

11. CHARLESTON CLUSTER KERB AND CHANNEL RENEWAL

General Manager responsible:	General Manager City Environment, DDI 941-8656
Officer responsible:	Transport and City Streets Manager
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PURPOSE OF REPORT

1. The purpose of this report is to inform the Board of the outcome of the Charleston Cluster consultation process undertaken earlier this year.
2. The other purpose of this report is to seek the approval of the Board to proceed to final design, tender and construction of the kerb and channel renewals in Barbour Street (from Charles Street to Ferry Road), Grafton Street, and Henry Street, as shown in the concept plans in **Attachment 1**.

EXECUTIVE SUMMARY

3. The Charleston Neighbourhood Plan (NIP) was published in September 2001 and since that time the focus has been on implementation.
4. The Charleston Cluster project involves the kerb and channel renewal for Barbour Street (between Charles Street and Ferry Road), Grafton Street, Frederick Street, Grenville Street, Laurence Street and Henry Street. These streets have been grouped into a cluster for planning and design purposes.
5. The primary aim of the project is to renew the old kerb and dish channel and replace it with kerb and flat channel. Secondary objectives of the project relate to road user safety, enhancing the streetscape, to maximise parking in the industrial areas, create a buffer between residential and industrial areas, and reduce traffic speed and through traffic.
6. The estimated total cost for the six streets that comprise the Charleston Cluster is \$3,948,512.
7. Consultation with the community has been undertaken via a consultation newsletter distributed in April/May 2006, and an open day held in May 2006. The feedback from the community is generally in support of the concept plans for Barbour Street, Frederick Street, Grenville Street, and Laurence Street. Feedback on Grafton Street and Henry Street was generally in opposition to the concept plans. The feedback from the community has been considered and the concept plans amended where possible. The concept plan for Grafton Street has been amended to address the key concern of businesses. There is no change to Henry Street as the project involves the replacement of the kerb and channel on the existing alignment.
8. Approval is sought from the Board to progress the preferred option for Barbour Street to final design, tender and construction as this project features in the 2006/07 Capital Programme, and for Grafton Street and Henry Street as these projects are proposed for the 2007/08 Capital Programme. Plans for Frederick Street, Grenville Street and Laurence Street have also been attached for information (**see attachment 1**).

FINANCIAL AND LEGAL CONSIDERATIONS

9. The kerb and channel renewal works within the Transport and City Streets Capital Programme are currently being reviewed to maximise Land Transport New Zealand subsidy levels. This means some changes to the programme will occur. The effect of this process on the Charleston Cluster is that Barbour Street will be undertaken in the 2006/07 year and Grafton Street and Henry Street are proposed for construction in the 2007/08 year. Unfortunately the timing of the other three streets in the cluster is unknown at this point in time. This report therefore only seeks approval for Barbour Street, Grafton Street and Henry Street, however, it also discusses the consultation outcomes for the other streets in the Charleston Cluster.
10. The total estimated cost of upgrading these six streets is \$3,948,512 (the budget is \$3,768,000), which is comprised of the following estimates for each of the streets.

- Barbour Street \$558,150
- Grafton Street \$1,314,762
- Frederick Street \$425,600
- Grenville Street \$779,700
- Laurence Street \$758,200
- Henry Street \$112,100

The potential budget overrun will be managed within the entire kerb and channel programme.

11. There are no legal implications for this project.
12. Board resolutions are required to approve the “No Parking” restrictions.

STAFF RECOMMENDATIONS

It is recommended that the Board approve:

- (a) The Barbour Street, Grafton Street and Henry Street projects, as illustrated in **Attachment 1**, to proceed to final design, tender and construction.
- (b) The following No Stopping restrictions:

NEW NO STOPPING

Barbour Street

1. That the stopping of vehicles be prohibited at any time on the west side of Barbour Street commencing at a point 147 m north of its intersection with Charles Street and extending in a northerly direction for a distance of 39 m.
2. That the stopping of vehicles be prohibited at any time on the west side of Barbour Street commencing at a point 52 m from its intersection with Ferry Road and extending in a southerly direction for a distance of 34 m.
3. That the stopping of vehicles be prohibited at any time on the east side of Barbour Street commencing at a point 146 m north of its intersection with Charles Street and extending in a northerly direction for a distance of 38 m.
4. That the stopping of vehicles be prohibited at any time on the east side of Barbour Street commencing at a point 53.5 m from its intersection with Ferry Road and extending in a southerly direction for a distance of 28 m.

