussed in section 7.21.

7.7 Boarding and Alighting Areas

It is mandatory that all taxi ranks are located such that the front passenger door faces the kerbside.

It is also recommended that the area directly behind the rear of the taxi is large enough for the efficient loading and unloading of luggage into the boot, to manoeuvre trolleys and most importantly to allow for wheelchair access to the taxi if the taxi is suitably equipped.

A large number of taxi drop-offs will occur in non-rank locations, often in areas of high traffic. While this document covers only rank recommendations, there should be consideration paid to the ease of taxi drop-offs. In areas with a high number of passengers, there may be value in allowing taxis a one-minute grace period for dropping off passengers, as is currently used in Sydney.

7.8 Taxi rank queue

As discussed in section 5.6, the length of the taxi rank queue should be sufficient to accommodate the maximum number of queued taxis at the rank during the peak operating hour.

Queue length is equal to the rounded up value of taxi dwell time divided by the taxi arrival rate during the peak hour period.

Example taxi rank queue

A taxi rank has the following operating criteria:

- ✦ Taxi Arrival Rate = 3 minutes
- ✦ Taxi Dwell Time = 10 minutes
- ✦ Taxi Queue = 4 taxis (roundup 10/3)
- ✦ Rank Length = 22.6m (Refer section 7.2)

7.9 Passenger Waiting Area

As regular taxi users catch taxis from numerous localities the passenger waiting area at taxi ranks should have a consistent and predictable layout, taking into account the needs of waiting, queuing, and boarding passengers, and the queuing and layout of taxi vehicles. The kerbside area adjacent to the rank should be free from obstacles.

The footpath area adjacent to the taxi rank should be sufficiently wide to provide for waiting taxi passengers and passing pedestrians. A clear area 1.2 metres wide and 6.4 metres long is the absolute minimum space that must be provided at the head of the taxi rank, with a greater width in areas with high pedestrian volumes. With premium taxi ranks if the existing footpath is not wide enough, the use of a footpath build out into the carriageway, maybe appropriate providing the build out does not impact upon road safety.

It is recommended that the passenger waiting area is also a hard standing area that comprises a sealed smooth surface connecting the taxi door(s) with the nearby footpath. This hard stand is particularly important for the accessibility of wheelchair users, parents with prams, etc. The extent of the hard standing area may vary depending upon the taxi rank environment. However, as a minimum it should be same dimensions as the clear zone area (1.2m x 6.4m), to ensure access to the road behind the taxi.

The kerbside height should be at a height, which prevents taxi doors from striking the footpath causing damage to doors. The kerbside should also allow people with disabilities, elderly and frail passengers to easily access taxis. The desirable kerb height is between 120mm and 150mm.

7.10 Queuing Rail

Generally, where taxi demand is high additional facilities are required within the kerbside space to cater for queuing and special need customers.

Queuing rails should only be provided at ranks where there is more than one waiting taxicab, and the rail should only extend beside those taxis not positioned at the head of the rank. The taxi positioned at the head of the taxi rank requires the 6.4m of obstacle free waiting space for loading purposes; therefore, the rail should not intrude into this area.

If a queuing rail is provided it is located immediately behind the kerb such that passengers are prevented from stepping onto the road, queuing rails are particularly useful at nightclub taxi ranks.

7.11 Tactile ground surface indicators

Tactile ground surface indicators (TGSIs) provide visual and sensory information about the road environment. They assist people with vision impairment to access the taxi from the adjoining footpath in two main ways:

- They direct people from the footpath to the kerb where the taxi door will be and from the taxi onto the footpath.
- They warn people of the upcoming kerb, and the potential hazards beyond it.

The layout and specification of TGSIs should be in accordance with that outlined in Australian Standard AS 1428.4.1:2009 Design for access and mobility - Means to assist the orientation of people with vision impairment – Tactile ground surface indicators.

The Standard states that TGSIs provided to identify access to public transport shall be installed as follows:

- Warning indicators a minimum of 600mm wide and 600mm deep installed 300mm back from the front of the kerb edge, adjacent to a taxi rank, preferably close to the front passenger door.
- Directional indicators 600mm deep, installed where the warning indicators are not located in the direct line of the continuous accessible path of travel, forming a continuous path to the warning indicators.

The photo in the next column shows directional and warning indicators installed correctly at a taxi rank.



Example of TGS installation

7.12 Pedestrian crossing close to rank

As discussed in sections 5.2 and 5.3, wherever possible, taxi ranks should be located within 400m of the entrance to a major venue. This distance equates to approximately a five-minute walking journey, which is a maximum distance that most people will find acceptable. When a taxi rank is located close to a pedestrian crossing, the crossing provides improved pedestrian connectivity across the road, thereby maximising the catchment area of a taxi rank.

7.13 Seating

Where possible, it is desirable that all ranks would have seating, especially for the elderly and/or frail, expectant mothers, parents with young children and persons with disabilities, however the ability to provide this seating often depends on locational and financial constraints.

The amount of seating that would be provided at each type of taxi rank is dependent upon the expected demand at the specific rank, however as a general guide the following is likely to be sufficient for the patronage at a typical rank:

- Low Use Rank: Seating for 2 people
- Medium Use Rank: Seating for 5 people
- High Use Rank: Seating for 10 people
- Premium Rank: Seating for 15 people

Seating must comply with the relevant Local Council street furniture and urban design

requirements, and be arranged to discourage loitering of non-passengers.

The location of seating should contribute to passengers' comfort by being well back from traffic and allowing good visibility to approaching services. The seating should also be located as close to the head of the taxi rank as practical without impinging on the Waiting Area Clear Zone discussed in section 7.9.

Where footpath widths are very narrow, seating may be provided on the edge of the kerb. However, these seats should face inwards for safety reasons.

7.14 Shelter

Taxi rank shelters provide waiting passengers with protection from the sun, wind, and rain. They also strongly define the taxi rank area, as the shelters are the most visible permanent indicator of the presence of a taxi rank.

