Staging
Indicative Staging Plan

The stage boundaries are based on areas that could likely be constructed independently. The staging order reflects the areas in greatest need of upgrades using the priorities set out on p9-10 (ie. pedestrian safety, then seating, then landscape etc). These are a guide only and are subject to variation at detailed design stage.
# Cost estimates

Table 1. Approximate cost estimates for streetscape upgrade by stage.

<table>
<thead>
<tr>
<th>Item</th>
<th>Sandridge St - Lamrock Ave</th>
<th>Lamrock Ave - Hall St</th>
<th>Hall St - Curlewis St</th>
<th>Curlewis St - Beach Rd</th>
<th>Beach Rd - Ramsgate Ave</th>
<th>Ramsgate Ave - Brighton Ave</th>
<th>Brighton Ave - Hasting Pde</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>New paving</td>
<td>$1,060,940</td>
<td>$586,200</td>
<td>$835,045</td>
<td>$266,180</td>
<td>$410,230</td>
<td>$485,305</td>
<td>$283,050</td>
<td>$3,928,950</td>
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<td>Kerbs</td>
<td>$186,000</td>
<td>$24,000</td>
<td>N/A</td>
<td>N/A</td>
<td>$112,500</td>
<td>$205,500</td>
<td>$60,000</td>
<td>$585,000</td>
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<tr>
<td>Raised crossings/ thresholds</td>
<td>$100,000</td>
<td>$50,000</td>
<td>N/A</td>
<td>N/A</td>
<td>$50,000</td>
<td>$100,000</td>
<td>$250,000</td>
<td>$550,000</td>
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<tr>
<td>Footpath seating shade structures</td>
<td>$113,550</td>
<td>$794,850</td>
<td>$794,850</td>
<td>0 (Pilot Project by developer)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>$1,703,250</td>
</tr>
<tr>
<td>Street trees</td>
<td>$360,000</td>
<td>$114,000</td>
<td>$48,000</td>
<td>$36,000</td>
<td>$414,000</td>
<td>$210,000</td>
<td>$84,000</td>
<td>$1,266,000</td>
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<tr>
<td>Public seating</td>
<td>$12,000</td>
<td>$36,000</td>
<td>$96,000</td>
<td>0 (Pilot Project by developer)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>$144,000</td>
</tr>
<tr>
<td>Bike lane</td>
<td>$21,340</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>$49,500</td>
<td>$19,800</td>
<td>$10,450</td>
<td>$101,090</td>
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<td>Bike racks</td>
<td>$9,000</td>
<td>$11,000</td>
<td>$5,000</td>
<td>0 (Pilot Project by developer)</td>
<td>$9,000</td>
<td>$2,000</td>
<td>$1,000</td>
<td>$37,000</td>
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<tr>
<td>Relocate parking metres, signs etc</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>0 (Pilot Project by developer)</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$60,000</td>
</tr>
<tr>
<td>Consultants (eg. survey, detailed design and documentation)</td>
<td>$50,000</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$50,000</td>
<td>$50,000</td>
<td>$50,000</td>
<td>$400,000</td>
<td></td>
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<tr>
<td>Contingencies (10%)</td>
<td>$192,283</td>
<td>$170,305</td>
<td>$186,390</td>
<td>$35,218</td>
<td>$110,523</td>
<td>$108,261</td>
<td>$74,850</td>
<td>$877,829</td>
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<tr>
<td>Total</td>
<td>$2,115,113</td>
<td>$1,873,355</td>
<td>$2,050,285</td>
<td>$387,398</td>
<td>$1,215,753</td>
<td>$1,190,866</td>
<td>$823,350</td>
<td>$9,656,119</td>
</tr>
</tbody>
</table>

Assumptions:
- Paving: $250/sqm to supply and install 600x400 pavers with concrete base and mortar bed.
- Kerbs: $300/lin m to supply and install 150mm integral kerb and gutter.
- Raised crossings/ thresholds: $50,000 each.
- Footpath seating shade structures: $56,775 to supply and install 4mx4m module.
- Trees: $6000/tree to supply and install 4m tree.
- Public seating: $6000 to remove mosaic bench and $6000 to supply and install new bench seat.
- Assumes additional bus shelters provided by STA/JDC.
- Bike lane: $55/lin m to mill and re-sheet roadway and supply and install 1.2m wide green paint and edge lines.
- Bike racks: $500 per stainless steel hoop supplied and installed.
- Cost estimates exclude road resurfacing and relocation of services, drainage etc.
Table 2. Additional works proposed as part of streetscape upgrade, but subject to separate business cases and budget approval.