Grafton Street

1. That the stopping of vehicles be prohibited at any time on the west side of Grafton Street commencing at a point 30 m from its intersection with Henry Street and extending in a northerly direction for a distance of 32 m.
2. That the stopping of vehicles be prohibited at any time on the west side of Grafton Street commencing at a point 94 m from its intersection with Henry Street and extending in a northerly direction for a distance of 30 m.
3. That the stopping of vehicles be prohibited at any time on the west side of Grafton Street commencing at a point 95 m from its intersection with Charles Street and extending in a northerly direction for a distance of 35 m.
4. That the stopping of vehicles be prohibited at any time on the west side of Grafton Street commencing at a point 100 m from its intersection with Grenville Street and extending in a northerly direction for a distance of 34 m.
5. That the stopping of vehicles be prohibited at any time on the west side of Grafton Street commencing at a point 30 m from its intersection with Ferry Road and extending in a southerly direction for a distance of 35 m.
6. That the stopping of vehicles be prohibited at any time on the east side of Grafton Street commencing at a point 40 m from its intersection with Ferry Road and extending in a southerly direction for a distance of 27 m.

7. That the stopping of vehicles be prohibited at any time on the east side of Grafton Street commencing at its intersection with Short Street and extending in a northerly direction for a distance of 16 m.
8. That the stopping of vehicles be prohibited at any time on the east side of Grafton Street commencing at its intersection with Short Street and extending in a southerly direction for a distance of 12.5 m.
9. That the stopping of vehicles be prohibited at any time on the east side of Grafton Street commencing at its intersection with Grenville Street and extending in a northerly direction for a distance of 15 m.
10. That the stopping of vehicles be prohibited at any time on the east side of Grafton Street commencing at its intersection with Grenville Street and extending in a southerly direction for a distance of 13 m.
11. That the stopping of vehicles be prohibited at any time on the east side of Grafton Street commencing at its intersection with Laurence Street and extending in a northerly direction for a distance of 12 m.
12. That the stopping of vehicles be prohibited at any time on the east side of Grafton Street commencing at its intersection with Laurence Street and extending in a southerly direction for a distance of 11 m.
13. That the stopping of vehicles be prohibited at any time on the east side of Grafton Street commencing at a point 27 m from its intersection with Henry Street and extending in a northerly direction for a distance of 28 m.
14. That the stopping of vehicles be prohibited at any time on the east side of Grafton Street commencing at its intersection with Henry Street and extending in a northerly direction for a distance of 8 m.
15. That the stopping of vehicles be prohibited at any time on the east side of Grafton Street commencing at its intersection with Henry Street and extending in a southerly direction for a distance of 5 m.
16. That the stopping of vehicles be prohibited at any time on the east side of Grafton Street commencing at a point 48 m from its intersection with Henry Street extending 12 m in a southerly direction, then 4 m in a westerly direction and 5 m in a northerly direction.

Henry Street

1. That the stopping of vehicles be prohibited at any time on the south side of Henry Street commencing at its intersection with Grafton Street and extending in an easterly direction for a distance of 6 m.
2. That the stopping of vehicles be prohibited at any time on the north side of Henry Street commencing at its intersection with Grafton Street and extending in an easterly direction for a distance of 6 m.

REMOVE EXISTING NO STOPPING

Barbour Street

1. That the existing no stopping restriction on the west side of Barbour Street commencing at a point 52 m from its intersection with Ferry Road and extending in a southerly direction for a distance of 27 m be revoked.
2. That the existing no stopping restriction on the east side of Barbour Street commencing at a point 53.5 m from its intersection with Ferry Road and extending in a southerly direction for a distance of 27 m be revoked.

