

# Chapter 5 Development Principle 2

## A highly accessible movement framework

### DRC Objective:

- Enhance, develop and increase mobility / access to leisure / health opportunities via sustainable transport provision
- Develop and enhance awareness of use of sustainable transport alternatives
- Efficient, safe and easy movement for pedestrians and cyclists throughout Devonport
- Encourage the development and integration with emergent technologies to encourage the use of sustainable transport modes
- Building design and layout should promote the use of sustainable transport modes
- Create better linkages across the area, utilising the opportunity South Yard enclave presents to link the two parts of the area
- Better linkages to the waterfront, and strategic transport networks of Plymouth and the wider region



### 5.1 Key principles and strategic proposals

Transport improvements will play a major role in fulfilling the vision of a thriving and vibrant place and in achieving many of the stated objectives.

Over time, improved accessibility will help make Devonport a more welcoming place and destination of choice. An historic opportunity exists to overcome many of the far-reaching transport problems that have blighted the community in recent years and bring back many of the principles that made Devonport such a clearly defined place and hub of activity in years gone by. The severing effect of the MoD secured sites and the A374 can be overcome, with improvements to road safety achieved and a network of streets and footpaths restored to promote sustainable travel and bind each part of Devonport together to create a coherent and much more integrated whole.

Six strategic proposals will achieve significant improvements:

1. mixed-use development with local food shopping, employment, health and education facilities within the area will reduce the need to travel;
2. improved bus penetration and infrastructure will help improve local residents' access to wider employment opportunities and other facilities;
3. a much improved grid of streets and footpaths into and through area will help to stitch the community together and overcome existing severance;
4. enhanced strategic links for pedestrian and cyclists will provide a higher level of accessibility for non-car modes in Devonport;
5. a range of better recreational opportunities will link sports and leisure facilities throughout the 'Green Arc', enhance waterfront leisure routes and open up opportunities for ferry services to connect a series of potential Devonport landing stages with Millbay and the Barbican, for instance;
6. a series of traffic demand management measures and highway improvements will mitigate the impact of additional traffic associated with the development proposals and will in turn improve the level of accessibility for residents.
7. The A374 will be re-routed via Kings Road and Fore Street to remove strategic through traffic from Chapel Street, providing significant benefits to the people of Devonport with little impact upon the operation of the highway network.

## 5.2 The urban grid

The principal form of the proposed urban structure is a grid of streets that takes its cue from the Nineteenth Century layout. This will re-establish many of the strategic linkages and embed the best historic buildings and other heritage features within the new development, to give Devonport an identity clearly rooted in an appreciation of its past. The existing disconnected and fractured layout is shown in Figure 11. This contrasts with the proposed grid of streets shown in Figure 12, which will increase accessibility into and through the area, incorporate a network of safe pedestrian routes and provide the opportunity for better bus penetration.



Figure 11 Existing vehicular movement network



Figure 12 Proposed vehicular route network

### 5.3 Integrating the community with improved strategic connections

#### Diverting the A374 to overcome severance

At present both Kings Road and Fore Street are lightly trafficked with significant spare capacity. There is little frontage development to these links. The current A374 along Chapel Street creates major east-west community severance.

The proposal is to re-route the A374 around Kings Road / Fore Street (the Kings Road "parkway"). This would take strategic through-traffic out of Chapel Street / Cumberland Road. Furthermore, ferry traffic would be signed via Kings Road/Fore Street. All traffic would still pass through Devonport via the Fore St / Park Avenue junction - emphasising the importance of this point in the overall network. It is here that the new South Yard shops will be able to benefit from passing trade / profile.

Taking extraneous traffic out of Chapel Street will create significant benefits to residents - reduced traffic volume, ease of access to facilities (eg Brickfields), reduced noise, improved air quality etc. Major environmental improvements would significantly boost the quality of

Chapel St and Cumberland Gardens. Poor visibility at existing junctions with the A374 (Pembroke Street and MOD Mount Wise for example) would be more easily improved by pedestrian-orientated 'build outs' with less A374 traffic, for example. It is not expected that widening of the carriageway would be required on either Kings Road or Fore Street. Requisite works would therefore be principally focussed on junction improvements, signage and road markings.

