

11 Managing our Transport Assets

11.1 The Assets

- 11.1.1 Table 11.2 shows the assets held by Plymouth City Council, their condition and value. The Highway Agency manages and maintains the A38 Trunk Road. Railways have mixed ownership and management through the DfT as successor to the Strategic Rail Authority and Network Rail. The City Council jointly manages with Cornwall County Council, the Tamar crossings (bridge and ferry) and co-manages the operation of the Saltash Tunnel, with the Highways Agency. Also in the City Council's ownership is one of the City's bus companies, Plymouth Citybus Ltd, which is run as a commercial entity. All other assets and services are provided by the private sector.
- 11.1.2 Transport services are dependent on a large infrastructure of fixed and mobile assets. The value of the City Council's asset base is provisionally assessed at £1.5 billion on a full replacement cost basis, using cost functions derived from recent capital projects and schedules of rates from term maintenance contracts. This valuation is very approximate since a large part of the asset base is not included and the methodology is simplistic. The valuation will be revised following application of the County Surveyors Society Guidance of July 2005.
- 11.1.3 A key challenge is to understand and manage linkage between asset maintenance standards and levels of service delivered to customers. Historic assessments of transport infrastructure have indicated a large backlog of maintenance exists for certain assets, although no analysis has yet been undertaken to relate this backlog to maintenance standards and levels of service.
- 11.1.4 Plymouth is committed to best practice in asset management as a key contributor to quality of service to customers and efficiency of service delivery. The City Council is pursuing best practice through a whole lifecycle approach that will provide effective strategies to achieve an optimal allocation of resources to maintain and upgrade existing assets and to create new assets.
- 11.1.5 The processes of asset management within Plymouth are at an early stage of development and current work is focused on comparing current practice against best practice and preparing a transport asset management plan (TAMP). The TAMP will evaluate the performance gaps and set out strategic objectives, performance targets, lifecycle plans, forward work programmes and improvement action plans. The TAMP follows the County Surveyors Society Framework for Highway Asset Management, April 2004. It also aims to provide accounting information for valuation and depreciation of transport assets in accordance with requirements of Whole of Government Accounting that will be introduced in 2006. The City Council is learning and sharing best practice in asset management through membership of the South West Counties TAMP Working Group that was established in January 2005.

11.1.6 A preliminary review of the asset base has been undertaken and asset champions are assigned to lead development of individual asset management plans for ten asset groups, from which an integrated TAMP for the whole asset base will be prepared. The individual asset management plans will be maintained as working documents that are regularly updated to incorporate best practice and better asset information as they evolve.

11.1.7 Best practice in asset management is founded on a good understanding of the asset base in terms of its inventory, condition profile and financial value. A preliminary assessment of inventory, condition profile and valuation has been completed for those asset groups where existing records are available.

Table 11.1 Existing Asset Records

Asset Group	Asset Inventory	Condition Profile	Age Profile	Replacement Value £M
Roads	✓	✓	X	1278
Cycleways & Footways	✓	X	X	X
Drainage	X	X	X	X
Signs	X	X	X	X
Streetlighting	✓	✓	✓	23
Traffic Signals & UTC	✓	✓	✓	3
Bridges & Structures	✓	✓	✓	92
Car Parks	✓	✓	✓	44
Public Transport	✓	✓	✓	X
Buildings & Land	X	X	X	X

Legend: ✓ indicates a preliminary assessment of inventory, condition profile or valuation has been prepared
 X indicates a quantitative assessment is not currently available

11.1.8 The confidence level of the preliminary assessment is generally poor due to a lack of good quality data and incomplete records. Further surveys and investigations to improve the confidence level will be undertaken. A particular priority is to establish the legal ownership of certain highway bridges and retaining walls, for which existing records are unclear. A duty of care for maintaining these assets is operated. Historically it has not resulted in significant expenditure although the potential liabilities are considerable.