MOVE EXISTING NO STOPPING TO NEW LOCATION

Grafton Street

1. That the existing no stopping be revoked from the west side of Grafton Street at its present position commencing from the intersection with Charles Street and extending 32 m in a southerly direction, and reinstated on the west side of Grafton Street commencing from the intersection with Charles Street and extending 57 m in a southerly direction.
2. That the existing no stopping be revoked from the east side of Grafton Street at its present position commencing from the intersection with Ferry Road and extending 2.5 m in a southerly direction, and reinstated on the east side of Grafton Street commencing from the intersection with Ferry Road and extending 6 m in a southerly direction.

CHAIRPERSON'S RECOMMENDATION

For discussion.

BACKGROUND ON CHARLESTON CLUSTER PROJECT

13. The Charleston Neighbourhood Plan (NIP) was published in September 2001 and since that time the focus has been putting on it into action. A public meeting in September 2002 agreed to a co-ordinated solution for roading improvements in the area, and Charles Street, the southern end of Barbour Street (Charles Street to the end), and Short Street have recently been completed. Osborne Street is currently under construction.
14. The Charleston Cluster includes Barbour Street (between Charles Street and Ferry Road), Grafton Street, Frederick Street, Grenville Street, Laurence Street and Henry Street. These streets have been grouped into a cluster for planning and design purposes. This cluster methodology also ensures that there is consistency in treatments throughout the cluster, as well as providing the opportunity to achieve financial savings. The cluster works will integrate with already completed works.
15. The kerb and channel renewal works within the Transport and City Streets Capital Programme are currently being reviewed to maximise Land Transport New Zealand subsidy levels. This means some changes to the programme will occur. The effect of this process on the Charleston Cluster is that Barbour Street will be undertaken in the 2006/07 year and Grafton Street and Henry Street are proposed for construction in the 2007/08 year. Unfortunately the timing of the other three streets in the cluster is unknown at this point in time. This report therefore only seeks approval for Barbour Street, Grafton Street and Henry Street, however, it also discusses the consultation outcomes for the other streets in the Charleston Cluster.
16. All of the streets in the Charleston Cluster are classified as local roads in the City Plan roading hierarchy. Most streets have an existing width of 10m. Grafton Street and Barbour Street are 10.3m wide at Ferry Road. Henry Street has an existing width of 10.4m.
17. The Charleston Cluster has a split City Plan zoning across the cluster area. At the southern end of Grafton Street, Osborne Street and Barbour Street the zoning is Business 3 (Inner City Industrial) and Business B3 (Inner City Industrial Buffer). At the Ferry Road end of Barbour Street and Grafton Street the zoning is Business 1 (Local Centre). The remainder of the Charleston Cluster is primarily residential and zoned Living 3 (Medium Density).
18. The primary aim of the project is to renew the old kerb and dish channel in the streets within the Charleston Cluster, and replace it with kerb and flat channel.
19. The objectives of the Charleston Cluster project include:
 - (a) To maintain and improve road user safety.
 - (b) Maximise landscape opportunities and enhance the streetscape consistent with the NIP objectives and the completed work in neighbouring streets.
 - (c) Where possible provide suitable parking to meet the needs of the residents and maximise the parking in the industrial zone.
 - (d) Create a visual buffer between the residential and industrial areas.
 - (e) Reduce traffic speed and industrial traffic in these local streets through traffic calming that is consistent with completed work.
20. A consultation newsletter was distributed to the Charleston community in April/May 2006 for formal consultation. This newsletter included an explanation of the project, concept plans for each of the streets, artists impressions/photographs of the seating area, landscaping, and heritage feature on Grafton Road, and a feedback form. The newsletter also included an invitation to an open day held in the Charleston Reserve on the 6 May 2006.
21. Some 100 responses were received to the consultation newsletter. A summary of the consultation outcomes for each of the streets is outlined in the table below. A full summary of the consultation feedback is included in **Attachment 2**.

