Appendix 15: Transportation

15-1 Parking, Loading Spaces and Manoeuvring Areas – Tables and Figures

Table 15-1a: Number of parking, loading and cycle spaces

<table>
<thead>
<tr>
<th>Activity</th>
<th>Car parking spaces</th>
<th>Loading spaces</th>
<th>Visitor cycle spaces</th>
<th>Staff cycle spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Ancillary residential units and apartment buildings</td>
<td>1 per residential unit</td>
<td>-</td>
<td>1 per 4 units</td>
<td>-</td>
</tr>
<tr>
<td>b) Building improvement centre (excluding nurseries and garden centres)</td>
<td>1 per 50m² gross floor area</td>
<td>1 space</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>c) Camping grounds</td>
<td>1 per unit, camp site or caravan site</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>d) Childcare facilities for less than six children</td>
<td>2 plus 1 per FTE staff member</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>e) Childcare facilities for six or more children</td>
<td>1 per FTE staff member plus 1 drop-off car space per 5 children that the facility is designed to accommodate</td>
<td>-</td>
<td>-</td>
<td>1 per 100 students</td>
</tr>
<tr>
<td>f) Community centre</td>
<td>1 per 30m² gross floor area</td>
<td>1 space</td>
<td>1 per 50m² gross floor area</td>
<td>-</td>
</tr>
<tr>
<td>g) Single dwellings and duplex dwellings</td>
<td>2 per household or dwelling</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>h) Drive-through services</td>
<td>1 per 30m² gross floor area (excluding canopy area over pumps) plus 5 queuing spaces per dispensing facility</td>
<td>1 space</td>
<td>1 per 100m² gross floor area</td>
<td>1 space per 10 FTE staff</td>
</tr>
<tr>
<td>i) Emergency service facilities</td>
<td>1 car space per on-duty staff person, plus sufficient space for all the emergency vehicles that use the site</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>j) Health care services</td>
<td>3 per consultant and 1 per FTE staff</td>
<td>1 space</td>
<td>1 per 2 consultants</td>
<td>1 space per 10 FTE staff</td>
</tr>
<tr>
<td>Activity</td>
<td>Car parking spaces</td>
<td>Loading spaces</td>
<td>Visitor cycle spaces</td>
<td>Staff cycle spaces</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------</td>
<td>----------------</td>
<td>---------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>k) Home-based business</td>
<td>2 per household plus 1 per vehicle used solely for the home-based business</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>l) Hospitals</td>
<td>1 per 4 FTE staff plus 1 per 4 beds</td>
<td>1 space per 50 beds</td>
<td>1 per 15 beds</td>
<td>1 per 30 beds</td>
</tr>
<tr>
<td>m) Industrial activities (including warehouses) (excluding trade and industry training facilities)</td>
<td>1 per 150m² gross floor area</td>
<td>1 space per development or per 3000m² gross floor area, whichever is the greater</td>
<td>-</td>
<td>1 space per 15 FTE staff</td>
</tr>
<tr>
<td>n) Industrial activities (trade and industry training facilities only)</td>
<td>1 per FTE staff, plus 1 per 3 students the facility is designed to accommodate</td>
<td>1 space</td>
<td>1 per 3 FTE students</td>
<td>1 space per 15 FTE staff</td>
</tr>
<tr>
<td>o) Managed care facilities and rest homes</td>
<td>1 per 3 bedrooms plus 1 per every FTE staff member</td>
<td>-</td>
<td>1 per 60 beds</td>
<td>1 space per 15 FTE staff</td>
</tr>
<tr>
<td>p) Marae</td>
<td>1 per 25m² gross floor area</td>
<td>1 space</td>
<td>1 per 50 m² gross floor area or 1 for every 5 persons the facility is designed to accommodate, whichever is the greater</td>
<td>-</td>
</tr>
<tr>
<td>q) Nurseries and garden centres</td>
<td>1 space per 200m² site area and a minimum of 4 spaces</td>
<td>-</td>
<td>-</td>
<td>1 space per 15 FTE staff</td>
</tr>
<tr>
<td>r) Offices</td>
<td>1 per 40m² gross floor area</td>
<td>1 space</td>
<td>1 per 800m² gross floor area</td>
<td>1 per 250m² gross floor area</td>
</tr>
<tr>
<td>s) Outdoor recreational area including playing fields, courts and tracks</td>
<td>1 per 3 participants based on the maximum number of participants that the area is designed to accommodate</td>
<td>-</td>
<td>1 per 20 participants based on the maximum number of participants that the area is designed to accommodate</td>
<td>-</td>
</tr>
<tr>
<td>t) Places of assembly (except libraries and museums)</td>
<td>1 per 15 m² gross floor area or 1 for every 5 persons the facility is designed to accommodate, whichever is the greater</td>
<td>1 space</td>
<td>1 per 50 m² gross floor area or 1 for every 5 persons the facility is designed to accommodate, whichever is the greater</td>
<td>-</td>
</tr>
<tr>
<td>Activity</td>
<td>Car parking spaces</td>
<td>Loading spaces</td>
<td>Visitor cycle spaces</td>
<td>Staff cycle spaces</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-------------------------------------</td>
<td>-----------------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>u) Places of assembly (Libraries and museums only)</td>
<td>1 per 30m² gross floor area</td>
<td>1 space</td>
<td>5 spaces plus 1 per 200m² gross floor area</td>
<td>1 space per 10 FTE staff</td>
</tr>
<tr>
<td>v) Places of worship</td>
<td>1 per 30m² gross floor area</td>
<td>1 space</td>
<td>1 per 50 m² gross floor area or 1 for every 5 persons the facility is designed to accommodate, whichever is the greater</td>
<td>-</td>
</tr>
<tr>
<td>w) Buildings serving outdoor recreational areas and indoor recreation buildings</td>
<td>1 per 20m² gross floor area</td>
<td>1 space</td>
<td>1 per 50m² gross floor area</td>
<td>-</td>
</tr>
<tr>
<td>x) Research and Innovation activities</td>
<td>1 per 40m² gross floor area</td>
<td>1 space</td>
<td>1 per 350m² gross floor area</td>
<td>1 space per 10 FTE staff</td>
</tr>
<tr>
<td>y) Residential centres</td>
<td>1 per FTE staff plus 1 per 3 bedrooms</td>
<td>-</td>
<td>1 per 5 beds</td>
<td>1 space per 15 FTE staff</td>
</tr>
<tr>
<td>z) Retail activities (gross floor area less than 5000m²; in individual ownership/tenancy or integrated retail development)</td>
<td>1 per 20m² gross floor area</td>
<td>1 space</td>
<td>1 per 500m² GLFA</td>
<td>1 per 250m² GLFA</td>
</tr>
<tr>
<td>aa) Retail activities (gross floor area greater than 5000m² and less than 10,000m²; in individual ownership/tenancy or integrated retail development)</td>
<td>1 per 30m² gross floor area</td>
<td>1 space</td>
<td>1 per 500m² GLFA</td>
<td>1 per 250m² GLFA</td>
</tr>
<tr>
<td>bb) Retail activities (gross floor area greater than 10,000m²; in individual ownership/tenancy or integrated retail development)</td>
<td>1 per 40m² gross floor area</td>
<td>1 space</td>
<td>1 per 500m² GLFA</td>
<td>1 per 250m² GLFA</td>
</tr>
<tr>
<td>cc) Retail activities – bulky goods only</td>
<td>1 per 50m² gross floor area</td>
<td>1 space</td>
<td>-</td>
<td>1 space per 10 FTE staff</td>
</tr>
<tr>
<td>dd) Retail activities – outdoor only</td>
<td>1 per 100m² of uncovered display area</td>
<td>-</td>
<td>-</td>
<td>1 space per 10 FTE staff</td>
</tr>
<tr>
<td>Activity</td>
<td>Car parking spaces</td>
<td>Loading spaces</td>
<td>Visitor cycle spaces</td>
<td>Staff cycle spaces</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------</td>
<td>----------------</td>
<td>----------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>ee) Retail activities – indoor display areas for vehicles, boats and agricultural and industrial machinery only</td>
<td>1 per 150m² gross floor area</td>
<td>1 space</td>
<td>-</td>
<td>1 space per 10 FTE staff</td>
</tr>
<tr>
<td>ff) Retail activities – food and beverage, cafes, restaurants and licensed premises only</td>
<td>1 per 10m² gross floor area</td>
<td>1 space</td>
<td>1 per 125m² gross floor area</td>
<td>1 per 400m² gross floor area</td>
</tr>
<tr>
<td>gg) Retail activities – supermarkets only</td>
<td>1 per 20m² gross floor area devoted to retail sales activities and 1 per 40m² gross floor area for all other activities</td>
<td>1 space</td>
<td>1 per 500m² GLFA</td>
<td>1 space per 10 FTE staff</td>
</tr>
<tr>
<td>hh) Retirement villages</td>
<td>1 per unit plus 1 for every four units</td>
<td>-</td>
<td>1 per 60 beds</td>
<td>1 space per 15 FTE staff</td>
</tr>
<tr>
<td>ii) Schools</td>
<td>1 per FTE staff plus 1 drop-off space per 50 primary and intermediate students and 1 per 100 secondary students 1 bus space per 200 students where school bus services are provided. For schools not served by school bus services, no bus spaces are required</td>
<td>-</td>
<td>Primary schools 1 per 20 students Intermediate schools 1 per 5 students Secondary schools 1 per 4 students</td>
<td>1 per 100 students</td>
</tr>
<tr>
<td>jj) Showhome</td>
<td>2 per showhome</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>kk) Tertiary education and specialised training facilities</td>
<td>1 per FTE staff, plus 1 per 3 students the facility is designed to accommodate</td>
<td>1 space</td>
<td>1 per 10 students the facility is designed to accommodate</td>
<td>1 per 10 FTE staff</td>
</tr>
<tr>
<td>ll) Transport depots</td>
<td>1 per 100m² gross floor area of building or site area used for storage, whichever is the greater</td>
<td>1 space</td>
<td>-</td>
<td>1 space per 20 FTE staff</td>
</tr>
<tr>
<td>mm) Visitor accommodation</td>
<td>1 per FTE staff member plus the greater of either 1 per 3 visitors that the facility is designed to accommodate or 1 per unit</td>
<td>1 space</td>
<td>1 per 20 beds except hotels where the rate is 1 per 30 bedrooms</td>
<td>1 space per 15 FTE staff</td>
</tr>
</tbody>
</table>