Currently, there are many types of shelter designs across Australia, provided by each of the State Transport Authority as well as private companies. For the purposes of this specification, the exact type of the preferred shelter is not specified, as like the seating, the shelter must comply with the relevant Local Council street furniture / urban design requirements. The main point is that the shelter meets the design and layout criteria specified below.

When to provide a taxi rank shelter

Ideally, all taxi ranks (with the exception of those under canopies) should be provided with a shelter. However, the reality is that resources are limited and often some form of prioritisation will need to be undertaken to direct resources appropriately.

The following are considered the main priority criteria for shelter provision:

- ✦ Provide at taxi ranks where there are more than 30 passenger pickups per day; and
- ✦ The taxi rank is located within a transport interchange facility.

However, many other factors should be taken into account when determining if a shelter is appropriate, particularly where patronage figures alone are low. Shelter provision should be considered where ranks fit one of the following.

- ✦ Close proximity to senior housing/facility and a minimum of 10 daily pickups.
- ✦ It is a low use taxi rank where passengers are waiting during the peak traffic period. This

coupled with a low dwell time for taxis at the rank, means that passengers may have to wait long periods at this rank, and therefore could arguably have more of a need for shelter than at high use ranks.

At these locations, a shelter may be appropriate if the rank has a minimum of 15 daily pickups on roads carrying more than 20,000 vehicles per day.

Taxi rank shelters may also not be required where there are building canopies, although where possible, seating should be provided. This should be determined on a case-by-case basis as at some exposed sites, a building canopy may not give shelter from wind-driven rain and a shelter may still be justified.

Shelter design and layout principles

The design and layout of shelters should meet a number of requirements. These are listed below.

- ✦ It must be accessible with the necessary clearance and circulation spaces, particularly for people with physical or vision impairments. Refer to the following sub-section for clearance requirements.
- ✦ Shelter should be as close to head of the taxi rank as practicable. If not possible within current layout, consider amending / widening taxi rank area / footpath width.
- ✦ Shelter should have at least three walls (one back wall and two side panels), a roof and an entrance that together provide effective shelter to waiting passengers. Although it is recognised that at some narrow sites, only shelters with no side panels may be possible.
- ✦ Where four panelled shelters are provided (with one front panel), two entrances should be maintained to reduce likelihood or perception of entrapment.
- ✦ Glass panels should be marked with a horizontal contrasting stripe between 700mm and 1000mm high to highlight the presence of the glass to users.
- ✦ Maximise the use of easily maintained (anti graffiti) materials.
- ✦ Incorporate seating and wheelchair/pram waiting areas.

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- ✚ Design should take into account the surrounding land use, for example in many streets where heritage values have been identified, shelters with advertising on them may not be appropriate. Although advertising on shelters is acceptable in most urban situations, the design emphasis should be on amenity over advertising.
- ✚ Shelters should be located on the footpath without blocking the main pedestrian through route. Where there is ample width, shelters should be located to the back of the footpath.

Shelter Clearance requirements

Ideally, taxi rank shelters should have an obstacle free clear zone surrounding them as follows:

- ✚ **Front:** 1800mm clearance should be provided between the kerb and the front of the shelter structure to give a continuous accessible path of travel for pedestrian through movements. However, in very constrained situations 1200mm is acceptable as an absolute minimum.
- ✚ **Sides:** 1200mm clearance should be provided for maintenance and cleaning of the shelter glass panels.
- ✚ **Rear:** Should the shelter back directly onto a property boundary or fence, the property owner may wish to have a 500-600mm gap between the back of the shelter and the property boundary/fence for maintenance access, etc.

Shelter sight line and visibility criteria

Shelters, especially ones with non-transparent advertising panels on the ends can affect driveway sightlines of on-coming traffic, especially where shelters are located to the right of the driveway. The design of shelters should therefore ensure that:

- ✚ Shelters are located in a position where there are clear sight lines between the taxi driver and waiting passengers.
- ✚ Use of transparent materials is maximised to enhance visibility and aid passive security. Materials and design must allow passengers to see the approaching taxi (whilst standing or sitting down inside shelter).
- ✚ The siting of shelters either side of driveways should take into consideration pedestrian and vehicle visibility splays from driveways. Figure 5 in AS 28901.1 recommends a two-metre minimum pedestrian visibility splay.

An example of a properly positioned and constructed taxi rank shelter is below.



Key elements of this shelter are as follows:

- ✚ Shelter is positioned against the kerb so the pedestrian movement along the footpath is not obstructed by the shelter
- ✚ Night lighting provided in roof of shelter
- ✚ Rubbish bin located close to shelter
- ✚ Glass panels providing visibility to passengers and taxi drivers
- ✚ Position of shelter relative to driveway does not affect sight lines
- ✚ Queuing fence located directly behind kerb to prevent passengers stepping onto road
- ✚ Concrete hard stand area
- ✚ Information signage on glass panel

The only feature missing from this shelter is seating, however this may be specifically excluded at this rank due to width constraints.

It is also noted that the kerbside fence in the above photo may not be suitable for very high demand ranks where the co-ordination of multiple hiring is aided by the ability for multiple boardings.

7.15 Rubbish bins

Rubbish bins are a street furniture item generally provided by the Council. If the taxi rank has a shelter or seating, a rubbish bin should always be a fixture associated with the shelter.

Rubbish bins must not interfere with either taxi door openings or passenger access to taxis.

7.16 Trolley bay

Trolley bays are normally a feature of shopping centres and airports. At taxi ranks servicing these areas, it is best practice to provide a storage area for trolleys such that the trolleys do not become an obstacle within the passenger waiting area, and trolley collection contractors have a designated location for collection of the trolleys.

The kerbside gradient of a trolley bay associated with the taxi rank should be such that does not encourage shopping / luggage trolleys to roll towards the taxi vehicle. To prevent rolling trolley problems the cross fall slope of the footpath should be less than 2%.