The traffic impact of the A374 diversion in terms of the operation of the highway network has been assessed as part of this study and the analysis work is included within the supporting document - Traffic Analysis Appendix. Preliminary assessments have shown that the local network would continue to operate at an acceptable level with the A374 diversion in place. The next recommended stage is to determine the impact of these proposals on the wider network (shown in Figure 13) and to undertake more detailed design and assessment work, including the preparation of junction layouts.



Figure 13 Strategic linkages

### A new 'strategic loop'

The release of the MoD sites offers a major opportunity to introduce a new strategic route that will connect Devonport's neighbourhoods and create a more sustainable movement pattern, including a new bus route. From Devonport Hill to the east this will skirt around the cricket pitch to connect with George Street and onwards to James Street and the waterfront via a new link established south-west of the Mount Wise Neighbourhood Centre. From here it will pass along James Street, northward to Duke Street and through the new Storage Enclave to emerge at Granby Way, connecting with Marlborough Street. Achieving this strategic link will require detailed design attention to the Mount Wise slope and Storage Enclave area.

In discussion, PCC agree these proposals have potential strategic benefits and that further transport assessment work should be undertaken to analyse the impact in more detail to include a strategic assessment using the City's PARAMICS model. If confirmed as a strategic objective, funding provision should be included in the LTP.

Integrating Marlborough Street with the new Storage Enclave Marlborough Street's function as a shopping street relates back to its pre-war role as the primary north-south route through the area, benefiting from passing trade. The proposed street grid will once again link Marlborough Street into a new north-south strategic route. In pedestrian terms, this link should be strengthened as much as possible. The Development Framework is premised on Marlborough Street remaining pedestrianised, with rising bollards installed to restrict access to private delivery and emergency vehicles only.

It is proposed that local north-south traffic in this area will pass along a new route to run parallel with Marlborough Street - connecting Morice Square with Granby Way. Relocated parking areas will remain within easy reach.

### Dockyard access

Access to the Dockyard and commercial operations behind the wall will be a continuing requirement, the route being via Granby Green from north. As the MoD moves out of the Storage Enclave, the security gate will be repositioned, so that Granby Gate will relocate southwards. An in-principle access solution has been defined, described in Chapter 7.4, which ensures that MoD access to the dockyard will be unimpeded by development proposals.

## 5.4 Improving conditions for pedestrians and cyclists

Five key features underpin the walking and cycling strategy for the area:

1. Additional pedestrian and cycle crossings at key traffic signal junctions and other strategically important points to overcome severance.
2. A permeable network of minor streets designed such that pedestrians and cyclists take precedence over the car.
3. Mixed use development with a range of local facilities that increase the potential for walk and cycle trips to be made in preference to using the car, through reductions in trip length.
4. A network of strategic recreational routes linking in to the wider city network and the Sustrans national network, including routes through the Green Arc and waterfront areas.
5. A network of streets and squares that stitch together each of Devonport's neighbourhoods, relating to historic landmarks and public spaces, to aid legibility and enhance the walking and cycling experience.

Each of Devonport's neighbourhoods will be redesigned to improve conditions for pedestrians and cyclists. Local roads and more minor streets, aside from the A374, will be designed to a maximum speed limit of 20 mph, with traffic management features provided to achieve reduced speeds. Particular attention needs to be focused on the design of the new north-south and east-west links to ensure that they remain local links into and within the area and do not become an attractive alternative for through traffic on the A374.

Traffic calming measures and pedestrian crossings along the Paradise Road/Fore Street approach to the study area are also proposed, particularly at the Green Arc link between the entrances to Devonport Park and Brickfields.

Cycle parking facilities should be enhanced throughout the area - both at key destinations such as the Mount Wise pools and Granby Green / Storage Enclave area, and in all new developments, where provision of secure cycle parking facilities in lockers should be mandatory. Short stay cycle parking at major trip attracters will be sited at prominent positions where they can be overlooked, close to main entrances



There is an urgent need to replace the Cumberland Gardens subway with surface level crossings

### Integrating with the wider Plymouth pedestrian and cycle network

The LTP for Plymouth recognises the importance of strategic walking and cycling networks and identifies existing and potential routes. The Development Framework affords the opportunity of extending these routes to provide a comprehensive strategic network linking in to the area, as shown in Figure 14.