Note
1. The installation of bicycle spaces in an adjoining transport corridor is at the discretion and approval of Council as the Road Controlling Authority and may be subject to specific design requirements.
2. If fewer than four spaces and stands are required then these can be allocated to either visitor or staff parking (or both).
3. If more than four spaces are required then a minimum of 25% should be allocated to visitor use and 25% for staff use only, the remainder can be allocated to either visitor or staff parking (or both).
4. Volume 1, Rule 25.14.4.2(a)ii caps the minimum staff cycle spaces requirement at 1 per 10 FTE staff.
5. The standards in this table do not apply within the Transport Corridor Zone or Natural Open Space Zone (refer to Table 15-1c).
6. The car parking and loading space standards in this table do not apply within the Central City Zone (refer to Table 15-1b).
7. Cycle space standards in this table apply within the Central City Zone.

Table 15-1b: Number of parking and loading spaces required – Central City Zone

<table>
<thead>
<tr>
<th>Activity</th>
<th>Car parking spaces</th>
<th>Loading/service spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Residential</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>b) All other activities</td>
<td>-</td>
<td>1 space per site</td>
</tr>
<tr>
<td>This standard does not apply where the site has existing development and insufficient space to allow a compliant loading/service space</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 15-1c: Number of parking and loading spaces in the Natural Open Space Zone and Transport Corridor Zone

<table>
<thead>
<tr>
<th>Activity</th>
<th>Car parking spaces</th>
<th>Loading/service spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) All activities</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 15-1d: Number of accessible spaces required – disabled users – Non-Residential Use – All Zones

<table>
<thead>
<tr>
<th>Total number of car park spaces being provided</th>
<th>Minimum number of accessible car park spaces for disabled users</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 20</td>
<td>1</td>
</tr>
<tr>
<td>21 – 50</td>
<td>2</td>
</tr>
<tr>
<td>For every additional 50 car parks above 50 car park spaces</td>
<td>1 additional</td>
</tr>
</tbody>
</table>

Table 15-1e: Number of spaces required for less mobile users – All Zones

<table>
<thead>
<tr>
<th>Total number of car park spaces being provided</th>
<th>Minimum number of car park spaces for</th>
</tr>
</thead>
</table>
provided | less mobile users
---|---
50 - 100 | 1
For every 50 car parks above 50 car park spaces | 1 additional

**Note**

1. For the purposes of spaces required by Volume 1 Rule 25.14.4.2(c)ii and Table 15-1e, the allocation and management of use to less mobile users (e.g. elderly, parents with infants, and/or temporary disabilities) is at the discretion of the site owner or occupier.

2. The standards in this table do not apply to offices in the Central City Zone.

### Table 15-1f: Number of motorcycle parking spaces required – All Zones

<table>
<thead>
<tr>
<th>Total number of car park spaces being provided</th>
<th>Minimum number of motorcycle spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-100 spaces</td>
<td>3</td>
</tr>
<tr>
<td>For every additional 40 car parks above 100 car park spaces</td>
<td>1 additional</td>
</tr>
</tbody>
</table>

### Table 15-1g: Number of bicycle end-of-journey facilities required – Central City Zone and Business Zones 1 to 7

<table>
<thead>
<tr>
<th>Number of staff cycle spaces</th>
<th>Minimum number of showers</th>
<th>Minimum number of changing rooms</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 – 50</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>51 – 150</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Each additional 100 cycle spaces</td>
<td>2 additional</td>
<td></td>
</tr>
</tbody>
</table>
Table 15-1h: Minimum dimensions for on-site parking, loading spaces and manoeuvring areas

<table>
<thead>
<tr>
<th>Type of parking</th>
<th>Stall width (a)</th>
<th>Stall depth (b)</th>
<th>Manoeuvre width (d)</th>
<th>Total depth (e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking angle (x)</td>
<td>From wall (b)</td>
<td>From kerb (c)</td>
<td></td>
<td>One row</td>
</tr>
<tr>
<td>90 Nose in</td>
<td>2.4, 2.5, 2.6, 2.7</td>
<td>5.1</td>
<td>4.1</td>
<td>7.9, 7.6, 7.2, 6.8</td>
</tr>
<tr>
<td>75 Nose in</td>
<td>2.4, 2.5, 2.6, 2.7</td>
<td>5.4</td>
<td>4.4</td>
<td>6.4, 5.8, 5.2, 4.6</td>
</tr>
<tr>
<td>60 Nose in</td>
<td>2.4, 2.5, 2.6, 2.7</td>
<td>5.4</td>
<td>4.5</td>
<td>4.5, 4.2, 3.9, 3.6</td>
</tr>
<tr>
<td>45 Nose in</td>
<td>2.4, 2.5, 2.6, 2.7</td>
<td>5.0</td>
<td>4.2</td>
<td>3.6, 3.5, 3.4, 3.3</td>
</tr>
<tr>
<td>30 Nose in</td>
<td>2.4, 2.5, 2.6, 2.7</td>
<td>4.3</td>
<td>3.7</td>
<td>3.0</td>
</tr>
<tr>
<td>0 Parallel</td>
<td>2.5</td>
<td>Stall length 6.0</td>
<td>3.7</td>
<td>6.2</td>
</tr>
</tbody>
</table>

1. Parallel parking spaces (Parking Angle = 0) shall be 6m long, except where one end of the space is not obstructed, in which case the length of the space may be reduced to 5m.

2. Minimum aisle and accessway widths shall be 3m for one way flow, and 5.5m for two way flow. Recommended aisle and accessway widths are 3.5m for one way flow, and 6m for two way flow.