7.17 Public telephone on-site

At High Use and Premium ranks, it is best practice for a public telephone to be available close to the rank. If appropriate, a direct telephone to either the taxi company, or the dispatch centre that services the rank should also be included.

7.18 'Secure Taxi Rank'

A 'Secure Taxi Rank' is a rank patrolled by trained security staff late at night at locations busy with patrons from popular entertainment precincts.

A study of 30 secure ranks in NSW conducted in 2005 / 2006 showed that they:

- Provided a safer environment for waiting passengers and taxi drivers;
- Led to less local vandalism, anti-social behaviour and street disturbance;
- Promoted orderly conduct of patrons;
- Made passengers feel safer; and
- Increased multiple-passenger hiring

The security staff provided at 'Secure Taxi Ranks' are sometimes provided via a cooperative scheme between taxi networks and venues, however in general, a high risk rank is identified by the City and State Transport Authority as a 'Secure Rank' which is supported by a Taxi Rank Safety Program.

Each State has its own specific Taxi Rank Safety Program, and all programs involve a high degree of cooperation among relevant stakeholders, including taxi operators, taxi drivers, security officers and Police.

There is no specific criteria for classification of a taxi rank as a 'Secure Taxi Rank', however to be considered, the rank will need to undergo a safety audit and a safety risk profile.

7.19 Street lighting

Taxi ranks must have appropriate levels of lighting to provide for pedestrians, passengers, vehicles and drivers. Recommended lighting levels and design procedures for the lighting of public areas is outlined in the Public Lighting Code AS 1158-2005.

The design and layout criteria applying to street lighting of taxi ranks are specified below.

Street Lighting: Preliminary Checks

Before commencing a lighting design for a new or existing taxi rank, a preliminary site check should be performed. This preliminary site check will involve the following:

- Measuring existing horizontal and vertical night time illuminance levels across the proposed rank site and pedestrian accesses with a precision illuminance luxmeter calibrated against CIE Standard 069-1987.
- Assessing the site safety risks and confirming with the police whether the rank site is:
 - (a) Low Risk: minimal or no prior history of vandalism, anti-social behaviour, crime;
 - (b) Medium Risk: prior history of vandalism, loitering, threatening/drunken behaviour; or
 - (c) High Risk: prior history of indictable crime
- Assessing the site access risks and confirm whether pedestrian accesses to the rank are:
 - (a) Low Risk: pedestrian footpaths only that are generally level;
 - (b) Medium Risk: incorporate or directly connect to stair flights, ramps or kerbs or permit mixed pedestrian and bicycle traffic; or
 - (c) High Risk: directly connect to pedestrian crossings, footbridges, bikeways, pedestrian ways, subway ramps or stairwells.
- To ensure passengers can access the taxi rank, the surrounding paths to and from the taxi rank should also be well lit. The extent that this should be taken as part of any taxi rank improvement will be dependent on each site's specific characteristics.

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Street Lighting: Site and Access Illumination Specification

Existing rank site illumination shall be acceptable if measured existing illuminance levels and uniformities comply with the criteria listed in the table 7.19.1 below.

Table 7.19.1: Acceptable Rank Site Illuminance and Uniformity

Preliminary Site Checks	Low	Medium	High Use	Premium
Minimum Average Horizontal Illuminance	7 lux	7 lux	14 lux	21 lux
Minimum Point Horizontal and Vertical Illuminance	2 lux	2 lux	4 lux	7 lux
Maximum Horizontal Illuminance Uniformity (Max Point Illuminance / Min Point Illuminance)	10	10	10	10

Existing rank pedestrian access (footpaths, walkways, lanes, etc) illumination shall be acceptable if the measured existing illuminance levels and uniformities comply with the criteria listed in Table 7.19.2 below.

Table 7.19.2: Acceptable Rank Site Access Illuminance and Uniformity

Preliminary Site Checks	Site Safety Risk	Site Access Risk	Low and Medium	High and Premium
Min. Average Horizontal Illuminance	7 lux (High) 3.5 lux (Med) 1.8 lux (Low)	7 lux (High) 3.5 lux (Med) 1.8 lux (Low)	1.8 Lux	3.5 lux
Min. Point Horizontal or Vertical Illuminance	2 lux (High) 0.7 lux (Med) 0.3 lux (Low)	2 lux (High) 0.7 lux (Med) 0.3 lux (Low)	0.3 Lux	0.7 lux
Max. Horizontal Illuminance Uniformity (Max Point Illuminance / Min Point Illuminance)	10	10	10	10

Where existing illuminance levels and uniformities do not meet the minimum acceptance criteria listed in the tables above, the site and/or pedestrian access public lighting illumination shall be upgraded in accordance with Table 7.19.3 and AS 1158 – Lighting for Roads and Public Spaces.

Table 7.19.3: Minimum Public Lighting Subcategories for New Taxi Ranks and Accesses

AS 1158.3.1:2005 Reference	Low	Medium	High	Premium
Table 2.7 Lighting Subcategories - Rank Site	P8	P8	P7	P6
Table 2.6 Lighting Subcategories - Low Site Access and Safety Risk Pedestrian Footpaths	P3	P3	P3	P2
Table 2.6 Lighting Subcategories – Medium Site Access and Safety Risk Pedestrian Accesses OR Accesses Connected to Stairs, Ramps or Kerbs OR Accesses Permitting Mixed Pedestrian and Bicycle Traffic	P2	P2	P2	P2
Table 2.6, 2.7 and 2.8 Lighting Subcategories – High Site Access or Safety Risk OR Accesses Connected to Pedestrian Crossings, Footbridges, Bikeways, Pedestrian Ways, Subway Ramps or Stairwells	P1	P1	P1	P1

7.20 Shelter lighting

Most pre-fabricated taxi shelters have interior lighting as standard; however, some Council shelters have traditionally relied on the overspill of existing street lighting to illuminate the taxi rank area. Whilst this is better than no lighting, the illumination level of street lighting is often poor at the pedestrian level.