Street	Responses Received	Support (%)	Oppose (%)	Neither (%)
Barbour Street	31	90	3	7
Grafton Street	21	38	57	5
Frederick Street	8	75	12.5	12.5
Grenville Street	14	93	7	0
Laurence Street	13	92	8	0
Henry Street	1	0	100	0
Total	88			

22. Five responses were received from residents in Charles St, four supported the concept plans, and one did not indicate support or opposition. Two responses were received from Ferry Road, both were in support of the concept plans. Three responses were received from residents in Osborne Street, all were in support of the concept plans. Two responses were received that concerned the Charleston Cluster in general.
23. Approximately 30 people attended the open day on the 6 May 2006. A meeting was also held with the Road Transport Association and project team members attended a Charleston Residents Association meeting.
24. A follow-up consultation newsletter was sent to the Charleston Cluster area at the start of July 2006 summarising the consultation outcomes, and providing plans of the preferred options. The newsletter also explained how we addressed the issues raised in the community feedback.
25. As construction of the streets within the Charleston Cluster will take a number of years, it is proposed to maintain contact with the community so that they are informed of progress throughout the cluster. As standard practice each street will receive a start work notice prior to construction commencing, however, it is also proposed to produce a six-monthly newsletter (or more/less regularly as required) to keep the community updated on the progress of the project.
26. The Charleston NIP signalled an intention to underground overhead services in the Charleston streets the year before the kerb and channel work are commenced. The recent LTCCP process has resulted in a change of budget for the undergrounding of overhead services in local roads. This takes effect from the 2006/2007 financial year. The draft 2006-2016 LTCCP made no provision for local road undergrounding and so this is not included as an outcome in the planning of local roads. As a result there will be no further undergrounding in the Charleston Cluster except for the remaining stretch of Barbour Street (from Charles Street to Ferry Road). This stretch of Barbour Street is being undergrounded from 2005/2006 funding.
27. As the construction of the Charleston Cluster will take place over the coming years, should provision for the undergrounding of services be provided in the LTCCP then this can be incorporated without major changes to the preferred concept plans for the streets.

OPTIONS

28. A common option considered for each of the streets in the Charleston Cluster was the maintenance of the status quo (i.e. that the kerb and channel is not replaced).

Barbour Street

29. Four options were developed for comparison. Each of the options narrowed Barbour Street to 9m and retained the existing threshold at the Ferry Road end of the street. Options 1 and 2 were similar in that they included mid-block narrowings (two in Option 1, and three in Option 2). Option 3 included a mid-block, two-way angled road narrowing, and Option 4 included a mid-block one-way angled road narrowing.

Grafton Street

30. Three options were developed for comparison. Each of the options narrowed the carriageway to 9m between Ferry Road and Laurence Street, and between Laurence Street and the southern end of Grafton Street the kerb and channel would be replaced on the existing alignment (10m in width). Options 1 and 2 differed in the mid-block narrowing between Laurence and Henry Street (a kerb build out on one side versus a kerb build out on both sides). Options 1 and 2 anticipated the undergrounding of services on Grafton Street, and Option 3 did not anticipate the undergrounding of services.

Henry Street

31. Only one option was considered for Henry Street as it is a short, industrial local street. Option 1 renewed the kerb and channel on the existing alignment.

Frederick Street

32. Two options were developed for comparison. Both options narrowed the carriageway to 9m and narrowed the intersection with Isabella Place to 6m. Option 1 anticipated the undergrounding of services and included a mid-block, two-way angled road narrowing. Option 2 did not anticipate the undergrounding of services and included a mid-block, one-way road narrowing.

Grenville Street

33. Two options were developed for comparison. Both options narrowed the carriageway to 9m, and narrowed the intersection with Grafton Street to 6m. Both options included the installation of a splitter island at the Ensors Road end of Grenville Street. Both options included mid-block road narrowings between Grafton Street and Osborne Street, and between Osborne Street and Ensors Road. Option 1 included two mid-block, two-way road narrowings, and Option 2 included two mid-block, one-way road narrowings.