3. Maximum kerb height = 150mm.

4. Parking space dimensions will vary for accessible car park spaces.
**Figure 15-1i**: Examples of on-site parking configurations

Refer to Table 15-1h for relevant minimum dimensions
### Integrated Transport Assessment Requirements – Tables

**Table 15-2a: Simple ITA checklist**

<table>
<thead>
<tr>
<th>Item description</th>
<th>Details to be included</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Background</td>
<td>A description of the proposed activity and the purpose and intended use of the ITA</td>
</tr>
<tr>
<td>b) Existing land data</td>
<td>A description of the location, site layout, existing uses, adjacent land uses and zoning</td>
</tr>
<tr>
<td>c) Existing transport data</td>
<td>A description of the access arrangements, on-site car parking and the surrounding transport network (including hierarchy, traffic volumes and crash analysis). Comment on passenger transport and accessibility, walking and cycling networks</td>
</tr>
<tr>
<td>d) Committed environmental changes</td>
<td>Consideration of other developments and land use in the immediate vicinity</td>
</tr>
<tr>
<td>e) Existing travel characteristics</td>
<td>The trip generation of any existing uses</td>
</tr>
<tr>
<td>f) Proposal details</td>
<td>A description of the proposal (including site layout, operational hours, vehicle access, on site car parking, internal vehicle and pedestrian circulation)</td>
</tr>
<tr>
<td>g) Predicted travel data</td>
<td>The trip generation of the proposal. Consideration of other modes of travel. A 10-year assessment period from the date of application should be used</td>
</tr>
<tr>
<td>h) Appraisal of transportation effects</td>
<td>An assessment of safety, efficiency and environmental effects Where the proposed activity has the potential to impact on the state highway, a summary of consultation with the New Zealand Transport Agency shall be included</td>
</tr>
<tr>
<td>i) Avoiding or mitigating actions</td>
<td>Details of any mitigating measures and revised effects</td>
</tr>
<tr>
<td>j) Compliance with policy and other frameworks</td>
<td>Consideration of compliance with District Plan standards. A simple assessment against Access Hamilton strategy and its associated action plans</td>
</tr>
<tr>
<td>k) Discussion and conclusions</td>
<td>Summary and conclusion assessment of effects</td>
</tr>
<tr>
<td>l) Recommendations</td>
<td>Proposed conditions (if any)</td>
</tr>
</tbody>
</table>

**Note**

### Table 15-2b: Broad ITA checklist

<table>
<thead>
<tr>
<th>Item description</th>
<th>Details to be included</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a) Background</strong></td>
<td>A description of the proposed activity, the purpose and intended use of the ITA, and an outline of any previous discussions with the relevant road controlling authorities</td>
</tr>
<tr>
<td><strong>b) Existing land data</strong></td>
<td>A description of location, site layout, existing use and consents (if any), adjacent and surrounding land use</td>
</tr>
<tr>
<td><strong>c) Existing transport data</strong></td>
<td>A description of the existing access and service arrangements and on-site car parking. A description of the surrounding transport network (including hierarchy, traffic volumes, crash analysis, congestion and intersections). A description of passenger transport modes and accessibility, walking and cycling networks. A 10-year assessment period for local, collector and minor arterial transport corridors should be used</td>
</tr>
<tr>
<td><strong>d) Committed environmental changes</strong></td>
<td>Consideration of other developments and land use and transport network improvements (including passenger transport, walking and cycling)</td>
</tr>
<tr>
<td><strong>e) Existing travel characteristics</strong></td>
<td>Details on the existing trip generation, modal split, and assignment of trips to the network</td>
</tr>
<tr>
<td><strong>f) Proposal details</strong></td>
<td>A description of the proposal (including site layout, operational hours, vehicle access, on site car parking and drop off, and internal vehicle and pedestrian circulation). A description of any construction management matters. A description of what end of journey facilities are proposed</td>
</tr>
<tr>
<td><strong>g) Predicted travel data</strong></td>
<td>A description of the trip generation, modal split, trip assignment to the network, trip distribution and trip type proportions of the proposal. Consideration of future traffic volumes and trip generation. A 20-year assessment period for major arterial and strategic transport corridors should be used. Assessment periods shall be from date of application</td>
</tr>
<tr>
<td><strong>h) Appraisal of transportation effects</strong></td>
<td>An assessment of safety, efficiency, environmental, accessibility, integration and economic effects (including sensitivity testing). A specific assessment of the safety and efficiency of the transport network against Assessment Criteria G3 to G6 in Appendix 1.3.3 Restricted Discretionary, Discretionary and Non-Complying Assessment Criteria – G Transportation Where the proposed activity has the potential to impact on the state highway, a summary of consultation with the New Zealand Transport Agency shall be included</td>
</tr>
<tr>
<td><strong>i) Avoiding or mitigating actions</strong></td>
<td>Details of any mitigating measures and revised effects, including measures to encourage other modes. <strong>Travel planning and travel demand management measures and sensitivity testing mitigations</strong></td>
</tr>
</tbody>
</table>
Requirements for Broad ITA\(^1\)

<table>
<thead>
<tr>
<th>Item description</th>
<th>Details to be included 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>j) Compliance with policy and other frameworks</td>
<td>Review against District Plan objectives, policies and rules. Detailed assessment against Access Hamilton and associated action plans. Other relevant local, regional and national strategies or plans (e.g. Regional Land Transport Strategy, Regional Public Transport Plan)</td>
</tr>
<tr>
<td>k) Discussion and conclusions</td>
<td>An assessment of effects and conclusion of effects. <strong>Confirmation of the suitability of the location of the proposal</strong></td>
</tr>
<tr>
<td>l) Recommendations</td>
<td>Proposed conditions (if any)</td>
</tr>
</tbody>
</table>

2 Details listed in bold font are required for large developments with significant transport impacts and may not be applicable for smaller developments.

**Note**
Guidance on ‘safety’ and ‘efficiency’

As part of assessing the effects on the transport network the ITA should consider any changes over the relevant assessment period to the:  
- Predicted level of personal risk to individuals (safety) using the network  
- Levels of service (efficiency) of the network.

This should include specific consideration of whether the desirable levels of service below can or should be maintained. This should recognise the pre-proposal levels of service and whether other benefits accrue that could have the potential to offset or otherwise support a lesser level of service. For example, longer traffic delays resulting in slower speeds may support a pedestrian-friendly land use environment in the Central City.

It is not a requirement of the Plan that individual proposals mitigate the effects of other proposals in order to achieve the desirable levels of service. Where the pre-proposal desirable levels of service over the assessment period have already been exceeded, it is not expected that a proposal be required to restore the network to the desirable levels of service, rather it is expected that the proposal mitigates its effects to maintain the pre-proposal level of service for the relevant assessment period.

Desirable levels of service:
- An average delay per vehicle during Peak Periods on the approaches to intersections of no greater than:
  - 55 seconds for the Strategic Network, Major and Minor Arterial transport corridors
  - 80 seconds for all other transport corridors
- On the Strategic Network, Major and Minor Arterial transport corridors during Peak Periods:
  - Average vehicle speeds between intersections restricted to no less than 90% of the posted speed limit
  - Average vehicle speeds, including intersections, constrained to no less than 18 km/h
- Unless demonstrated otherwise with site specific data, Peak Periods are taken to be 7am to 9am and 4pm to 6pm Monday to Friday.
### Table 15-2c Downtown Precinct ITA Checklist