Ideally, taxi rank shelter should have its own source of illumination. This can be through an interior light powered from the grid or through use of solar power. It is recognised that the use of interior lighting in shelters is vulnerable to vandalism; however, lighting is a key component to enhancing the safety and attractiveness of using a taxi rank, and thus the overall passenger transport system.

The design criteria applying to taxi rank shelter lighting are specified below.

Shelter Lighting: Preliminary Checks

- Note location(s) of existing light poles and other site luminaires such as shop window and awning lights. If the proposed site has no existing shelter, assess whether a new shelter roof(s) would cast shadows in pedestrian walking areas or reduce measured illuminance levels within a newly constructed shelter, if installed without internal lighting or illuminated advertising sign cases.
- Consult with the local power authority to determine the nearest available location of an unmetered public single-phase mains 16A power supply. Unmetered public supplies may potentially be sourced from overhead mains reticulation and public lighting poles, power utility pits or consumer supply pillars, existing mains power supplies to bus stop shelter sheds and passenger information displays, illuminated public road signage and traffic signal cabinets.

Providing lighting to existing footpath overhangs and awnings

Where a proposed new rank site provides acceptable passenger shelter under existing overhangs, awnings or other building structures but measured illumination levels or their uniformity does not meet the minimum acceptance criteria listed in Table 7.19.1 above, consideration should be given to requesting approval from the building owner(s) to erect supplementary luminaires on the existing building shelter structure.

Installing new lights to shelters

Where protected from exposure to direct sunlight and rainwater under the shelter roof, fluorescent or LED matrix luminaires are the preferred type of light to be provided.

These new lighting installations need to be vandal proof, UV resistant and have a minimum environmental rating of IP53 against dust, insect and moisture entry.

Cabling Provisions for New Shelters

Where new shelters incorporating electrical lighting and advertising sign cases or passenger information sign, help point and camera communications are to be installed at the rank site, the equipment shall be mounted, pre-roped or pre-cabled within the shelter frame hollow sections prior to delivery to site. Power and communications cabling shall enter shelter hollow sections via separate pillar legs, electrically segregated within all hollow sections and the shelter earthed in accordance with Australian AS/NZS 3000 and AS/ACIF S009 wiring rules. Where electrical equipment is to be installed on the shelter and powered from the mains, the shelter shall be equipped with a locked electrical sub-board and consumer earthing point (preferably hidden from public view).

Shelter frame hollow sections shall be fitted with removable inspection covers adjacent to every welded 90° corner joint through which a pulling rope or cabling has been run to facilitate new cable pull-ins and damaged cable replacements. Where shelter shed equipment types and mounting positions have been standardised and one or more items of electrical or communications equipment will be installed, it is recommended that new shelters be pre-roped or cabled for all potential future equipment installations. An underground system of roped cabling pits and conduits should be installed at the rank site as shown in plan attached as Appendix D – Typical Shelter Lighting and Communications Equipment Cabling Provisions.

7.21 Help Point Service

A taxi rank that has 'help point' facilities will typically have the following passenger safety and security features installed:

- (a) Video Cameras;
- (b) Passenger Enquiry Help Points; and/or
- (c) Passenger Emergency Help Points

Taxi Rank Design Specification

The design criteria applying to taxi rank 'Help Point' facilities are specified below.

Help Point: Preliminary Checks

- ✚ Confirm whether proposed rank site already is or will be regularly patrolled by police, local authority or private security officers at night OR has an existing public or privately operated CCTV camera surveillance system with continuous recording at better than five frames per second and recorded video write over period of not less than 2 weeks.
- ✚ Consult with the local telecommunications carrier to determine the nearest available location for access to an existing or new public switched telecommunications network subscriber or ISDN lead-in cable.
- ✚ Consult with relevant State or Territory Taxi Council and confirm their requirements for, and agreement to, remotely monitor any of the following:
 - (a) Video Cameras;
 - (b) Passenger Enquiry Help Points; and/or
 - (c) Passenger Emergency Help Points

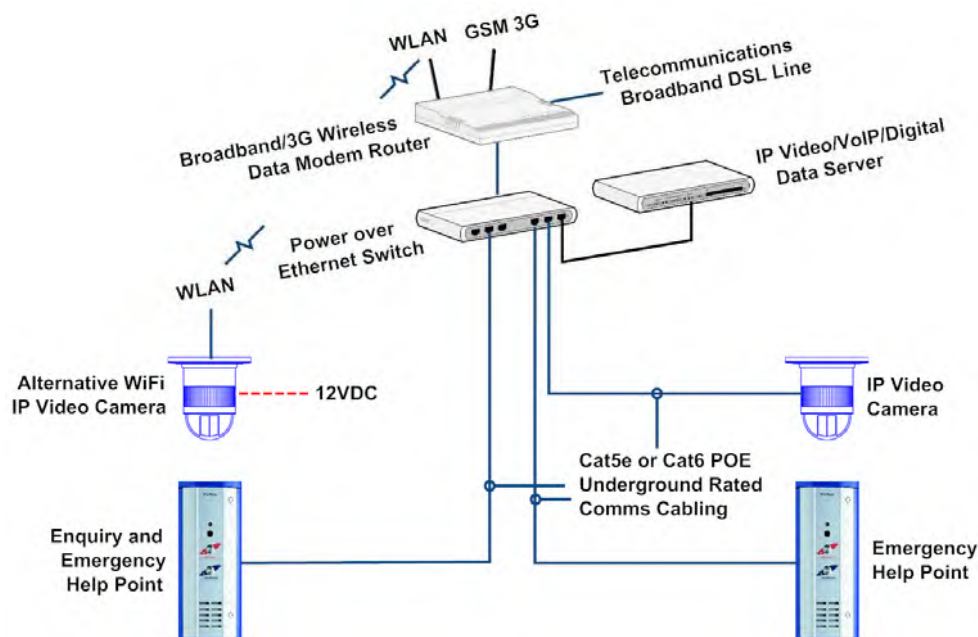
Help Point: Specification

Where a 'Help Point' is required in a proposed new taxi rank, it should be connected via an underground installation to the public switched telecommunications network (PSTN) via a broadband modem router over high speed ADSL2, SHDSL or VDSL compliant subscriber lines or the ISDN. This type of installation will require a wired underground rated Cat5e or Cat6 local area network for powered over Ethernet IP video, intercom and digital data devices.