Laurence Street

34. Two options were developed for comparison. Both options narrowed the carriageway to 9m and narrowed the intersection with Grafton Street to 7m. Both options included the installation of a splitter island at the Ensors Road end of Laurence Street. Both options included mid-block road narrowings between Grafton Street and Osborne Street, and between Osborne Street and Ensors Road. Option 1 included two mid-block, two-way road narrowings, and Option 2 included two mid-block, one-way road narrowings.

CONSULTATION ON OPTIONS

35. Below is a summary of the main issues identified during consultation with the community. A full summary of the feedback received is included in **Attachment 2**.

Barbour Street

36. Option 4 was distributed for consultation with the community. In summary the following feedback was received:

- Slowing down the traffic is good.
- Concern that the one-way narrowing and threshold will remove on-street parking.
- Maintenance of grass berms and landscaping areas is an issue.
- Concern that the 9m width will not be safe, particularly with parking for games at Jade Stadium.

Grafton Street

37. Option 3 was distributed for consultation with the community. In summary the following feedback was received:

- Concern that the 9m width will create difficulties for cars passing and backing out of driveways.
- Street width will create difficulties for commercial vehicles – widen the street.
- Concern at the loss of on-street parking.
- Concern at accessing properties where these are located adjacent to the narrowings.
- Seating area at the end of Grafton Street will attract graffiti and loitering and takes up on-street parking spaces.
- Maintain existing landscape areas before installing new ones.

Henry Street

38. Option 1 (renewal of the kerb and channel on the existing alignment) was distributed for consultation with the community. In summary the following feedback was received:
- Narrowing the streets does not achieve the objective of maximising parking (This comment related to Grafton Street).

Frederick Street

39. Option 2 was distributed for consultation with the community. In summary the following feedback was received:
- Concern at the loss of on-street parking.
 - Hope the seats are not the same as in Charles Street.
 - Maintenance of grass berms and landscaping areas is an issue.
 - Support the concept.

Grenville Street

40. Option 2 was distributed for consultation with the community. In summary the following feedback was received:
- Concern at the loss of on-street parking.
 - Maintenance of grass berms and landscaping areas is an issue.

Laurence Street

41. Option 2 was distributed for consultation with the community. In summary the following feedback was received:
- Hope speeding traffic will be slowed.
 - Pleased the area is being upgraded.
 - Object to landscaping and trees – prefer a maintenance free street.
 - One-way narrowing will make access to Grafton Street by heavy vehicles very difficult.
 - Laurence Street is used for parking by staff from the industrial area – maintain width and on-street parking.

Project Team Response to Main Issues Raised in Consultation

Narrowing of the streets to 9m

42. Nine meters is the current standard width for local roads in Christchurch City. A 9m carriageway allows for parking on both sides of the street whilst still providing some traffic calming benefits. A 9m width is also consistent with other streets in the Charleston Cluster.
43. The southern end of Grafton Street and Henry Street are not being narrowed. The new kerb and channel will be replaced on the existing alignment. Some of the businesses at the southern end of Grafton Street requested that the street be widened to 10.4m to assist large vehicles accessing the businesses. The location of overhead services prevents Grafton Street being widened.

Seating area at the southern end of Grafton Street

44. Business owners/occupiers have advised that the end of Grafton Street often experiences vandalism, people loitering, and people breaking through the fence to access the railway land. Their desire is that nothing be placed in this area that would encourage people to congregate and as such there was opposition to the proposed seating and garden area. The businesses also indicated that more parking was required in this location, and that large vehicles already have difficulty accessing properties.
45. The southern end of Grafton Street is not being narrowed as part of the project, and the new kerb and channel will be placed on the existing alignment. The vehicle accesses on the street will be splayed which will assist access to properties. The seating area proposed has also been removed from the concept plan and an alternative arrangement of two parking spaces and vehicle turnaround area is proposed. Further parking spaces at the end of the street could not be provided as it is necessary to maintain a turnaround area. Trees and landscaping are proposed along the fence with the railway line to screen this fence.