Table 11.2 Plymouth City Council Transport Assets

Asset Group	Nature of asset and maintenance backlog	Condition assessment
Roads	<p>The asset stock comprises 150 km classified roads and 694 km unclassified roads (length measurement method).</p> <ul style="list-style-type: none"> • The reliability of transport services is at significant risk from structural failure of roads due to deteriorating condition of a large proportion of the road stock since: <ul style="list-style-type: none"> ○ 18.0% of principal roads have a negative residual life of less than 5 years ○ 1.5% of non-principal roads and 7.4% of unclassified roads have been assessed as requiring structural maintenance • Road safety is at risk due to excessive wear and tear of surfacing, since resurfacing work is undertaken at a much lower frequency than the nominal design life (15-20 years) of the surfacing layer. The current frequency of resurfacing equates approximately to the following renewal intervals: <ul style="list-style-type: none"> ○ Principal roads - 50 years ○ Non-principal roads - 75 years ○ Unclassified roads - 125 years 	<ul style="list-style-type: none"> • A core annual programme of machine and visual surveys are undertaken for BVPI reporting. • Additional survey work is planned in 2005/06 and later years in order to gain better knowledge of condition profile and to enable predictive modelling of asset deterioration. A key aim of the additional surveys is to address a historic problem of poor repeatability of condition measurement and to determine a correlation between Deflectograph and Scanner survey results to aid predictive modelling.
Streetlights	<p>The asset stock comprises 24,980 streetlight columns plus 6,710 other lighting units.</p> <ul style="list-style-type: none"> • The age profile of the asset stock indicates that a large proportion of assets (about 30%) have exceeded their design life and there is a significant risk that rate of failure could rapidly escalate and impact on service performance. 	<ul style="list-style-type: none"> • Comprehensive records of age and condition are available for most of the asset stock, although accuracy of the records is uncertain. Condition records are mainly based on visual assessment and a higher frequency of structural testing is planned to increase the confidence level for predictive modelling of deterioration.
Traffic signals	<p>The asset stock comprises 146 controllers of which 95 are at traffic junctions and 51 are pedestrian crossings, plus various other units. The age profile of the asset stock indicates a large proportion of assets (about 20%) have exceeded their design life and there is a significant risk that rate of failure could rapidly escalate and impact on performance.</p>	<ul style="list-style-type: none"> • Comprehensive records of age are available for most of the asset stock. Age is currently used as a surrogate for condition since records of condition do not exist. Condition surveys will be introduced to enable better predictive modelling of deterioration.
Bridges and structures	<p>The asset stock comprises 360 highway structures, including 46 bridges, 30 footbridges, 56 subways, 199 culverts and retaining walls, and 27 foreshore structures comprising landing stages, pontoons and slipways.</p> <ul style="list-style-type: none"> • A large proportion of the asset stock (20-30%) is assessed to be in poor condition, although there is no indication of imminent structural failure that could impact on service. Of greater concern is a risk of escalating costs of reactive maintenance if preventative maintenance is delayed. 	<ul style="list-style-type: none"> • Condition of bridges and structures is reliably assessed in accordance with the CSS methodology for the Bridge Condition Indicator. Condition of retaining walls is less reliably assessed by periodic coarse visual inspections. A programme of structural surveys of retaining walls, by qualified engineers is proposed, to enable a more reliable assessment of condition and residual life of the asset stock.
Car parks	<p>The asset stock comprises 7 multi-storey car parks with 3,520 spaces, and 48 surface car parks with 2,947 parking spaces together with associated ticket machines and communication equipment. 12 vans provide transport for parking officers.</p> <ul style="list-style-type: none"> • The structural condition of all car parks is causing concern, and one site was recently temporarily closed to enable urgent safety work to be undertaken. Repair work costing over £3 million has been identified at 4 car parks that have been investigated to date. • The condition of the surface car parks is generally fair or good, and only three sites are identified to be in a poor condition 	<ul style="list-style-type: none"> • Structural surveys by qualified engineers have been completed for 4 of 7 car parks and surveys of the remaining 3 sites are scheduled. Further structural analysis and testing will be undertaken, to assess risk of structural failure. • Condition surveys of the surface car parks are undertaken annually by parking staff without technical training. The assessment is therefore somewhat subjective and confidence level is poor.