<table>
<thead>
<tr>
<th>Item</th>
<th>Sandridge St - Lamrock Ave</th>
<th>Lamrock Ave - Hall St</th>
<th>Hall St - Curlewis St</th>
<th>Curlewis St - Beach Rd</th>
<th>Beach Rd - Ramsgate Ave</th>
<th>Ramsgate Ave - Brighton Ave</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signalised intersections</td>
<td>$500,000</td>
<td>$750,000</td>
<td>N/A</td>
<td>N/A</td>
<td>$1,000,000</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Multi-function poles</td>
<td>$260,000</td>
<td>$160,000</td>
<td>$200,000</td>
<td>$120,000</td>
<td>$460,000</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Solar compactor public bins</td>
<td>$77,000</td>
<td>$66,000</td>
<td>$110,000</td>
<td>$55,000</td>
<td>$77,000</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Hydraulic commercial bins</td>
<td>$360,000</td>
<td>$240,000</td>
<td>$360,000</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Consultants (eg. survey, detailed design and documentation)</td>
<td>$50,000</td>
<td>$50,000</td>
<td>$30,000</td>
<td>$30,000</td>
<td>$50,000</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Contingencies (10%)</td>
<td>$124,700</td>
<td>$126,600</td>
<td>$70,000</td>
<td>$20,500</td>
<td>$158,700</td>
<td>N/A</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$1,371,700</strong></td>
<td><strong>$1,392,600</strong></td>
<td><strong>$770,000</strong></td>
<td><strong>$225,500</strong></td>
<td><strong>$1,745,700</strong></td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Assumptions:
- Solar compacting bins: $11,000 each supplied and installed.
- Hydraulic underground bins: $120,000 each supplied and installed.
- Multi-function poles: $20,000 each supplied and installed.
Streetscape Analysis
Scope

The scope of the design review included:

- Full length of Campbell Parade, both sides
- Pedestrian and seating surveys
- Landscaping
- Shade Structures
- Restaurant seating
- Bins, lighting, poles and bike racks
- Footpath condition
- Pedestrian accessibility
- Public seating

The scope did not include building/development controls, traffic, parking, or public transport.
Campbell Parade has evolved radically over the last century. Recognised early on for its recreation appeal, a tram line was built to the largely undeveloped Bondi Bay in the early 1900’s helping to fuel growth. During the Inter-War period (1915 - 1940) considerable development occurred along the length of Campbell Parade, and the Bondi Pavilion and major beach upgrade was completed in 1929. Much of the inter-war architecture and colour palette remains today and is a key defining character of Campbell Parade.

Following the closure of the tram in 1969, Campbell Parade transitioned to a more vehicle-oriented street in the 1970’s resulting in a more barren landscape. In the 1990’s masterplanning was undertaken for major streetscape enhancements including new wide footpaths and the iconic palm trees in the central median. The rejuvenated street vastly improved the experience for beach users and restaurants discovered the value of outdoor dining, building permanent structures on the footpath for year-round use.

Since major exposure during the 2000 Sydney Olympics Bondi has continued to soar as one of the most visited tourism destinations in Australia, with an estimated 50,000 visitors per day in peak season. The beach also hosts major events such as City to Surf, Sculptures by the Sea, Festival of the Winds as well as popular TV shows such as Bondi Rescue.

While there are some significant new buildings and landscape works on Campbell Parade, the inter-war architecture, the open landscape of Bondi Park, the gently curved waterline, and the topography which creates a natural amphitheatre all remain extremely important elements of the heritage and cultural character of Bondi.

The Bondi Beach Cultural Landscape is listed on the Register of the National Estate, the National Heritage List and NSW State Heritage Register and is the only beach in Australia that has been given national listing. Under the Waverley LEP 20 buildings on Campbell Parade are listed as heritage items. Additionally the entire area of Campbell Parade and Bondi Beach is identified as a Heritage Conservation Area.
Character zones

1. Gateway entry into Bondi Beach defined by parkland both sides of the street.
2. Commercial and shop-top housing, elevated views to the beach precinct.
3. Commercial core, wide footpaths, landscaped central median, flat linear corridor with views across to beach.
4. Residential, flat open sweeping corner with views to parkland and beach.
5. Residential, sloping narrower corridor with elevated views to beach precinct.
6. North Bondi Village, commercial with shop-top housing and ocean glimpses.
Pedestrian survey

The majority of pedestrians were recorded between Francis St and Beach Road which corresponds to the areas with most retail and food/beverage outlets.

The highest pedestrian volumes were observed between Hall St and Roscoe Mall on both the Saturday and the Monday and numbers generally decrease the further north and south one travels from this area. This site is situated in the centre of the busy Hall St restaurant/cafe strip and the central part of Bondi Beach and Pavilion, the two key destinations in Bondi, and also includes a key bus stop used by visitors to the beach.