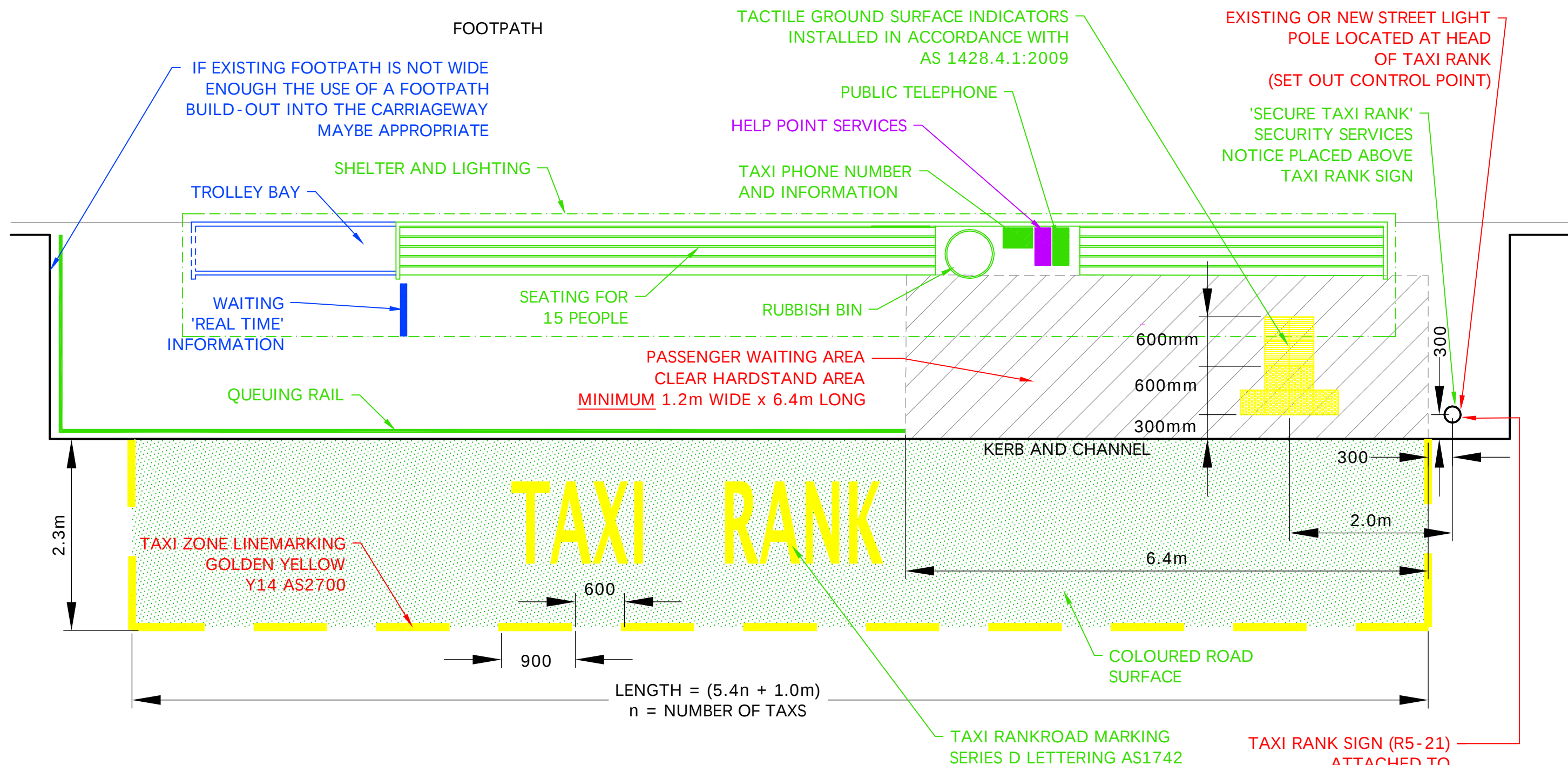
Where the rank site cannot be connected to the PSTN or ISDN at guaranteed data transmission rates of 500Mbps/s or better, the taxi rank local area network shall be alternatively connected to a GSM public mobile carrier 3G or NextG network via a wireless 3G modem router compliant with HSDPA Category 8 and HSUPA Category 6.

Help Point: Local Area Network Cabling

The 'Help Point' local area network shall support both wired (preferred) and wireless (alternative) field equipment communications over Ethernet IP using hardware components similar to those shown in diagram below, and shall be cabled for a typical layout configuration similar to that illustrated in Appendix D.



Appendix A: ATIA City Taxi Rank Layout Plan Set



KEY			
	MANDATORY		STRONGLY RECOMMENDED
	HIGHLY DESIRABLE/PREFERRED		OPTIONAL

THE CONTROL POINT FOR A PREMIUM TAXI RANK SET OUT IS AN EXISTING OR NEW LIGHT POLE THAT IS ALWAYS LOCATED AT THE HEAD OF THE TAXI RANK.