Sustrans are currently promoting a Bude to Torpoint cycle route and have identified a route between the Torpoint Ferry and Stonehouse Bridge utilising Devonport Park and the Brickfields area. The Development Framework provides the potential for this to be realised and for its routing to be improved so that it integrates with, rather than skirts around, the new central area and its facilities. Thus two variations are proposed:

1. To route through the Brickfields recreational area, rather than along Kings Road; and
2. To route along Fore Street and into the new centre, then heading northward via Marlborough Street to the ferry.

The first of these will need to be integrated into emerging plans for Brickfields - ensuring that new facilities are not gated, which would render functional Green Arc linkages between Devonport Park and

Mount Wise difficult to achieve in practice. The Development Framework seeks to establish a high quality, well-lit cycle route through the Green Arc, with a new access off New Passage Hill in the southwest corner. In principle, wherever the Green Arc crosses a road, crossing facilities should be provided.

There is also an opportunity to continue the waterfront route from the City Centre around Stonehouse Pool and into Devonport. Opening up the Storage Enclave and MoD Mount Wise sites and improving signage and surfacing along Richmond Walk will enable this strategic route to be achieved. This will provide excellent views over the estuary, and enable the link to extend northwards along James Street into the new centre and onwards to the Torpoint Ferry. The link across Stonehouse Bridge needs improvement within this context. The footway should be converted to a shared pedestrian/cycle facility with a new signalled crossing and signage introduced to advertise and promote this key route.

Improvements for pedestrians and cyclists using New Passage Hill are also recommended - improving the integration of Pottery Quay with the rest of Devonport. Improved crossing facilities at the junction of Ferry Road and New Passage Hill should be provided for pedestrians and cyclists.