16,705 pedestrians on Saturday
(Saturday 7am - 7pm in Autumn between Hall St - Roscoe Mall)

2.5x more pedestrians Saturday vs Monday

Campbell Parade is clearly more of a weekend destination, with a peak of 16,705 pedestrians on Saturday (7am-7pm) compared to a peak of 7060 pedestrians on Monday.

All locations along Campbell Parade measured less than half the pedestrian volumes on Monday compared to Saturday.

Pedestrian numbers were higher on the town side of Campbell Parade compared to the corresponding site on the beach side, with the only exception being North Bondi Surf Club. This trend is likely because of pedestrians on the beach side using the promenade rather than the footpath on Campbell Parade.
The pedestrian volumes have been compared to Oxford St Mall and the Bondi to Bronte Coastal Walk in order to get a better understanding of the unique trends occurring on Campbell Parade. As expected the tourism/ recreational aspect of Bondi Beach has a significant influence on the variation between weekdays and weekends.

On Saturdays between 9am-5pm Campbell Parade has more than double the number of pedestrians (12,963) compared to Oxford St Mall (6705) and the Coastal Walk (6862).

On a typical weekday Oxford St Mall is the busiest with 9510 pedestrians between 9am-5pm compared to 5066 on Campbell Parade and 2794 on the Coastal Walk.

On weekends Campbell Parade has higher volumes throughout the afternoon and into the evening. In contrast Oxford St Mall has more of a lunchtime peak and the Coastal Walk is busier in the mornings.

On weekdays all locations experience a steady flow of pedestrians throughout the day.

Note:
Oxford Mall: Surveyed at Grosvenor St entry, Saturday 27 August 2011 and 3 September 2011 (average used to get Saturday data) and Tuesday 6 September and 13 September 2011 (average used to get Weekday data).

Campbell Parade: Surveyed between Hall St – Roscoe Mall on north side, Saturday 28 March 2015 (24.5C sunny) and Monday 30 March 2015 (23.9C sunny), then scaled using parking data to estimate the summer flow.

Coastal Walk: Surveyed at Tamarama (Mackenzies Bay) Saturday 12 September 2015 (25.4C, sunny) and Monday 14 September 2015 (23.6C sunny).
Footpath condition

Within the commercial core (between Lamrock Avenue - Beach Road) the footpaths are wide and flat with generally good condition paving, ramps and kerbs and consistent use of materials. This creates a good foundation for pedestrians in the busiest areas.
Outside of the commercial core many sections of footpath are insufficient width for the volume of pedestrians and/or contain obstructions/ trip hazards.
Footpath width

Several sections of footpath have insufficient width for the volume of pedestrians and/or contain obstructions/ trip hazards.
Areas of footpath that are insufficient width for the volume of pedestrians and/or contains obstructions/trip hazards.
Footpath paving

Paving is reasonable quality in the commercial core, but is not exceptional. Consideration should be given to a modern larger format paver comparable to the best-practice examples shown in the introduction. Outside the commercial core material choice appears ad hoc and repairs to footpaths often do not match the existing material.
Footpath paving

- Square paver
- Washed concrete
- Brick paver
- New concrete
- Old concrete
- Asphalt
Pedestrian crossings

Good zebra crossing - directly aligned with desire line, continuous extension of footpath, tight corner radius to slow turning vehicles, ramps provided (a raised crossing flush with the footpath is even better).

Poor zebra crossing - no kerb indents to alert and slow approaching traffic, crosses multiple lanes, confusing/ambiguous pedestrian refuges, contains trip hazards.

Signalised crossings are provided throughout the commercial core with generous waiting space, good paving and wide ramps.

Curlewis St intersection

Sir Thomas Mitchell Rd intersection

Wairoa Ave intersection
The southern section of Campbell Parade is extremely wide, has poor visibility, no pedestrian refuge for crossing, and many unsafe crossings regularly observed.

Unnecessarily wide intersection with oversized truncations.

Poor corner design - despite the addition of an island the corner is still too large to slow turning vehicles, does not increase footpath space, and does not complement or integrated well with the public domain.

This intersection has high volumes of pedestrians but the crossing distance is too wide and the poor kerb ramps and steep narrow footpaths present a trip hazard.

An example of good corner design - continuous extension of footpath, usable space, tight corner radius to slow turning vehicles, integrated with surrounding public space.
There are no crossing points for 300m along this section of Campbell Pde, resulting unsafe crossings.

Uncontrolled pedestrian crossings could be reconsidered. Insufficient waiting space at the southern crossing (left image) due to busy bus stop.
This intersection is 40m wide with no stop sign or design controls to slow vehicles.

Diagonal intersections make excessively wide crossings - these could be reduced in width with kerb extensions.