Project: AUSTRALIAN TAXI INDUSTRY ASSOCIATION GENERIC TAXI RANK SPECIFICATION					
PREMIUM TAXI RANK STANDARD LAYOUT		A	10/10		ORIGINAL ISSUE
No.		Date			Amendment

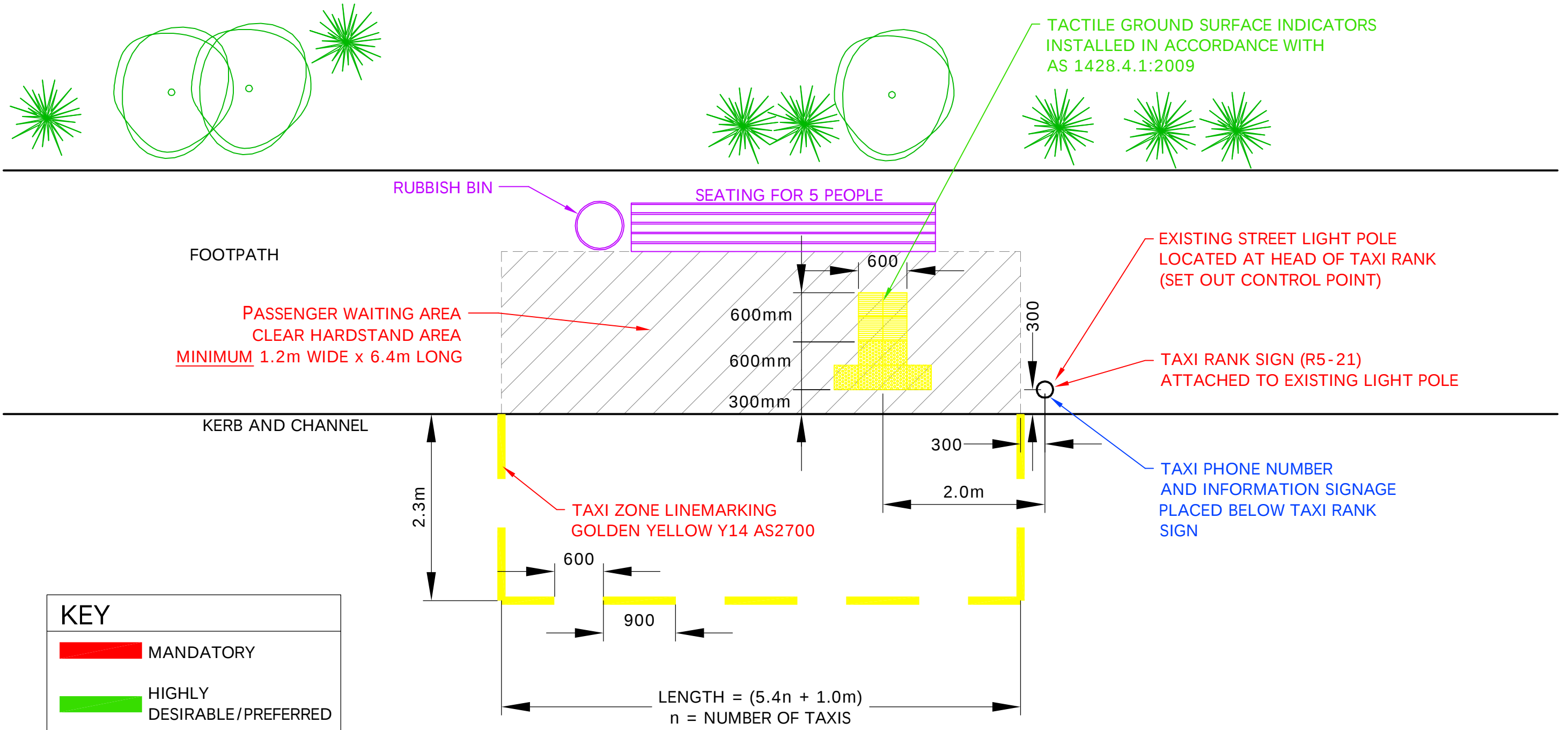
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Drawn	AMR			
Checked				
Approved				
Date	OCT 2010			
Datum				
Scale	NTS			
		DIMENSIONS IN mm UNLESS OTHERWISE NOTED		
		Sheet	of	Sheets