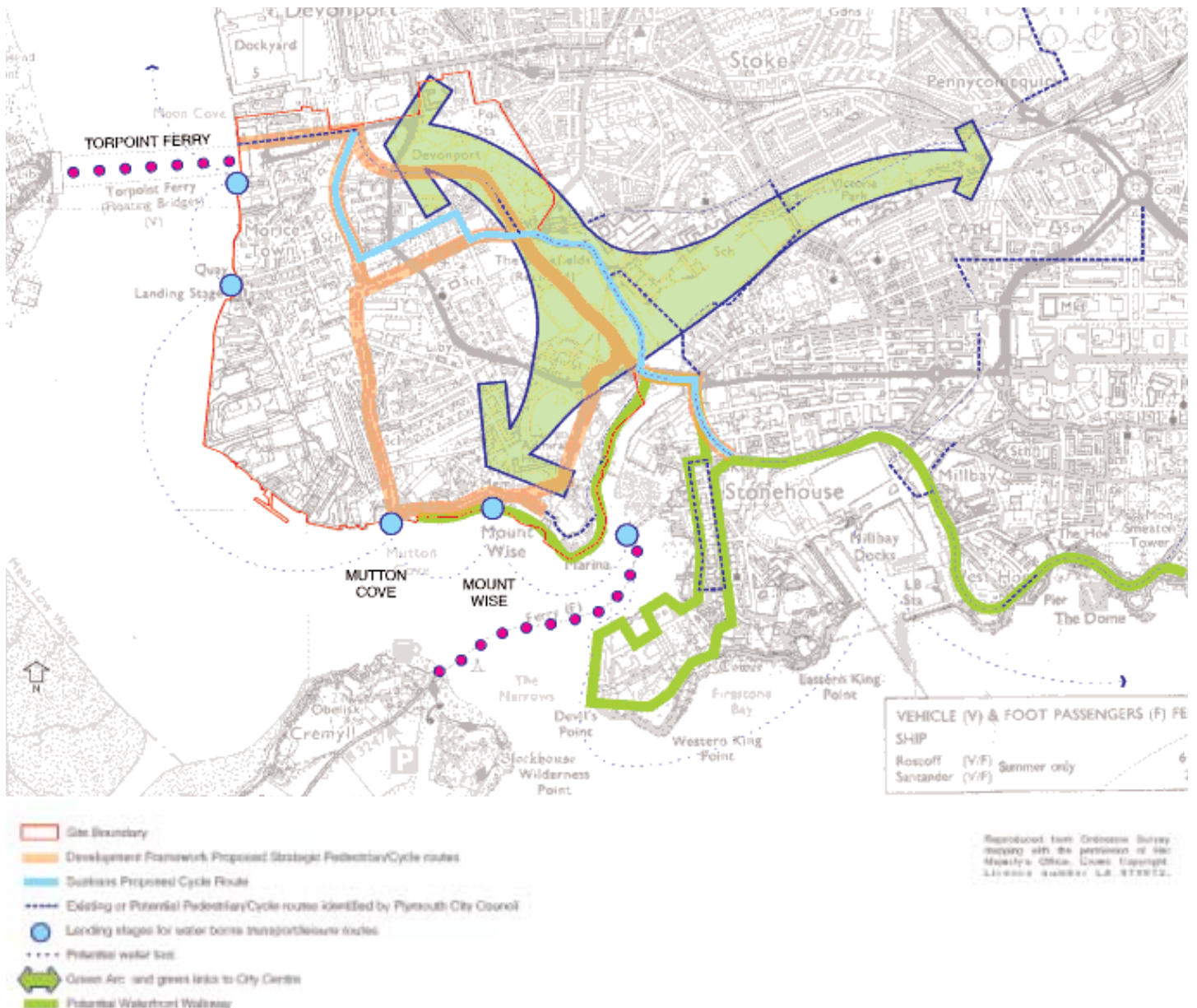


Figure 14 Strategic recreational routes

### Improved pedestrian and cycle linkages and crossings

The need for additional controlled pedestrian and cycle crossing facilities at key junctions on the existing and proposed re-routed A374 is paramount to reduce severance. These are shown in Figure 15. Some additional crossing facilities at junctions are already scheduled for implementation by PCC. All new signalised junctions on the A374 must incorporate such facilities. Major proposed pedestrian and cycle links are also identified. Over time, opportunities to further improve connections should be taken. The Raglan Barracks area (between the Storage Enclave and Brickfields) and Pembroke Street area (strategic north-south access) should be given particular attention.

The principle of replacing the existing subway near Cumberland Gardens with a signal controlled at-grade crossing should be prioritised.

In addition to the pedestrian crossings that would be introduced in conjunction with the four improved road junctions previously described, a further seven pedestrian (and potentially cycle) crossings are proposed, namely:

1. Albert Road / Park Avenue
2. Ferry Road / Devonport Park
3. Ferry Road / Passage Hill
4. Chapel Street / Fore Street (additional crossings should be considered on Fore Street)
5. Theatre Ope / Cumberland Road
6. Pembroke Street / Cumberland Road / Madden Road (entry to Brickfields)
7. Stonehouse Bridge

Cycle parking facilities should be enhanced throughout - both at key destinations such as the Mount Wise pools and Granby Green / Storage Enclave area, and in all new developments, where provision of secure cycle parking facilities in lockers should be mandatory.





Figure 15 Pedestrian and cycle linkages

## 5.5 Street typologies

As shown in Figure 16, the proposed network of streets is designed to form a clear hierarchy that is easily legible and which helps define the character and sense of place. Each street is to be designed in three dimensions in accordance with its role within the hierarchy. This will aid legibility and avoid bland coverage of uniform design and surface treatment.

It is envisaged that there are five levels to the street network. Indicative street cross-sections are shown opposite. Each is summarised below.



Kings Road 'Parkway'

### Main Avenue

This constitutes the new A374 route. The stretches along Kings Road and Park Avenue have the character of a tree-lined "parkway", whereas through Fore Street / Chapel Street the character will be akin to a "Major Street" as described opposite.



Figure 16 Street types

## Major Street

This is the main strategic circulation network binding Devonport's neighbourhoods together, and includes the new 'strategic loop' described above. Buildings will be predominantly four storeys - potentially rising to five/six storeys at landmark corners. A total street width of 20-25m is anticipated, with wide pavements and attractive formal landscaping.

A fundamental change in the role and character of Chapel Street is envisaged. The re-routing of the A374 provides added opportunities for environmental improvements. Chapel Street will remain a relatively busy urban route, but will have a lively mixed-use frontage. The ground floor will be lined with small-scale offices and shops, with flats above. The supermarket will face the Fore Street junction - the most commercially prominent location. Buildings will be mainly three-storey, rising to four at key corners. Widened footways, protected on-street parking and other traffic calming features will be introduced. 'Gap sites' on the eastern side (eg the PCC-owned car park at the junction) will be developed to create positive street frontage.