Maintenance of grass berms, street trees and landscaping

46. It is Council policy to install grass berms with the intention of enhancing the streetscape. It is hoped that residents will maintain the berm areas, however, Council will mow berm areas if the grass grows over 150mm in height. Landscaped areas between the footpath and the road (for example at the intersection areas) are inspected as part of a regular six-week maintenance cycle. Landscaped areas between the footpath and property boundaries (e.g. the landscaped strips) are subject to an annual maintenance programme, although it is hoped residents will assist with maintenance.

Loss of on street car parking

47. Some respondents were concerned that they would lose on-street car parks outside their properties where the one-way road narrowings and thresholds were installed. Apart from the narrowings, thresholds and intersections, parking is maintained on both sides of the street. Approximately 42 parking spaces are lost across the six streets in the cluster through the no parking proposed at the one-way road narrowings and thresholds.
48. The one-way road narrowing in Frederick Street has been removed from the concept plans as it was not considered necessary as a traffic calming measure as the street is relatively short (250m). The one-way road narrowing has been retained in Grenville Street as it is a much longer street (460m) and the narrowing breaks up the 'straight line' of the street.
49. Where specific properties have indicated opposition to the loss of parking spaces, there are spaces available in the vicinity (i.e. usually outside adjacent properties). Whilst the loss of on-street parking is regrettable it is considered that the traffic calming benefits provided by the narrowings and thresholds outweigh the loss of parking. Residents have advised that speeding traffic and through traffic is an issue and the traffic calming measures assist with this.

Access for large vehicles to the southern end of Grafton Street

50. The Road Transport Association (RTA) were concerned about heavy vehicle access to the businesses on Grafton Street and Osborne Street. To assist with access the proposed one-way road narrowing outside 51 Laurence Street has been removed from the preferred option. This will assist large vehicles to access Osborne Street from Ensors Road. It will also encourage heavy vehicles to enter and exit via Ensors Road and not the other residential streets in the area.

Access to properties at the narrowed sections

51. Some residents were concerned that the narrowed sections would prevent them from accessing their properties with a trailer or boat. The project team has checked the access to these properties, and a vehicle and trailer will be able to access the property. The splayed driveways at these properties will assist with access.

Undergrounding of services

52. Only Barbour Street (from Ferry Road to Charles Street) will be undergrounded as part of the project. There is no funding available for undergrounding the remainder of the Charleston Cluster.

PREFERRED OPTIONS

Barbour Street

53. The preferred option for Barbour Street includes the following features:
- A 9m carriageway.
 - A mid-block one-way road narrowing outside 85/86 Barbour Street.
 - A 6m cobbled threshold at the Ferry Road end of Barbour Street.
 - A footpath on both sides of the street.
 - Street trees and grass berms on the western side of the street.
 - Landscaping strips against property boundaries on the eastern side of the street.
 - Landscaping and street trees at the mid-block narrowing and threshold.
 - A seat outside 85 Barbour Street, and retention of the existing seat at the Ferry Road end of the street.

Grafton Street

54. The preferred option for Grafton Street includes the following features:

- A 9m carriageway from 109 Grafton Street to Laurence Street.
- A 10m carriageway from Laurence Street to the southern end of the street (the kerb and channel will be renewed on its existing alignment in this section).
- The intersections with Short Street and Grenville Street are narrowed to 6m, and flush pavers are proposed at the intersections.
- The intersection with Laurence Street is narrowed to 7m and flush pavers are proposed.
- A 6m cobbled threshold outside 21 Grafton Street and 109 Grafton Street to mark the change in zonings from business to residential.
- The end of Short Street is 8m in width.
- Five street trees and landscaping at the southern end of Grafton Street.
- Two marked park spaces, and a turn around area at the southern end of Grafton Street.
- A seating and heritage area at the intersection of Grafton and Short Street comprising a seat, heritage panels, two cabbage trees, and heritage plaques in the pavement on Grafton Street and Short Street.
- A 1.65m footpath is proposed on both sides of the street.
- Grass berms, landscaping and street trees are proposed on the western side of the street between Charles Street and 111 Grafton Street.
- Landscaping strips are proposed against the property boundaries on both sides of the street at the southern end of Grafton Street, and on the eastern side of the street between 102 Grafton Street and Charles Street.

