Figure A 28: Basic right (BAR) turn treatment on a two-lane rural road

* It is preferred that the widened shoulder is sealed, unless the shoulder can be maintained with a sound and even surface

Notes:
This treatment applies to the right turn from a major road to a minor road.
The dimensions of the treatment are:

\[ W = \text{Nominal through lane width (m) (including widening for curves). Width to be continuous through the intersection.} \]

\[ C = \begin{align*}
\text{On straights} & -6.5 \text{ m minimum} \\
7.0 \text{ m minimum for Type 1 & Type 2 road trains} \\
\text{On curves} & \text{ - widths as above + curve widening (based on widening for the design turning vehicle plus widening for the design through vehicle)}
\end{align*} \]

\[ A = \begin{align*}
0.5VF \\
\frac{3.6}{V}
\end{align*} \]

Increase length A on tighter curves (e.g. those with a side friction demand greater than the maximum desirable). Where the design through vehicle is larger than or equal to a 19 m semi-trailer the minimum speed used to calculate A is 80 km/h

\[ V = \text{Design speed of major road approach (km/h)} \]

\[ F = \text{Formation/carriageway widening (m)} \]

\[ S = \text{Storage length to cater for one design turning vehicle (m) (minimum length 12.5 m)} \]

\[ X = \text{Distance based on design vehicle turning path, typically 10-15 m} \]

Source: Department of Main Roads (2006)25.

25 Department of Main Roads (2006) has been superseded and Figure A 28 has not been carried forward into Queensland Department of Transport and Main Roads (2016).
Figure 8.2: Rural basic left-turn treatment (BAL)

* It is preferred that the widened shoulder is sealed, unless the shoulder can be maintained with a sound and even surface.

Minimum width = lane width + normal shoulder width.

Optional kerb return (refer Typical Cross Section and Notes)

4.0 m minimum width to kerb face

Edge of existing pavement

Edge line

Stop/Holding line set back (where through approach is straight for minimum 5 seconds travel time)

4.0 m minimum width to kerb face

Provide break in kerb where required for drainage

Verge

Semi-mountable kerb

Pavement

Typical cross-section — optional kerb return

Notes:

- $R_1$ and $R_2$ are determined by the swept path of the design vehicle.
- The dimensions of the treatment are defined thus:

\[
W = \text{Nominal through lane width (m) (including widening for curves)}.
\]

\[
C = \begin{cases} 
6.0 \text{ m minimum.} & \text{On straights} \\
6.0 \text{ m plus curve widening (based on widening for the design turning vehicle plus widening for the design through vehicle).} & \text{On curves}
\end{cases}
\]

\[
A = \frac{0.5VF}{3.6}
\]

\[
V = \text{Design speed of major road approach (km/h).}
\]

\[
F = \text{Formation/carriageway widening (m).}
\]

\[
P = \text{Minimum length of parallel widened shoulder (Table 8.1).}
\]

\[
S_b = \text{Setback distance between the centre of the major road and the give way or stop line in the minor road.}
\]

Source: Department of Main Roads (2006).