Another major street will be the continuation of Fore Street westward, restoring what used to be Devonport's 'high street' and entrance to the historic dockyard visitor centre.



Chapel Street as existing (above) and proposed (below)



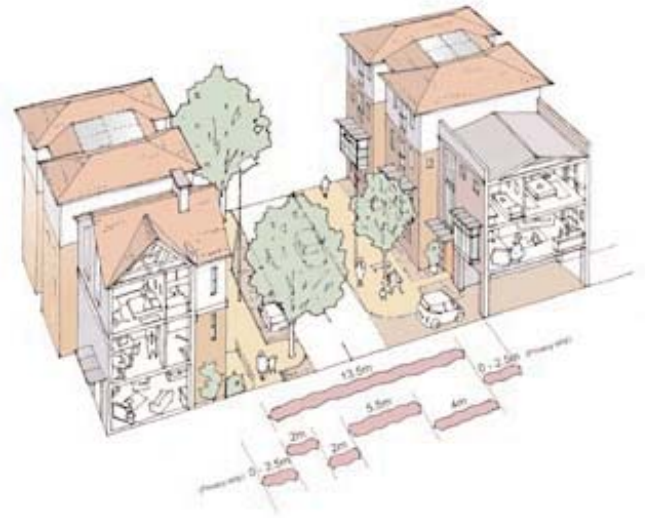
Stoke's local centre on Devonport Road - a lively mix of uses with on-street parking





**General Street**

Important local streets connecting landmark buildings and spaces in the heart of Devonport will be designed as 'general streets'. A formal design treatment is appropriate here, with three to four storey buildings and a highway width (carriageway plus footway) of about 14m. Flexible frontages will be provided, with mixed commercial and community facilities and flats above within the central area. Traffic will also be encouraged into the heart of Devonport to inject life and promote mixed use. The direct connection between Cumberland Gardens, Cumberland Road and Tavistock Road will be restored. However, the narrow width of Cumberland Road constrains the amount of traffic that can be accommodated on this route.



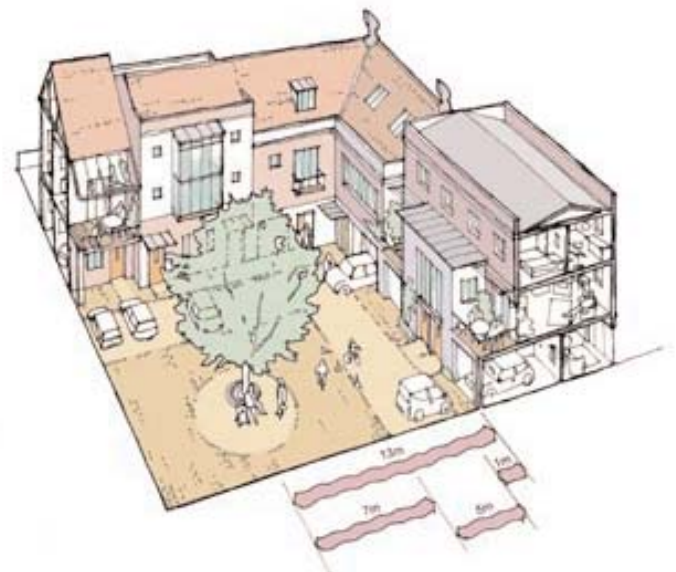
**Local Street**

The local streets are the most intimate in character and scale. Predominantly three storey buildings line these routes, with a narrowed street width of about 11m encouraging a feeling of neighbourliness.

**Mews / shared surface**

Mews are the most intimate and narrow of streets, in areas that often do not have vehicular through movement. These are to have shared surfaces and may take the form of courtyards.

This framework of street types should for the basis for more detailed development briefs and / or codes as the planning process moves forward.



## 5.6 Traffic generation and junction improvements

As new activities and the population of Devonport increases, traffic levels will in turn also increase - particularly on the A374. Existing morning peak hour one-way traffic flows are generally of the order of 500 to 700 vehicles and slightly higher in the evening at some 700 to 900. The extent of the increase will vary depending on precise development proposals but it is anticipated that up to 250 further vehicles (one-way) may be using the A374 at peak times. This will be partly due to increased numbers of residents accessing employment opportunities elsewhere and to the traffic generated by new local retail and employment facilities.