<table>
<thead>
<tr>
<th>Item description</th>
<th>Details to be included</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a) Background</strong></td>
<td>A description of the proposed activity, the purpose and intended use of the ITA, and an outline of any previous discussions with the relevant road controlling authorities</td>
</tr>
<tr>
<td><strong>b) Existing land data</strong></td>
<td>A description of location, site layout, existing use and consents (if any)</td>
</tr>
<tr>
<td><strong>c) Existing transport data</strong></td>
<td>A description of the existing access and service arrangements and on-site car parking. A description of the transport network adjacent to the pedestrian and vehicle access points (including traffic volumes and crash analysis).</td>
</tr>
<tr>
<td><strong>d) Committed environmental changes</strong></td>
<td>Consideration of other developments, land use and transport network improvements within the Downtown Precinct (including passenger transport, walking and cycling)</td>
</tr>
<tr>
<td><strong>e) Existing travel characteristics</strong></td>
<td>Details on the existing trip generation, modal split, and assignment of trips to the network</td>
</tr>
<tr>
<td><strong>f) Proposal details</strong></td>
<td>A description of the proposal (including site layout, operational hours, vehicle access, on site car parking and drop off, and internal vehicle and pedestrian circulation). A description of what end of journey facilities are proposed</td>
</tr>
<tr>
<td><strong>g) Predicted travel data</strong></td>
<td>A description of the trip generation, modal split, trip assignment to the network, trip distribution and trip type proportions of the proposal. Consideration of future traffic volumes and trip generation using a 10-year assessment period.</td>
</tr>
<tr>
<td><strong>h) Appraisal of transportation effects</strong></td>
<td>An assessment of safety, efficiency, environmental, accessibility, and integration effects in the immediate vicinity.</td>
</tr>
<tr>
<td><strong>i) Avoiding or mitigating actions</strong></td>
<td>Details of any mitigating measures and revised effects, including measures to encourage other modes. Travel planning and travel demand management measures.</td>
</tr>
<tr>
<td><strong>j) Compliance with policy and other frameworks</strong></td>
<td>Review against District Plan objectives, policies and rules. Simple assessment against Access Hamilton and associated action plans.</td>
</tr>
<tr>
<td><strong>k) Discussion and conclusions</strong></td>
<td>An assessment of effects and conclusion of effects. Confirmation of the suitability of the access points of the proposal</td>
</tr>
<tr>
<td><strong>l) Recommendations</strong></td>
<td>Proposed conditions (if any)</td>
</tr>
</tbody>
</table>


2 Details listed in bold font are required for large developments with significant transport impacts and may not be applicable for smaller developments.
Table 15.2d: Integrated Transport Assessment vehicles per day conversion table

<table>
<thead>
<tr>
<th>Activity</th>
<th>Threshold/unit equivalent to Vehicle Trip Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;100 vpd</td>
</tr>
<tr>
<td>a) Ancillary residential units and apartment buildings</td>
<td>Up to 20 residential units</td>
</tr>
<tr>
<td></td>
<td>Up to 100m$^2$ GFA</td>
</tr>
<tr>
<td>b) Building improvement centre (excluding nurseries and garden centres)</td>
<td>Up to 5,000m$^2$ site area</td>
</tr>
<tr>
<td>c) Camping grounds</td>
<td>Up to 30 children</td>
</tr>
<tr>
<td>d) Childcare facilities</td>
<td>Up to 1,000m$^2$ GFA</td>
</tr>
<tr>
<td>e) Community centre</td>
<td>Up to 10 residential units</td>
</tr>
<tr>
<td>f) Drive through services</td>
<td>All proposals require a Broad ITA</td>
</tr>
<tr>
<td>g) Emergency service facilities</td>
<td>All proposals require an ITA</td>
</tr>
<tr>
<td>i) Health care services</td>
<td>Up to 100m$^2$ GFA</td>
</tr>
<tr>
<td>j) Home-based business</td>
<td>ITA not required</td>
</tr>
<tr>
<td>k) Hospitals</td>
<td>All proposals require a Broad ITA</td>
</tr>
<tr>
<td>l) Industrial activities (including warehouses) (excluding trade and industry facilities)</td>
<td>Up to 1,500m$^2$ GFA</td>
</tr>
<tr>
<td>Activity</td>
<td>Threshold/unit equivalent to Vehicle Trip Generation</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td>m) Industrial activities (trade and industry facilities only)</td>
<td>Up to 500m² GFA</td>
</tr>
<tr>
<td>n) Managed care facilities and rest homes</td>
<td>Up to 15 beds</td>
</tr>
<tr>
<td>o) Marae</td>
<td>Up to 1,000m² GFA</td>
</tr>
<tr>
<td>p) Nurseries and garden centres</td>
<td>Up to 65m² GFA</td>
</tr>
<tr>
<td>q) Offices</td>
<td>Up to 500m² GFA</td>
</tr>
<tr>
<td>r) Outdoor recreational areas including playing fields, courts and tracks</td>
<td>Up to 2 courts/fields</td>
</tr>
<tr>
<td>s) Places of assembly (except Libraries and Museums)</td>
<td>Up to 1,000m² GFA</td>
</tr>
<tr>
<td>t) Places of Assembly (Libraries and Museums only)</td>
<td>Up to 150m² GFA</td>
</tr>
<tr>
<td>u) Places of worship</td>
<td>Up to 1,000m² GFA</td>
</tr>
<tr>
<td>v) Building serving recreation reserves and indoor recreation buildings</td>
<td>Up to 100m² GFA</td>
</tr>
<tr>
<td>w) Research and Innovation activities</td>
<td>Up to 500m² GFA</td>
</tr>
</tbody>
</table>
### Activity | Threshold/unit equivalent to Vehicle Trip Generation
---|---
x) Residential centres  
| Up to 10 residents | 11-25 residents | 26-50 residents | 51-150 residents | More than 150 residents |
y) Retail activities (in individual ownership / tenancy or integrated retail development)  
| Up to 100m² GFA | 101-250m² GFA | 251-500m² GFA | 501-1,500m² GFA | More than 1,500m² GFA |
z) Retail activities – Bulky goods only  
| Up to 100m² GFA | 101-250m² GFA | 251-500m² GFA | 501-1,500m² GFA | More than 1,500m² GFA |
aa) Retail activities – Outdoor only  
| Up to 1,000m² GFA | 1,001-2,500m² GFA | 2501-5,000m² GFA | 5,001-15,000m² GFA | More than 15,000m² GFA |
bb) Retail activities – Indoor display areas for vehicles, boats and agricultural and industrial machinery  
| Up to 1,500m² GFA | 1,501-3,750m² GFA | 3,751-7,500m² GFA | 7,501-22,500m² GFA | More than 22,500m² GFA |
cc) Retail activities – Food and beverage, cafes, restaurants and licensed premises only  
| Up to 100m² GFA | 101-250m² GFA | 251-500m² GFA | 501-1,500m² GFA | More than 1,500m² GFA |
dd) Retail activities – Supermarkets only  
| Up to 50m² GFA | 51-125m² GFA | 126-250m² GFA | 251-750m² GFA | More than 750m² GFA |
ee) Retirement villages  
| Up to 1,200m² GFA | 1,201m²-3,000m² GFA | 3,001m²-6,000m² GFA | 6,001-18,500m² GFA | More than 18,500m² GFA |
ff) Schools  
| All proposals require a Broad ITA |
gg) Showhome  
| ITA not required |
hh) Tertiary education facilities and specialised training facilities  
<p>| Up to 500m² GFA | 501-1,250m² GFA | 1,251-500m² GFA | 501-1,500m² GFA | More than 7,500m² GFA |</p>
<table>
<thead>
<tr>
<th>Activity</th>
<th>Threshold/unit equivalent to Vehicle Trip Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;100 vpd</td>
</tr>
<tr>
<td>ii) Transport depots</td>
<td>All proposals require a Broad ITA</td>
</tr>
<tr>
<td>jj) Visitor accommodation</td>
<td>Up to 10 units</td>
</tr>
</tbody>
</table>
## 15-3 Minimum Sight Distances at Railway Level Crossings – Tables and Figures

Table 15-3a: Required approach sight distances at railway level crossings

<table>
<thead>
<tr>
<th>Vehicle approach speed (km/h)²,³</th>
<th>Approach distance (A)⁴</th>
<th>Required approach visibility along tracks (B)⁴,⁵</th>
<th>Signs only</th>
<th>Alarms only⁶</th>
<th>Alarms and boom gates⁶</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>31m</td>
<td>318m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>50m</td>
<td>282m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>73m</td>
<td>274m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>100m</td>
<td>278m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>130m</td>
<td>287m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>164m</td>
<td>300m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>208m</td>
<td>314m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>251m</td>
<td>330m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>298m</td>
<td>357m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>350m</td>
<td>376m</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Approach Sight Triangles not applicable in this situation

1 This table is based on the sighting distance formula used in New Zealand Transport Agency Traffic Control Devices Manual 2008, Part 9 Level Crossings and in the Australian Level Crossing Assessment Model (ALCAM). Distances are conservative and are derived from:
- A train speed of 110 kph and a single set of rail tracks
- A fall of 8 % on the approach to the level crossing and a rise of 8 % at the level crossing
- 25 m design truck
- 90° angle between road and rail
- Other parameters as specified in New Zealand Transport Agency’s Traffic Control Devices Manual 2008, Part 9 Level Crossings – Appendix B

2 Speed restrictions are not used in New Zealand around level crossings

3 The 85th percentile road vehicle speed shall be adopted. This speed is typically estimated at the point at which a driver would first see the level crossing signs/alarms and begin to look for trains. Where this is not known, the sign-posted road speed + 10% shall be used

4 Refer to Figure 15-3b for how to define the Approach Sight Triangle using distance (A) and (B).

5 The distances in this table apply to a single set of rail tracks only. For each additional set of tracks add 25m to the distance (B).