Asset Group	Nature of asset and maintenance backlog	Condition assessment
Public Transport	<p>The stock of Public Transport assets comprise a wide range of infrastructure and passenger transport vehicles under various ownership arrangements:</p> <ul style="list-style-type: none"> • Park and ride facilities – Two sites with total 1,088 parking spaces are currently provided, and a third site with 450 parking spaces will open in November 2005, as part of the A386 Northern Corridor Public Transport Scheme. Bus services to the City Centre are operated by Plymouth Citybus (see below), under a term contract that will be re-tendered in 2005. <ul style="list-style-type: none"> ○ Coypool Park and ride is a new site and its condition is good. ○ Milehouse park and ride is much older and significant refurbishment (provisionally costed at approximately £0.2 million) has been identified by surveys. • Bus vehicles – A fleet of 180 bus vehicles is owned and operated by the City Council through two commercial enterprises: Plymouth Citybus Ltd a wholly owned enterprise. In addition the City owns a 50:50 share of the Urban Bus Challenge Kickstart Buses is a 50:50 partnership enterprise with First Devon & Cornwall which operates 6 bus vehicles. A further 5 minibus vehicles are operated to provide Community Transport and Ring and Ride services. <ul style="list-style-type: none"> ○ All bus vehicles have a safe and roadworthy condition, although a significant proportion of the fleet has inferior passenger comfort and unsatisfactory fuel efficiency and environmental emissions • Bus shelters – There are 577 bus shelters, of which 89 have shelters. These are maintained, at no cost to the City Council, through a 20-year concession agreement with a private contractor which is funded from advertising revenue. A small number of shelters are owned by the City Council through acquisition from developers and legacy arrangements. <ul style="list-style-type: none"> ○ All bus shelters are relatively new and are in good condition • Bus Stops – 1667 bus stops, including those with shelters, are installed of which 223 have boarders to raise the footway so aiding entry and exit from vehicles. <ul style="list-style-type: none"> ○ Condition of bus stop poles and flags varies greatly due to the age profile of the asset stock; replacement of much of the stock is proposed. • Real time passenger information systems – 41 bus shelters display current service information for passengers. 170 Intelligent Bus Units are installed onboard buses to enable tracking. • Bus station – A bus station at Bretonside provides interchange facilities for national coach services and some local bus services and the station building houses a number of leased small commercial shop units. Redevelopment of the site is planned, which may involve relocation of the bus station to another site. <ul style="list-style-type: none"> ○ The bus station is in poor condition due to age and its design is obsolete. Maintenance standards have declined since redevelopment of the site was proposed. 	<ul style="list-style-type: none"> • Condition and performance of the public transport assets are routinely assessed during operational reviews, although formal records are not maintained for all assets.

- 11.1.9 The need and priority of further surveys will be carefully evaluated in order to target key data gaps. Alternative procurement arrangements for survey work will be considered; for example, updating of the inventory and condition data of streetlighting assets by the term maintenance contractor has proved very cost effective.
- 11.1.10 The maintenance backlog will be objectively re-assessed with regard to its impact on levels of service, and whole lifecycle plans will be developed to enable:
- Better targeting of maintenance and management of risks to service delivery associated with asset deterioration
 - Optimising the balance of preventative and reactive maintenance
 - Timely replacement of assets before routine maintenance becomes disproportionately expensive
 - Efficiency savings from revised maintenance standards and procurement arrangements
 - Improved strategies for long term funding of maintenance and replacement
- 11.1.11 Another key feature of the TAMP is to develop a strategy for appropriate asset information and management systems to enable more effective and efficient maintenance and lifecycle planning. The City Council's strategy will be based on a two-step approach, firstly to make better use of all existing *ad hoc* databases and proprietary systems, and secondly to progress to more intelligent information systems that provide a capability for predictive modelling of asset deterioration and performance. Only two proprietary asset management systems are currently employed: MAYRISE provides a comprehensive maintenance management tool for streetlights and WDM PMS provides a condition analysis and reporting tool for carriageways. None of the existing databases are linked to the corporate geographical information system.
- 11.1.12 The strategy for IT based intelligent asset information and management systems will be critically evaluated and new systems for each asset group will be prioritised and introduced on a cost/benefit basis. The benefits comprise:
- Assisting improved service delivery and value for money through informing decisions in operating, maintaining and replacing assets
 - Better targeting of maintenance interventions and optimising the balance of preventative and reactive maintenance
 - Improving availability of transport infrastructure through integrated scheduling of interventions
 - Improving records of asset inventory, condition, serviceability and maintenance history and enabling wider accessibility to records
 - Facilitating determination of lowest cost strategies on a whole life basis through analysis of alternative deterioration scenarios and intervention options
 - Assisting automatic production of performance monitoring reports