To accommodate this increase, new junction arrangements will be required at:

- Fore Street/Chapel Street - at the main means of access into the Storage Enclave;
- Kings Road / Fore Street and Kings Road / Devonport Hill as this becomes the new A374 through route;
- the Cumberland Gardens area;
- the junction of the access to the Mount Wise MOD site on Devonport Hill.

It is proposed that other than the Kings Road/Devonport Hill junction, which will remain as a roundabout, these junctions will be controlled by traffic signals. This would provide more favourable conditions for cyclists and pedestrians to cross the A374, mitigating the severance effect of increased traffic on the route. There would also be increased scope for traffic demand management and bus priority measures with signal control.

In addition, a new minor junction is proposed to access development in the Storage Enclave area, situated on Chapel St outside of St Aubyn's Church.

A preliminary assessment of the operation of a number of junctions on the A374 within the study area has been undertaken to ensure the Development Framework is underpinned by a rigorous assessment of the traffic implications (full details are provided within the Transport Analysis Appendix which supports this study). The assessments have included for the impact of the upgrade of the Torpoint Ferry and the diversion of the A374 via Kings Road and Fore Street. They indicate that the local highway network can accommodate the different mixed-use scenarios and the quantum of development envisaged subject to:

- Minor improvements to traffic signal operations and the provision of facilities for pedestrians and cyclists;
- Provision of new junction arrangements at the locations proposed above.

An assessment of the strategic effect of the Development Framework upon the wider area will be required by the highway authority using its in-house PARAMICS model. Junction layouts, a zonal matrix of development traffic movements for the wider area together with traffic signal timings will be required to undertake this.

## 5.7 Anticipating the impact of an expanded Torpoint Ferry

The traffic impact for Devonport of the proposal to increase the size and frequency of the Torpoint Ferry was assessed in a full Environmental Impact Assessment (EIA) exercise, carried out by consultant ATKINS on behalf of the Tamar Bridge & Torpoint Ferry Joint Committee in April 2001. The ferry upgrade is programmed for 2004.

Plymouth City Council as one of the highway authorities was involved in specifying the extent of traffic impact assessment required for the Devonport area, and three junctions pertinent to the Devonport Development Framework were considered within the EIA. These were:

- Ferry Road/Park Avenue
- Park Avenue/Albert Road
- Park Avenue/Granby Way

The EIA concluded that with the exception of Ferry Road, the traffic impact of the proposed replacement of the Torpoint Ferry upon Devonport and the wider Plymouth area was negligible.

However, as the ferry upgrade would increase queuing on Ferry Road leading to the ferries during peak periods, further increase in the severance of Pottery Quay from the rest of Devonport can be anticipated. To overcome this issue, the following actions are proposed:

- A controlled pedestrian crossing of Ferry Road to mitigate the increased severance;
- Traffic management measures are possibly required to prevent traffic queuing for the ferry blocking back through access to flats
- The layout and mix of the redeveloped Pottery Quay is designed with the ferry expansion in mind. Existing residents could be given the choice to move elsewhere within Devonport, and / or the mix of the proposed redevelopment scheme should be reviewed in relation to the adjacent ferry. Live-work or workspace (B1) uses could be introduced to buffer residents from the adjacent ferry.



High quality landscaping at Royal William Yard provides lessons for re-landscaping of the Fore St / Chapel St junction