McCormickRankinCagney

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Drawing No.
4422-04



KEY	
	MANDATORY
	HIGHLY DESIRABLE/PREFERRED
	STRONGLY RECOMMENDED
	OPTIONAL

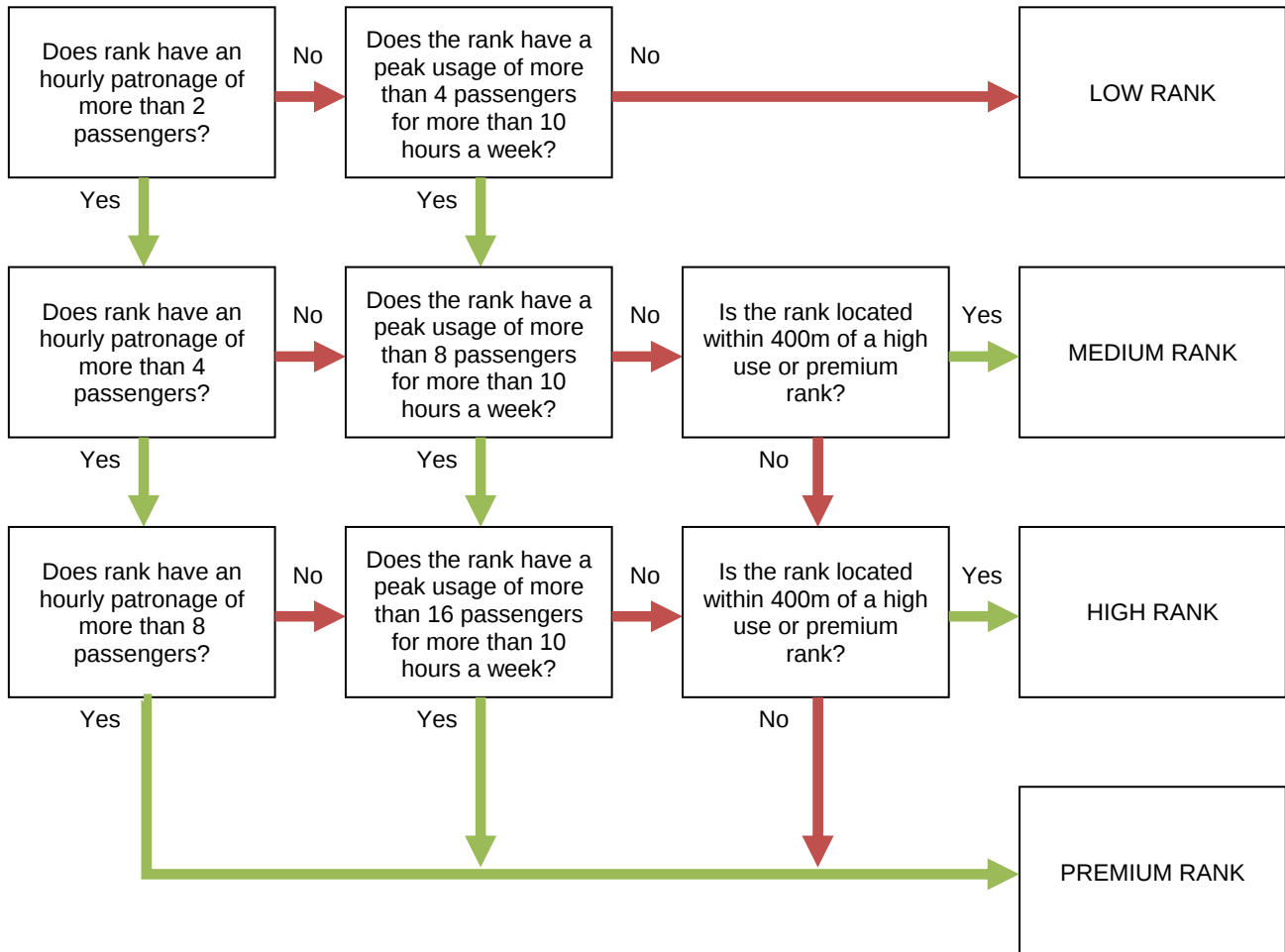
Project: AUSTRALIAN TAXI INDUSTRY ASSOCIATION GENERIC TAXI RANK SPECIFICATION		
LOW USE TAXI RANK STANDARD DRAWING		
A	10/10	ORIGINAL ISSUE
No.	Date	Amendment

Design	MK	DIMENSIONS IN mm UNLESS OTHERWISE NOTED	 McCormickRankinCagney 50 Park Road, PO Box 2185 Milton Brisbane Q. 4064 Ph : (07) 3320 3600 Fax: (07) 3320 3636 E-mail: civil@mrccagney.com	Drawing No. 4422-01
Drawn	AMR			
Checked				
Approved				
Date	OCT 2010			
Datum				
Scale	NTS	Sheet	of	Sheets

Appendix B: ATIA Rank Type Facility Selector

This flowchart selector should be used as an initial guide for determining the likely rank classification for existing ranks. There are a number of other factors that might influence how ranks should be classified, and each rank should be considered on an individual basis. However, this selector should be suitable for the majority of ranks, by primarily considering the average patronage, peak patronage and location relative to other ranks.

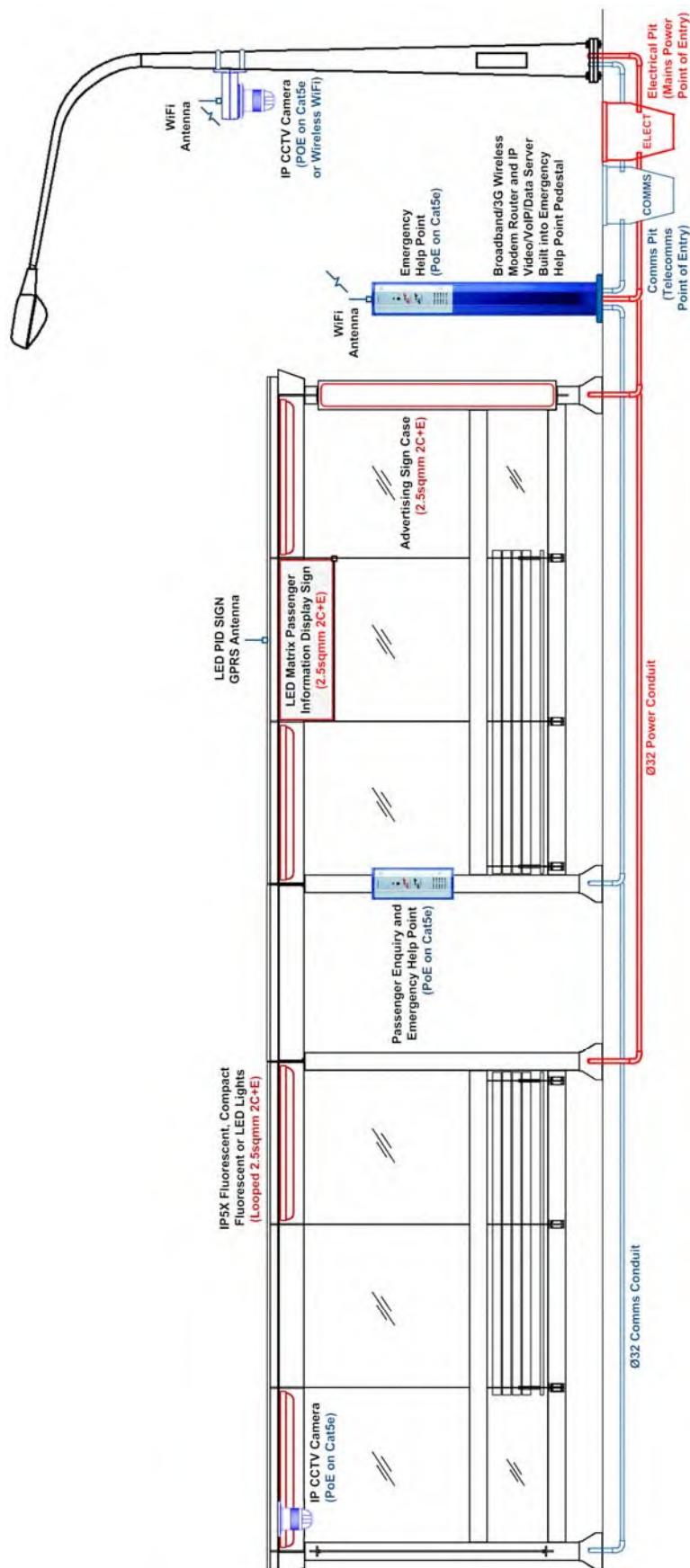
Additional consideration should be given as to whether a 'Safe rank' is appropriate for high and premium ranks based on factors such as crime and vandalism.