This zebra crossing has trip hazards and could be reduced in width with kerb extensions and pedestrian refuges.

This intersection has recently been upgraded to extend the footpath and landscaping.

Pedestrian barriers are not required on safe, people-friendly streets, however if deemed necessary the concrete barriers could be improved visually.
Pedestrian crossings

- Existing signalised crossings
- Existing zebra crossings
- Existing pedestrian barriers
- Pedestrian crossing unsafe / insufficient / missing
On average there are 10 accidents each year causing injury and 50% involve pedestrian or cyclists.

There were 69 accidents recorded on Campbell Parade between 2009 - 2013, of which 50 caused injury. 14 accidents involved pedestrians and 9 involved cyclists, all causing injury. The accidents predominantly occurred at intersections, the worst being Hall St, Curlewis St, Notts Ave and Ramsgate Ave.
Public seating

Some bus stops have insufficient or no seating. The two pictured above experience high volumes of passengers and should be upgraded as a priority.

A series of 27 public bench seats with mosaic tile artworks exist between Beach Road and Lamrock Avenue. Commissioned in 1997, the seats are in varying condition from poor to good. Either all or some of the seats can be retained and maintained with further investment, and there is the opportunity for new public seats to be designed and installed. The survey undertaken as part of this review found the seats were never more than 25% occupied, suggesting a potential over-supply of seating in these areas.

There are a number of other styles of public seating which are currently ad hoc and do not provide the quality or amenity required for this important streetscape. The image on the left is key vista on arrival to Bondi Beach via Bondi Road and is a key opportunity for improvement.

The new seating being installed in Bondi Park (pictured), could provide the basis for a consistent material palette.
Existing shade structures for footpath seating vary in style and quality. Central post are superior to the corner post. However all existing examples create an issue with roll down plastic blinds which blur the beach views, enclose the footpath too much, and are susceptible to dirt and deterioration resulting in detraction to the street amenity. A modern consistent design unique to Campbell Parade would greatly help to improve the overall appearance and strengthen local identity.

There are also a range of other footpath seating arrangements - under awnings, temporary umbrellas, and uncovered seating. These can be constrained by footpath width especially outside the commercial core area.
Existing seating

- Existing public seating
- Bus stop with shelter and seating
- Bus stop (no shelter or seating)
- Existing restaurant footpath seating
- Key areas for public seating upgrade
- Key areas for restaurant footpath seating upgrade
The seating survey recorded high levels of occupancy for most areas with restaurant footpath seating, confirming that these are well used and could potentially support more seating.

Public seating in the commercial core was not more than 25% occupied at any given time. The main areas with a deficiency of public seating were bus stops and parks.
Footpath seating survey

Saturday Hourly Seating Occupancy

aded for Seasonal Variation
(From March to January)

Figure 3/3
Saturday Hourly Seating Occupancy
stored for Seasonal Variation (from March to January)
Figure 2/3
Satuday Hourly Seating Occupancy

Figure 1/3
Cycling

While some bike racks are provided, more bike racks should be provided on each block near the end destination.

There are no bike lanes in the southern half of Campbell Parade, but the wide roads could accommodate it.

The bike lane is not continuous in North Bondi despite the road being wide enough.

Continuous bike lanes are provided through the commercial core.
The bike lane is not continuous in North Bondi despite the road being wide enough.
Street trees

There is a lack of street trees and greenery outside the commercial core. The extension of palm trees in the central median the full length of Campbell Parade would help to create more coherent boulevard feel. Trees could also be located between parking bays with minimal impact to parking, and combined with rain gardens could help to address stormwater runoff more naturally.

Historically significant pine trees remain within Bondi Park and are well suited to the coastal conditions.

Formally arranged palm trees in the central median create a strong boulevard effect in the commercial core and have become a defining character of Campbell Parade.

The sections of Campbell Parade in North and South Bondi are devoid of trees and greenery, to the detriment of streetscape amenity. While some sections are exposed to winds, street trees are maintained in much harsher coastal climates around Australia. The introduction of regular street tree planting would be transformational to these areas.
Rubbish bins

There is a good provision of high quality uniformly designed bins along Campbell Parade, although some obstruct the footpath. Unfortunately at many locations there are not separate bins for recycling.

Many commercial tenants have no laneway access, so their bins are stored on the footpath for collection. These occupy precious footpath space, impact on the amenity of the street and smell bad, especially in the summer months. Screened bin areas may assist somewhat, but will occupy more footpath space and could present difficulties with numerous businesses sharing bin stores.

Consideration should be given to underground waste storage and transport technology for both public and private waste. This would free up footpath space, reduce the labour for collection, avoid overflows, and enable greater recycling.