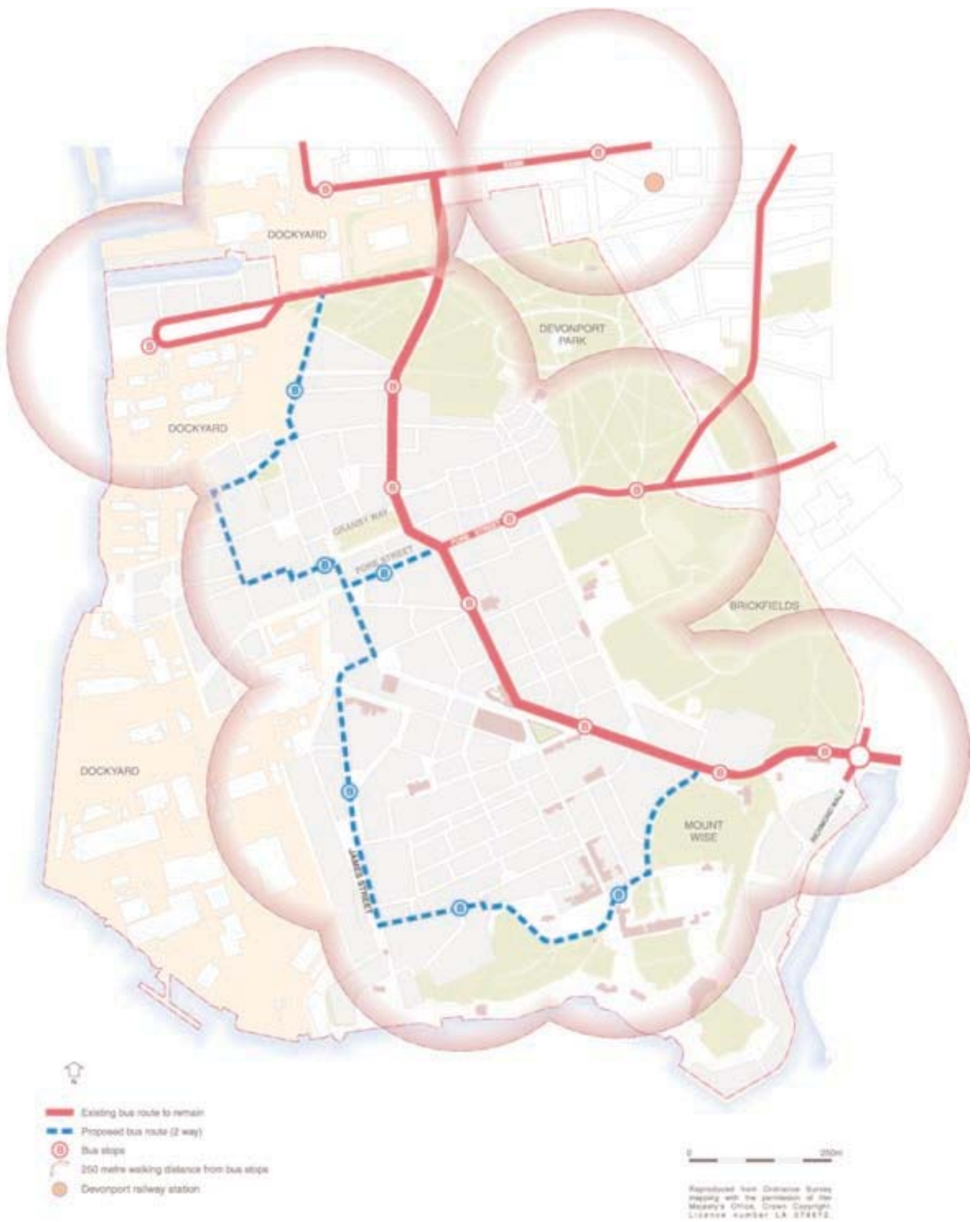


Figure 17 Proposed bus routing

## 5.8 Public transport strategy

### Increasing bus penetration

The proposed strategy for serving the study area by bus is illustrated in Figure 17. Routes travelling along the A374 and Fore Street would continue to operate. The opening up of the two MoD areas affords the potential for much better bus penetration of existing residential areas as well as new development areas. Bus links between the city centre and Torpoint ferry, for example, could be routed along the 'strategic route' described above.

This new bus route will serve existing and future development in Mount Wise, whilst at the same time linking into the leisure and employment opportunities along the waterfront. To improve access to the waterfront area and swimming pools a bus turnaround and waiting facilities are proposed at the south end of James Street, particularly community based transport.

The opening up of Fore Street to the west of the A374 is another opportunity for bus penetration into the area, allowing buses to stop close to new shops and healthcare facilities, for example.

New development would result in the potential for increased bus patronage levels. Ongoing discussions should be held with local bus operators to encourage service improvements such as new routes, higher frequencies on existing routes, improved dissemination of travel information and provision of high quality waiting facilities. The potential for cooperation between bus operators on joint ticketing arrangements should be explored.

These new routes and associated infrastructure would mean that all residents, employees and visitors to Devonport would be within a 250 metres catchment of a bus stop (around a 3 minute walk). High quality bus stops should be provided with kerbs suitable for use with low floor buses, shelters that incorporate seating and space for electronic timetable display equipment.