6 Railway Level Crossings controlled by alarms or boom gates do not require approach sight triangles because they provide active warning signals of approaching trains.
Figure 15-3b: Measuring approach sight triangles at railway level crossings

Table 15-3c: Required restart sight distances for railway level crossings

<table>
<thead>
<tr>
<th>Required approach visibility along tracks (C)²,³</th>
<th>Signs only⁴</th>
<th>Alarms only⁴</th>
<th>Alarms and boom gates⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td>677m</td>
<td>677m</td>
<td>60m</td>
<td></td>
</tr>
</tbody>
</table>

¹ This table is based on the sighting distance formula used in New Zealand Transport Agency Traffic Control Devices Manual 2008, Part 9 Level Crossings and in the Australian Level Crossing Assessment Model (ALCAM). Distances are conservative and are derived from:
   - A train speed of 110 kph and a single set of rail tracks
   - A fall of 8% on the approach to the level crossing and a rise of 8% at the level crossing
   - 25 m design truck
   - 90° angle between road and rail
   - Other parameters as specified in New Zealand Transport Agency’s Traffic Control Devices Manual 2008, Part 9 Level Crossings – Appendix B

² Refer to Figure 15-3d for how to define the Restart Sight Triangle using distance (C).
³ The distances in this table apply to a single set of rail tracks only. For each additional set of tracks add 50m to distance (C).
⁴ Type of Railway Level Crossing control.

Figure 15-3d: Measuring restart sight triangles at railway level crossings
15-4 Transport Corridor Hierarchy Plan and Definitions

a) The transport corridor hierarchy classifies current and planned future transport corridors within the City. The transport corridor hierarchy plan contained within Figures 15-4b to 15-4f identifies which classification applies to each transport corridor.

b) Various standards within this Plan relate to the classification of transport corridors (e.g. building setbacks from an arterial transport corridor).

Function

c) The hierarchy groups transport corridors into five main classifications based on the transportation functions they perform. These classifications are:

i. Major arterial.
ii. Minor arterial.
iii. Collector.
iv. Local.
v. Central City.

d) A ‘major arterial’ transport corridor’s principal function is the movement of significant levels of goods and people between parts of the City and beyond. Inter- and intra-city heavy freight and through traffic should generally be directed to these corridors. This classification includes all corridors managed as Motorway or Expressway by the New Zealand Transport Agency. Property access is either non-existent or heavily controlled. Inter-city passenger transport services are expected to use these routes. Intra-city passenger transport services may traverse these routes.

e) A ‘minor arterial’ transport corridor’s principal function is the movement of high levels of goods and people between parts of the City. Heavy freight distributing goods to parts of the City may use these corridors. Through-traffic moving between parts of the City may use these corridors. Property access is managed. Intra-city passenger transport services are likely to use these routes.

f) A ‘collector’ transport corridor performs both a movement and property access function. These transport corridors often move goods and people between local destinations or to higher order transport corridors for further travel. Property access is provided with few restrictions. Depending on the land use environment heavy freight and through traffic may be limited on these corridors. Intra-city passenger transport services are likely to use these routes.

g) A ‘local’ transport corridor’s principal function is the provision of property access. The movement of goods and people is directed to higher-order transport corridors. Property access has few restrictions. The land-use environment dictates whether heavy freight movement is supported. Through-traffic is generally discouraged. Intra-city passenger transport services are unlikely to use these routes where an alternative higher-order transport corridor is available.

h) ‘Central City’ transport corridors provide for both property access and the distribution of goods and people throughout, into and out of, the Central City.
Passenger transport services will use some of these corridors, particularly buses which provide services to and from the Hamilton Transport Centre. These corridors are expected to be used by significant numbers of commuters (vehicle, pedestrian and cyclists) and by service vehicles accessing properties or service lanes. High levels of visitor (e.g. shoppers, students) pedestrian traffic is also expected as people access goods and services and move about the Central City. On-street parking, loading, taxi, and bus stop facilities are common features.

i) Two overlays are used to respond to factors that cross over the four classifications. These overlays are:
   i. Strategic network.
   ii. Pedestrian-focus areas.

j) A strategic network applies to most major arterial transport corridors and generally includes the significant road corridors identified in the Regional Policy Statement and the Regional Land Transport Strategy. This overlay recognises the significant strategic role that these transport corridors perform for moving goods and people as part of the wider national and regional transport network. Protecting the efficient and effective operation of the strategic network so it can continue to provide its wider transport functions is a critical outcome.

k) A pedestrian-focus area applies to specific transport corridors within the Central City. This reflects and supports the land-use pattern identified for the Central City. It is expected that the form of these transport corridors will evolve to support a complementary integration of the transport corridor function with the adjacent land uses. The design elements of these transport corridors will be more conducive to a vibrant, pedestrian-focused environment, supporting active frontages, on-street dining or retailing activities and the creation of high-quality public spaces.

Note
1. Shared zones (Land Transport (Road User) Rule 2004) or pedestrian malls (Section 336 of Local Government Act 1974) may be used as a means of managing the use of transport corridors in a way to give greater priority to pedestrian and cyclists. These mechanisms are very case specific and not likely to be applied generally to parts of the City. They are also unlikely to be appropriate outside of local transport corridors or Central City transport corridors within pedestrian-focus areas.

Form

l) The form and design elements of transport corridors are determined through the balancing of a corridor’s function within the network with the needs and sensitivities of adjacent land uses (see Land-Use Environments below).

Land-Use Environment

m) ‘Land-use environments’ are groupings of land-use zones that provide for activities that share similar sensitivities to, or demands of, the transport network. These groups are defined in Table 15-4a. The land-use environments tend to affect the form of transport corridors by changing the allocation of space of various design elements (e.g. number of lanes, pedestrians, landscaping and other amenity features) and whether priorities are given to the different transport users or modes (e.g. desirable speed environment, shared spaces).
n) The detail of the design elements and criteria for transport corridors is contained within Appendix 15-6. These design elements and the form created by the combination of transport corridor hierarchy classification and land-use environment, reflects a balancing process between the transport function demands and land use values (e.g. slower vehicle speeds and greater pedestrian amenity along local residential transport corridors).

Table 15-4a: Land-use environments by zone

<table>
<thead>
<tr>
<th>Land-use environment</th>
<th>Zone¹</th>
</tr>
</thead>
</table>
| a) Residential       | General Residential Zone  
                       | Special Residential Zone  
                       | Special Heritage Zone  
                       | Special Natural Zone  
                       | Temple View Zone  
                       | Residential Intensification Zone  
                       | Peacocke Character Zone  
                       | Rototuna North East Character Zone  
                       | Medium Density Residential Zone  
                       | Large Lot Residential Zone |
| b) Business          | Business 1 to 7 Zones  
                       | Knowledge Zone |
| c) Industrial        | Industrial Zone  
                       | Ruakura Logistics Zone  
                       | Ruakura Industrial Park Zone  
                       | Te Rapa North Industrial Zone |
| d) Future Urban      | Future Urban Zone |
| e) Central City      | Central City Zone |
| f) Site/Area specific² | Community Facilities Zone  
                       | Major Facilities Zone  
                       | Neighbourhood Open Space Zone  
                       | Sport and Recreation Open Space Zone  
                       | Destination Open Space Zone  
                       | Natural Open Space Zone |

¹ Refer to the “Purpose of the Zone” of the relevant zone chapters for a statement about the purpose of each zone and the land-use activities they encourage or discourage.