Henry Street

55. The preferred option for Henry Street involves the replacement of the kerb and channel on the existing alignment.

Frederick Street

56. The preferred option for Frederick Street includes the following features:

- A 9m carriageway,
- The intersection with Isabella Place is narrowed to 6m and a cobbled threshold is proposed.
- Grass berms and street trees are proposed on the northern side of the street, and at the intersection with Isabella Place.
- Landscaping strips are proposed against the property boundaries on the southern side of the street.
- A 1.65m footpath is proposed on both sides of the street.

Grenville Street

57. The preferred option for Grenville Street includes the following features:

- A 9m carriageway
- Two mid-block one-way road narrowings – one between Grafton Street and Osborne Street (outside 17 Grenville Street) and one between Osborne Street and Isabella Place (outside 56 Grenville Street).
- The intersection with Grafton Street is narrowed to 6m.
- A splitter island is proposed at Ensors Road.
- A seat is proposed outside 15 Grenville Street.
- A 1.65m footpath is proposed on both sides of the street.
- Grass berms and street trees are proposed on the northern side of the street between Grafton Street and 15 Grenville Street, and on the southern side of the street between 22 Grenville Street and Ensors Road.
- Landscaping strips are proposed against the property boundaries on the southern side of the street between Grafton Street and 15 Grenville Street, and on the northern side of the street between 19 Grenville Street and Ensors Road.

Laurence Street

58. The preferred option for Laurence Street includes the following features:

- A 9m carriageway
- One mid-block one-way road narrowing between Osborne Street and Grafton Street (outside 11 Laurence Street).
- The intersection with Grafton Street is narrowed to 7m.
- A splitter island is proposed at Ensors Road.
- A 1.65m footpath is proposed on both sides of the street.
- Grass berms and street trees are proposed on the northern side of the street between Grafton Street and 15 Laurence Street, on both sides of the street between 16 Laurence Street and Osborne Street, and on the southern side of the street between Osborne Street and Ensors Road.

ASSESSMENT OF PREFERRED OPTIONS

The preferred options for streets in the Charleston Cluster meet the objectives of the project as follows:

- (a) **To maintain and improve road user safety**
The proposed carriageway narrowing to 9m width, and the one-way narrowings, thresholds and narrowing at intersections will reduce through traffic speeds.
- (b) **To maximise landscape opportunities and enhance the streetscape**
The narrowed carriageways allow for grass berms, landscape strips, and the planting of street trees. Street trees and landscaping are also proposed at the narrowed sections and at intersections. The street trees and landscaping are consistent with completed streets in the Charleston Cluster and the Charleston NIP.
- (c) **Where possible provide suitable parking to meet the needs of the residents and maximise the parking in the industrial zone**
On-street parking along both sides of all streets is retained, except at the narrowed sections and intersections. Two parking spaces have been created at the southern end of Grafton Street.
- (d) **Create a visual buffer between the residential and industrial areas**
Thresholds at the Ferry Road end of Barbour Street and Grafton Street mark the change between the business and residential zones. A narrowing and threshold at the southern end of Grafton Street (outside 21 Grafton Street) also marks the change between the residential and business zone. Street trees, grass berms, landscaping and seats are also proposed in the residential areas of the cluster
- (e) **Reduce traffic speed and industrial traffic in this local street through traffic calming that is consistent with completed work**
The one-way narrowings, thresholds and intersection narrowings will reduce traffic speed and make the residential area of the Charleston Cluster less desirable for heavy traffic. Laurence Street and the southern end of Grafton Street have been identified as the heavy vehicle route to the Osborne Street and Grafton Street business area, and as such there is no one-way road narrowing on Laurence Street. In addition, the kerb and channel is replaced on the existing alignment at the southern end of Grafton Street.