Introducing these improvements at an early stage is vital to establish the bus as a preferred alternative to the car. Sustainable travel patterns need to be established immediately in relation to new developments or else car trips will predominate in the future. Subsidies may be necessary at this stage to prime bus service improvements.

Funding opportunities should be explored. The government's Urban Bus Challenge scheme, for example, seeks "to encourage new thinking from partnerships involving local authorities, bus operators and other bodies such as community transport groups, social and healthcare groups". This may prove a useful source of further funding for schemes to improve the accessibility to jobs in the east side of Plymouth for study area residents.

### Linking to the railway stations

The position of the City's existing railway stations in relation to Devonport is illustrated in Figure 13. Existing rail facilities have severe limitations in serving the residents and employees of Devonport. There are no stations in the east of Plymouth and the central railway station is poorly located in relation to the shopping area. More locally, approaches to Devonport station can be threatening, are poorly lit and overgrown by vegetation. The station is beyond an acceptable walk distance for most residents and few bus services link to it from the study area.

Some potential may exist for rail use to be promoted from local stations on the west of Plymouth towards Gunnislake and Looe and perhaps from the Ivybridge area to access employment in Devonport. Any policy to encourage increased use of rail would necessitate improvements to the environment of Devonport Station, including improved lighting and possibly CC TV. Bus links between the study area to both Devonport and Plymouth railway station should be improved, linking to new employment, retail, health and leisure facilities.



High quality bus stop, Royal William Yard

### Light Rapid Transit (LRT)

The Local Transport Plan identifies an LRT system for Plymouth as a long term aspiration, reinforced in the recent 'A Vision for Plymouth' document (MBM, October 03) prepared for the Plymouth 2020 Partnership. Whilst the introduction of an LRT system such as a tram is an exciting prospect - providing Devonport with an attractive, efficient link along Union Street into the City Centre - no programme or funding is in place.

An LRT system such as a tram can best serve areas where potential passengers are concentrated in terms of location and time of travel. A neighbourhood stop would logically be positioned in the heart of the Storage Enclave area. Devonport's partners should seek to integrate with this initiative should it be developed in the future.

### Water Transport

Various ferry services operate in the Plymouth area, including the Torpoint and Cernyll ferries, as well as numerous leisure boat trips operating in the waters around Plymouth.

The Development Framework promotes the opening up of the waterfront area for leisure and employment. Improved accessibility of the waterfront by bus, by foot or cycle offers the potential to link with water borne transport.

A local ferry route should be considered linking landing stages at:

- the Torpoint Ferry / Pottery Quay
- North Corner Quay / Cornwall Beach
- Dockyard Visitors Centre
- Mutton Cove
- Stonehouse Pool / Richmond Walk

... connecting onwards to the Royal William Yard and Barbican, for instance.

The main function of a water ferry is seen as recreational. It could integrate with the Green Arc concept and bring tourists to the City Centre into Devonport's fascinating waterfront area - linking heritage interpretation initiatives relating to the Dockyard, Mount Wise Park and Storage Enclave focused around the Guildhall and Market building.

### Travel Plans

Travel plans for education and employment developments have a key role to play in promoting sustainable commuting and business travel. Travel Plans should accompany all education and employment development proposals and should be conditioned by the planning authority through the planning process. Travel plans aim to minimise single occupancy car trips and reduce the need to travel through

initiatives to promote sustainable travel alternatives and home working. Examples could include financial incentives to encourage staff to give up their allocated parking spaces or the promotion of video and telephone conferencing.

### 5.9 Improving parking provision

Maximum parking standards in line with current PPG13 policy will be a feature of all development proposals and further detailed in development briefs. A range of parking solutions will be employed - including on-street parking, rear garages, central courtyards and centrally managed car parks within the new centre (including that related to the proposed supermarket).

Development of Marlborough Street car park (to the north) and Marlborough House car park is suggested to improve environmental quality and create a more integrated urban structure. Replacement parking would need to be provided in conjunction with the re-landscaping of Granby Green and Morice Square, and in redeveloping the Granby Green residential area.



Local parking, Holly Street regeneration area, London



Freedom Square, Plymouth: high quality courtyard

### Priority Actions for Applying Principle 2

- *Agree in principle the main features of DDF transport strategy - proposed to create a much more accessible and integrated community*
- *Undertake transport assessment modelling to determine the impact of proposals on the wider network*