² The location and extent of zones within this land-use environment category mean that transport corridors do not generally run through them. Transport corridors adjoining these land-use environments should reflect the land-use environment directly opposite these zones or be a continuation of the corridor either side. Site access controls may still vary.
Intersections

o) The form and design elements of transport corridors may alter as they approach intersections. This is particularly the case where different classifications of transport corridors intersect and especially so where arterials meet lower-order transport corridors.

p) To reinforce and protect the function of transport corridor classifications, the respective land-use environments, and the legibility of the network, intersections and their approaches may contain transport infrastructure or be managed in a way that would not normally be expected for that classification of transport corridor. For example, where a collector meets a major arterial the collector may: gain additional lanes; have crossing infrastructure for pedestrians and cyclists; landscaping, public art or signs may be used to reinforce a change in hierarchy; or on-street parking may be restricted.

Routes Transitioning Between Land-Use Environments

q) Some transport corridors are lengthy and pass through a range of land-use environments in the City. Along a corridor the classification or land-use environment may change. A logical evolution of the form of the transport corridor should be expected. This may be achieved by a substantial and immediate change at an appropriate intersection along the route, or possibly by gradual, progressive changes over a transitional length of the corridor.

Routes with Different Land-Use Environments on Each Side

r) Parts of some transport corridors will have different zones on either side. In this situation the form of the transport corridor will need to be flexible to provide for the needs of both land-use environments.

Note

1. The Strategic Network Overlay is derived from transport corridors identified by:
   - The Regional Policy Statement 2016 – as Significant Transport Corridors
   - The Regional Land Transport Strategy 2011-2041 – as nationally or regionally significant
   - Access Hamilton – as part of the strategic network
2. The use of specific transport corridors for passenger transport (e.g. inter or intra city bus services) is determined by the Waikato Regional Council in collaboration with Council and expressed in the Regional Land Transport Strategy and Regional Public Transport Plan.
3. Some arterial transport corridors may also be limited access roads where access restrictions have been created under s88 of the Government Roading Powers Act 1989 or s346 of the Local Government Act 1974. These restrictions apply over and above any District Plan controls.
4. Access to transport corridors may also be restricted by segregation strips. Segregation strips are essentially small strips of land along the frontage of properties (even just a few centimetres wide) created under the Public Works Act 1981 (or by councils under the Local Government Act 2002) during property negotiations and/or application negotiations. The strips are held in public ownership and are not classed as being road. Properties separated from a transport corridor by a segregation strip lose their direct vehicle access to the transport corridor adjoining the segregation strip but are generally provided with alternative vehicle access.
5. Appendix 15-5 identifies land currently set aside for road but which Council intends to ‘stop’.
Figure 15-4b: Transport corridor hierarchy plan

Legend
- Transport Corridor Hierarchy
  - Major Arterial Transport Corridor
  - Minor Arterial Transport Corridor
  - Collector Transport Corridor
  - Central City Transport Corridor
  - Proposed Major Arterial Transport Corridor
  - Proposed Minor Arterial Transport Corridor
  - Proposed Collector Transport Corridor
  - Strategic Network
  - Pedestrian Focus Area
  - Strategic Network and Pedestrian Focus Area
- City Boundary

Notes:
- All other transport corridors are local transport corridors.
- Transport corridors shown beyond the city boundary are for information only.

Walkato District
Figure 15-4c: Transport corridor hierarchy plan

Legend
- Transport Corridor Hierarchy
- Major Arterial Transport Corridor
- Minor Arterial Transport Corridor
- Collector Transport Corridor
- Central City Transport Corridor
- Proposed Major Arterial Transport Corridor
- Proposed Minor Arterial Transport Corridor
- Proposed Collector Transport Corridor
- Strategic Network
- Pedestrian Focus Area
- Strategic Network and Pedestrian Focus Area

Notes:
All other transport corridors are local transport corridors.
Transport corridors shown beyond the city boundary are for information only.
Figure 15-4d: Transport corridor hierarchy plan
**Figure 15-4e:** Transport corridor hierarchy plan

[Image: Transport corridor hierarchy plan map]

**Legend**
- Transport Corridor Hierarchy
  - Major Arterial Transport Corridor
  - Minor Arterial Transport Corridor
  - Collector Transport Corridor
  - Central City Transport Corridor
  - Proposed Major Arterial Transport Corridor
  - Proposed Minor Arterial Transport Corridor
  - Proposed Collector Transport Corridor
  - Strategic Network
  - Pedestrian Focus Area
  - Strategic Network and Pedestrian Focus Area
  - City Boundary

**Notes:**
- All other transport corridors are local transport corridors.
- Transport corridors shown beyond the City boundary are for information only.
Figure 15-4f: Transport corridor hierarchy plan
15-5 Proposed Road Stopping

This appendix identifies land currently set aside for road but which Council intends to ‘stop’. ‘Stopping’ means that it will cease to be road as defined by the Local Government Act. Road stopping is a process that can be undertaken under the Local Government Act 1974 or the Public Works Act 1981, and is separate to Resource Management Act processes, although sometimes they are run concurrently.

This appendix is for information purposes only and is not an exhaustive compilation of current or potential future road stopping. It is expected that road stopping processes, particularly the stopping of small parts of road, will arise and be processed without amendments being made to this appendix.

The areas shown are indicative and not surveyed. The final extent of any stopping will be determined as part of the formal stopping process.
Figure 15-5a
Figure 15-5b
Figure 15-5c
Figure 15-5d

Legend

Proposed Road Stopping

0 50 100 200 240 320 Meters
Figure 15-5g

Legend
Proposed Road Stopping

[Map showing proposed road stopping along the Waiapu River in Hamilton City, with a north compass direction indicated.]
Figure 15-5i

Legend
Proposed Road Stopping

Lake Rotoroa
(Hamilton Lake)
Figure 15-5j

Legend
Proposed Road Stopping

Legend

Meters
0 40 80 160 240 320

Waihito River

Operative District Plan 18 October 2017 Hamilton City Council
Figure 15-5k
15-6 Criteria for the Form of Transport Corridors

For designations and new transport corridors the design elements in this table will be used as guidance.

For changes to existing transport corridors the design elements in this table are used to create a baseline within which new works are considered to be a permitted activity (refer to Chapter 18: Transport Corridor Zone).

The criteria on the following pages are based on the guidance contained in the Hamilton City Infrastructure Technical Specifications which can be referred to if necessary for clarification and interpretation.
### Table 15-6a: Criteria for the form of Transport Corridors