Appendix C: Checklist for ATIA endorsed Taxi Ranks

Rank Suburb:		
Rank Location:		
Nearest side Street:		
Location concerns:		
Item	Yes/No	Remarks
Information		
1. Taxi Rank Signage		
2. Taxi zone (line marking)		
3. "Taxi Rank" (road marking)		
4. Coloured road surface		
5. Taxi telephone numbers		
6. Waiting 'Real time' information		
7. "No Smoking" signage		
Accessibility		
8. Boarding and Alighting Areas		
9. Taxi rank queue		
10. Passenger Waiting Area		
11. Queuing Rail		
12. Tactile ground surface indicators		
13. Pedestrian crossing close to rank		
Street Furniture		
14. Seating		
15. Shelter		
16. Rubbish bin		
17. Trolley bay		
Safety and Security		
18. Public telephone on-site or nearby		
19. 'Secure Taxi Rank'		
20. Street lighting		
21. Shelter lighting		
22. Help Point		
Points of Contact		

Appendix D: Typical Shelter Lighting and Communications Cabling



Appendix B: Classification of Taxi Ranks in Adelaide

The following table shows the classification of taxi ranks in Adelaide CBD and North Adelaide.

Table 1: Classification of Taxi Ranks in Adelaide CBD and North Adelaide

Suburb	Rank Name and Location	Class	#	Type	Comments
CBD	Bus Station – Bowen Street	HIGH	4	Day	Good Rank
CBD	East Terrace – Intercontinental	HIGH	6	Night	Will be Managed Rank
CBD	East Terrace – Stag Hotel	HIGH	4	Night	10pm to 5 pm.
CBD	Gawler Place entry North Terrace	HIGH	8	Day	2 recently removed w/o consultation
CBD	Gouger Street– Mars Bar	HIGH	6	Night	Good Rank
CBD	Grenfell Street – T&G	HIGH	6	All Day	Need more space
CBD	Hindley Street – Novatel	HIGH	3	All Day	Need more space
CBD	Hindley Street Novatel	HIGH	3	All Day	Need more space
CBD	Hindley Street Red Square	HIGH	6	Nigh	Good developing rank
CBD	Hutt Street General Havelock	HIGH	4	Night	Heavy weekends - not in right location - resident's complaining
CBD	King William Street NAB	HIGH	6	All Day	Good rank
CBD	Morphett cnr Hindley Street	HIGH	5	Night	Managed Rank
CBD	North Terrace Casino	HIGH	5	All Day	Managed Rank
CBD	North Terrace Intercontinental Layoff	HIGH	3	All Day	Good rank
CBD	North Tce Royal Adelaide Hospital	HIGH	6	All Day	Need more space
CBD	North Terrace Stamford Plaza	HIGH	3	All Day	Need more space; Signage in wrong place
CBD	Pulteney Street top of Rundle Mall	HIGH	5	All Day	Managed Rank
CBD	Rundle Street near Exeter	HIGH	3	Night	Needs more space
CBD	Rundle Street TAJ Tandoor	HIGH	2	Night	Needs more space
CBD	Victoria Square front of Courts	HIGH	6	All Day	Drivers create 12 car rank illegally due to needs
CBD	West Terrace HQ	HIGH	5	Night	Managed Rank
CBD	Austin Street	LOW	1	All Day	
CBD	Currie Street Light Square	LOW	3	Night	Hardly used. Old call rank
CBD	Hindley Street BBQ Inn	LOW	3	Night	
CBD	Hindley Street George Street	LOW	4	Night	Needs improved signage

CBD	Carrington St (opp. Earl of Aberdeen)	MED	3	All Day	Good rank
CBD	Flinders Street (SANTOS)	MED	3	Day	Extend to 8.00pm
CBD	Gawler Place/Grenfell Street	MED	2	Day	Developing rank
CBD	Hindley Street Pizza Rev	MED	3	Night	Needs improved signage
CBD	King William Street (Gilbert Place)	MED	3	Night	
CBD	Mantra on Frome	MED	2	Day	
CBD	Victoria Street (Playford)	MED	1	All Day	Needs more space
North	Kermode Street	HIGH	5	All Day	Mainly a day rank outside Hospital
North	Melbourne St (Lion Hotel)	HIGH	8	Night	Good patronage on weekends
North	Oxford Hotel	HIGH	3	Night	Could be day rank
North	Piccadilly Cinema O'Connell Street	LOW	1	Night	Bus Stop to 12.30am; then taxi rank
North	Aquatic Centre	LOW	1	All Day	
North	O'Connell Street front of O Hotel	LOW	4	Night	12.30am to 6.00am, 7 Nights
Glenelg	Colley Terrace	HIGH	5	Night	Must be relocated
Glenelg	Elizabeth Street	HIGH	8	All Day	
Glenelg	Nile Street	MED	4	Day	