<table>
<thead>
<tr>
<th>Transport corridor type</th>
<th>Land use environment</th>
<th>Design speed environment (max desirable)</th>
<th>Legal road width (min desirable)</th>
<th>Carriageway width</th>
<th>Movement lane width</th>
<th>Berm requirements</th>
<th>On street parking requirements (min desirable)</th>
<th>Passenger transport requirements (min desirable)</th>
<th>Footpath requirements (min desirable)</th>
<th>Cyclepath requirements (min desirable)</th>
<th>Service corridor (min desirable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Way</td>
<td>Residential (serving ≤ 6 units)</td>
<td>10km/h</td>
<td>3.6m or 4.5m</td>
<td>3m</td>
<td>2 way flow, not marked</td>
<td>One side</td>
<td>None</td>
<td>None</td>
<td>Shared zone</td>
<td>Shared zone – no dedicated facility</td>
<td>One side</td>
</tr>
<tr>
<td>Private Way or Local (low volume)</td>
<td>Residential (serving &gt;7 and ≤20 units)</td>
<td>10 to 20km/h</td>
<td>9m</td>
<td>5.5m</td>
<td>2 way flow, not marked</td>
<td>1.5m both sides</td>
<td>None</td>
<td>None</td>
<td>Shared zone</td>
<td>Shared zone – no dedicated facility</td>
<td>1.5m both sides</td>
</tr>
<tr>
<td>Local</td>
<td>Residential</td>
<td>40km/h</td>
<td>20m</td>
<td>6m</td>
<td>2 way flow, not marked</td>
<td>7m both sides</td>
<td>Recessed parallel parking bays (2m) on both sides</td>
<td>None</td>
<td>1.5m wide footpath, both sides</td>
<td>Cycling on road shared in movement lane</td>
<td>1.5m both sides</td>
</tr>
<tr>
<td>Collector</td>
<td>1. Residential</td>
<td>40 to 50km/h</td>
<td>23m</td>
<td>9m</td>
<td>2 @ 3m, marked</td>
<td>7m both sides</td>
<td>Recessed parallel parking bays (2m) on both sides</td>
<td>All bus stops to be kerbside</td>
<td>2m wide footpath, both sides</td>
<td>1.5m on road marked cycle lane, both sides</td>
<td>2m both sides</td>
</tr>
</tbody>
</table>
**Table 15-6a: Criteria for the form of Transport Corridors**

<table>
<thead>
<tr>
<th>Transport corridor type¹</th>
<th>Land use environment ²</th>
<th>Design speed environment (max desirable)</th>
<th>Legal road width (min desirable)³</th>
<th>Carriageway width⁴</th>
<th>Movement lane width⁵</th>
<th>Berm requirements⁶</th>
<th>On street parking requirements (min desirable)</th>
<th>Passenger transport requirements (min desirable)⁷</th>
<th>Footpath requirements (min desirable)⁸</th>
<th>Cyclepath requirements (min desirable)⁹</th>
<th>Service corridor (min desirable)¹⁰</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Arterial</td>
<td>Residential (Managed or limited direct access)¹¹</td>
<td>60km/h</td>
<td>Specific design⁶</td>
<td>2 @ 3.5m, marked, plus 3m flush median</td>
<td>Specific design⁶</td>
<td>Recessed parallel parking bays (2m) on both sides</td>
<td>All bus stops to be kerbside. Potential for bus priority at intersections</td>
<td>3m shared off road footpath and cyclepath on both sides</td>
<td>2.5m both sides</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major Arterial</td>
<td>Residential (Limited or no direct access)¹¹</td>
<td>80km/h</td>
<td>Specific design⁶</td>
<td>4 @ 3.5m, marked, plus 3m solid median</td>
<td>Specific design⁶</td>
<td>None</td>
<td>All bus stops to be recessed. Potential for bus priority at intersections</td>
<td>3m shared off road footpath and cyclepath on one side</td>
<td></td>
<td>Specific design⁶</td>
<td></td>
</tr>
</tbody>
</table>

**Industrial Land Use Environment**

<p>| Local                   | Industrial             | 40km/h                                    | 20m                                             | 9m                                      | 2 @ 4.5m, not marked | 5.5m both sides | Recessed parallel parking bays (2m) on both sides | None | 1.5m wide footpath, both sides | Cycling on road shared in movement lane | 1.5m both sides |
| Collector               | Industrial             | 40km/h                                    | 23m                                             | 11m                                     | 2 @ 4.5m, marked, plus 2m flush median | 6m both sides | Recessed parallel parking bays (2m) on both sides | All bus stops to be kerbside | 1.5m wide footpath, both sides | Cycling on road shared in movement lane | 2m both sides |</p>
<table>
<thead>
<tr>
<th>Transport corridor type¹</th>
<th>Land use environment²</th>
<th>Design speed environment (max desirable)</th>
<th>Legal road width (min desirable)³ ⁴, ⁷, ¹³</th>
<th>Carriageway width³</th>
<th>Movement lane width¹⁵</th>
<th>Berm requirements⁵</th>
<th>On street parking requirements (min desirable)</th>
<th>Passenger transport requirements (min desirable)¹¹</th>
<th>Footpath requirements (min desirable)¹²</th>
<th>Cyclepath requirements (min desirable)</th>
<th>Service corridor (min desirable)⁶</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Arterial</td>
<td>Industrial</td>
<td>60km/h</td>
<td>Specific design⁸</td>
<td>12m</td>
<td>2 @ 4.5m, marked, plus 3m flush median</td>
<td>Specific design⁸</td>
<td>Recessed parallel parking bays (2m) on both sides</td>
<td>All bus stops to be kerbside</td>
<td>3m shared off road footpath and cyclepath on one side and a 1.5m footpath on the other</td>
<td>2.5m both sides</td>
<td></td>
</tr>
<tr>
<td>Major Arterial</td>
<td>Industrial</td>
<td>80km/h</td>
<td>Specific design⁸</td>
<td>Specific design⁸</td>
<td>4 @ 3.5m, marked, plus 3m solid median</td>
<td>Specific design⁸</td>
<td>None</td>
<td>All bus stops to be recessed</td>
<td>3m shared off road footpath and cyclepath on one side</td>
<td>Both sides (subject to specific design⁸)</td>
<td></td>
</tr>
<tr>
<td>Business Centre Land Use Environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Lane</td>
<td>Business Centres</td>
<td>10km/h</td>
<td>9m</td>
<td>5m</td>
<td>2 way flow, not marked</td>
<td>Specific design⁸</td>
<td>None</td>
<td>None</td>
<td>Shared zone – no dedicated facility</td>
<td>1.5m both sides</td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>Business Centres</td>
<td>40km/h</td>
<td>Specific design⁸ (subject to specific design⁸)</td>
<td>12m</td>
<td>2 @ 3m</td>
<td>Specific design⁸</td>
<td>Parking one side only. May be recessed, parallel or angled</td>
<td>All bus stops to be kerbside</td>
<td>2 @ 3.5m (subject to specific design⁸)</td>
<td>Cycling on road shared in movement lane (subject to specific design⁸)</td>
<td>1.5m both sides (subject to specific design⁸)</td>
</tr>
</tbody>
</table>

¹: The type of corridor
²: The land use environment
³: The design speed environment
⁴: The legal road width
⁵: The Berm requirements
⁶: The Service corridor requirements
⁷: The Specific design
⁸: The Movement lane width
⁹: The Carriageway width

Table 15-6a: Criteria for the form of Transport Corridors
Table 15-6a: Criteria for the form of Transport Corridors

<table>
<thead>
<tr>
<th>Transport Corridor Type</th>
<th>Land Use Environment</th>
<th>Design Speed Environment (max desirable)</th>
<th>Legal Road width (min desirable)</th>
<th>Carriageway Width</th>
<th>Movement Lane Width</th>
<th>Berm Requirements</th>
<th>On street parking requirements (min desirable)</th>
<th>Passenger Transport requirements (min desirable)</th>
<th>Footpath requirements (min desirable)</th>
<th>Cyclepath requirements (min desirable)</th>
<th>Service Corridor (min desirable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collector</td>
<td>Business Centres</td>
<td>40km/h</td>
<td>Specific design</td>
<td>Specific design</td>
<td>2 @ 3.5m plus median</td>
<td>Specific design</td>
<td>Specific design. Parking and loading spaces recessed. Parking may be parallel or angled on both sides</td>
<td>All bus stops to be kerbside</td>
<td>2 @ 3.5m (subject to specific design)</td>
<td>Cycling on road shared in movement lane (subject to specific design)</td>
<td>2m both sides (subject to specific design)</td>
</tr>
<tr>
<td>Minor Arterial</td>
<td>Business Centres</td>
<td>60km/h</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design. Typically recessed parallel parking bays (2m) on both sides</td>
<td>All bus stops to be kerbside</td>
<td>2 @ 3.5m (subject to specific design)</td>
<td>Cycling lanes both sides (subject to specific design)</td>
<td>2.5m both sides (subject to specific design)</td>
</tr>
<tr>
<td>Major Arterial</td>
<td>Business Centres</td>
<td>60km/h</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design. Typically no on street parking provided</td>
<td>All bus stops to be kerbside Potential for bus priority at intersections</td>
<td>3m, shared off road footpath and cyclepath, both sides</td>
<td>Both sides (subject to specific design)</td>
<td></td>
</tr>
</tbody>
</table>
### Table 15-6a: Criteria for the form of Transport Corridors

<table>
<thead>
<tr>
<th>Transport Corridor Type</th>
<th>Land Use Environment</th>
<th>Design Speed Environment (max desirable)</th>
<th>Legal Road width (min desirable)</th>
<th>Carriageway Width</th>
<th>Movement Lane Width</th>
<th>Berm Requirements</th>
<th>On street parking requirements (min desirable)</th>
<th>Passenger Transport requirements (min desirable)</th>
<th>Footpath requirements (min desirable)</th>
<th>Cyclepath requirements (min desirable)</th>
<th>Service Corridor (min desirable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local</td>
<td>Future Urban</td>
<td>40km/h</td>
<td>Specific design (no less than 20m)</td>
<td>8m</td>
<td>2 @ 3m plus 2 @ 1m shoulder</td>
<td>Specific design</td>
<td>None</td>
<td>None</td>
<td>1.5m wide footpath, both sides</td>
<td>Cycling on road shared in movement lane</td>
<td>Both sides</td>
</tr>
<tr>
<td>Collector</td>
<td>Future Urban</td>
<td>60 or 80km/h</td>
<td>Specific design (no less than 23m)</td>
<td>9m</td>
<td>2 @ 3m plus 2 @ 1m shoulder</td>
<td>Specific design</td>
<td>None</td>
<td>All bus stops to be recessed</td>
<td>2.5m, shared off road footpath and cyclepath, both sides</td>
<td>Both sides</td>
<td></td>
</tr>
<tr>
<td>Minor Arterial</td>
<td>Future Urban</td>
<td>60km/h</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
</tr>
<tr>
<td>Major Arterial</td>
<td>Future Urban</td>
<td>80km/h</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
</tr>
<tr>
<td>Central City</td>
<td>Central City</td>
<td>30km/h</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Parking and loading spaces to be separate and recessed</td>
<td>All bus stops to be kerbside</td>
<td>2 @ 4m (subject to specific design)</td>
<td>Cycling on road shared in movement lane</td>
<td>Both sides</td>
</tr>
<tr>
<td>Pedestrian Focus Area</td>
<td>Central City</td>
<td>30km/h</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Parking and loading spaces to be separate and recessed</td>
<td>Specific design</td>
<td>All bus stops to be kerbside</td>
<td>2 @ 4m (subject to specific design)</td>
<td>Cycling on road shared in movement lane</td>
</tr>
</tbody>
</table>
Table 15-6a: Criteria for the form of Transport Corridors

<table>
<thead>
<tr>
<th>Transport Corridor Type</th>
<th>Land Use Environment</th>
<th>Design Speed Environment (max desirable)</th>
<th>Legal Road width (min desirable)</th>
<th>Carriageway Width</th>
<th>Movement Lane Width</th>
<th>Berm Requirements</th>
<th>On street parking requirements (min desirable)</th>
<th>Passenger Transport requirements (min desirable)</th>
<th>Footpath requirements (min desirable)</th>
<th>Cyclepath requirements (min desirable)</th>
<th>Service Corridor (min desirable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central City</td>
<td>Central City</td>
<td>40km/h</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Parking and loading spaces to be separate and recessed</td>
<td>Specific design Potential for bus lanes and priority at intersections</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Both sides</td>
</tr>
<tr>
<td>Central City</td>
<td>Central City</td>
<td>60km/h</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>None</td>
<td>Potential for bus priority at intersections</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Both sides</td>
</tr>
<tr>
<td>All</td>
<td>60 or 80km/h</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design Potential for bus priority at intersections</td>
<td>Specific design</td>
<td>Specific design</td>
<td>Specific design</td>
<td></td>
</tr>
</tbody>
</table>

Operative District Plan
18 October 2017
Hamilton City Council

Table 15-6a: Criteria for the form of Transport Corridors

<table>
<thead>
<tr>
<th>Berm Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking and loading spaces to be separate and recessed</td>
</tr>
<tr>
<td>Potential for bus lanes and priority at intersections</td>
</tr>
<tr>
<td>Specific design</td>
</tr>
<tr>
<td>Specific design</td>
</tr>
<tr>
<td>Specific design</td>
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<tr>
<td>Specific design</td>
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<td>Specific design</td>
</tr>
<tr>
<td>Specific design</td>
</tr>
<tr>
<td>Specific design</td>
</tr>
<tr>
<td>Both sides</td>
</tr>
<tr>
<td>Both sides</td>
</tr>
<tr>
<td>Both sides</td>
</tr>
<tr>
<td>Both sides</td>
</tr>
</tbody>
</table>
1 New Major and Minor Arterial transport corridors are likely to be designated with the final design undertaken on a case by case basis. For work involving significant changes to existing transport corridors, local constraints, land use environment and network function requirements may require design compromises whereby the minimum desirable design criteria may not be able to be met. Refer to Figures 15-4b to 15-4f to identify the relevant transport corridor type.
2 Refer to Table 15-4a for which zones form land use environments.
3 Measured from the face of the kerb to the face of the opposite kerb (excluding any recessed parking).
4 Full transport corridor width.
5 Measured from the property boundary to the face of the kerb. Berm width will vary in order to accommodate features as required, including: lighting, noise attenuation, landscaping, street trees, swale drains, footpaths, cyclepaths, recessed parking. Landscaping or street trees will require a minimum width of 2m and be incorporated into the legal road width (typically replacing indented parking or medians).
6 Location of services will be dependent upon the location of the footpath. The Hamilton City Infrastructure Technical Specifications contains relevant guidance on locating services.
7 If high pedestrian activity is expected then a 30km/h (or lower) design speed environment will be required. An Integrated Transport Assessment and safety audits will be necessary to ensure that the safety of vulnerable transport corridor users is achieved.
8 Specific design requires case by case consideration of the design elements in the local context. This must be undertaken with input from Council’s City Infrastructure engineers.
9 The design of transport corridors in the Future Urban land use environments should be flexible enough to enable retrofitting to a lower design speed environment should zoning of the adjacent land use change.
10 The level of direct access (none, limited, managed) may vary along a corridor depending on network function requirements, topography and the availability of alternative access.
11 For guidance on bus stop types refer to the Hamilton City Infrastructure Technical Specifications. The design of kerbside bus stops will result in the positioning of a stopped bus partially or fully within the cycle or movement lane. This may require kerb extensions to achieve. Bus stops are only necessary if part of a bus route.
12 For guidance on pedestrian crossing facilities refer to the Hamilton City Infrastructure Technical Specifications.
13 Refer to ‘Design Speed Environment’ below for further guidance.
14 Stormwater management solutions may require additional legal road width and alter the arrangement of elements in this table (e.g. swales or space for treatment devices).
15 Excluding shoulders.

**Figure 15-6b**
Design Speed Environment

Traffic management will need to be included in transport corridor designs to ensure that the design speed environment shown in Table 15-6a is achieved.

Speeds can be managed by physical and psychological devices such as narrowed movement lanes, reduced forward visibility, parking, slow points, build outs, leg lengths, chicanes, planting and landscaping, and street furniture and public art works.

Suitable guidance for designing to a design speed environment can be found in:

- The Austroads Guide to Road Design – Part 3: Geometric
- The Manual for streets (UK Department for Transport 2007)

The two key geometric factors that contribute to achieving the target operating speed are carriageway width and forward visibility. Figure 15-6c can be used to give an indication of the speed at which traffic will travel for a given carriageway width/forward visibility combination.

**Figure 15-6c**: Design speed environment – relationship between carriageway width and forward visibility

*Source: Adapted from figure 7.16 of UK Department for Transport 'Manual for streets' and 'TRL661 - The manual for streets: evidence and research'*
15-7 Area Specific ITA Requirement

Figure 15-7a
Figure 15-7c
Figure 15-8: Sensitive transport network
Figure 15-9: Airport protection overlay