11.1.13 Improved maintenance of transport assets will increase operational capacity, reliability and safety, and will contribute to LTP2 objectives for:

- Reducing traffic congestion
- Encouraging cycling, walking and use of public transport
- Reducing hazards and improving the safety of roads, footways and cycleways
- Improving environmental quality
- Providing value for money

11.1.14 The potential of existing assets to be better exploited through good asset management has been considered in preparing the LTP2. Capital scheme proposals are assessed on a whole life basis and provision for funding of maintenance is included. An accelerated programme of maintenance work is proposed for the following assets (yet to be determined), in order to reduce the backlog, to prolong the life of the asset and raise finance.

11.1.15 Our performance in asset management activities and outcomes will be monitored through the following performance measures:

- A first TAMP will be completed by December 2006 to enable the benefits of improved practice to be incorporated in LTP 2006-11 delivery at an early stage and to provide a valuation of assets for the 2006/07 accounts in accordance with the programme for Whole of Government Accounting. Some asset groups will be better developed than others in the first TAMP, since the availability and confidence level of asset data vary for each group
- An extended and updated version of the TAMP will be completed by December 2009 to provide full coverage and integration of all asset groups in preparation for informing the next LTP 2011-16
- An improvement action plan for the TAMP will be established and updated annually. Progress in delivering the action plan will be reported in the LTP Annual Progress Report (APR)
- The contribution of asset management activities to achieving the LTP objectives will be reported annually in the APR
- The contribution of asset management activities to generating maintenance efficiencies will be reported annually in the APR

11.1.16 Development of the TAMP to date has indicated some key gaps in our current knowledge of the asset base and the processes of asset management that will be addressed without delay and will be incorporated in the improvement action plan:

- Clear responsibilities for leading asset management will be established
- Training in asset management processes and activities will be provided
- An accurate and comprehensive register of the asset base will be prepared
- The condition profile of the asset base will be reliably assessed
- A reliable valuation of the asset base will be prepared
- Performance indicators for asset management will be developed and linked to levels of service

11.2 Public Rights of Way

- 11.2.1 Public Rights of Way (PROW) are both a significant part of Plymouth's heritage, a major recreational resource and an excellent attraction for tourists, the South West Coast Path being a prime example.
- 11.2.2 Increasing pressure from the public and the implementation of the Countryside and Rights of Way Act 2000 (CROW) require the City Council to tackle its PROW legacy. The City Council currently has a small amount of information that shows recorded public paths in the former Plympton and Plymstock Rural Districts. Although the information is out of date it provides a starting point on which to base a citywide review of Plymouths' Definitive Map and Statement. This work will consolidate all existing legally defined public rights of way routes and routes identified by means of historic research and public consultation. Work already undertaken has identified approximately 500 such routes, a number which is anticipated to increase.
- 11.2.3 CROW also introduced a duty for all Local Highway Authorities to prepare a Rights of Way Improvement Plan (ROWIP). The continual review of Plymouths' Definitive Map and Statement will lay the foundation for the future developments to be detailed in the ROWIP. Another requirement is for the formation of a Local Access Forum. The purpose of the Plymouth Local Access Forum, which is a statutory advisory body, shall be to provide advice on how to make the public right of way network more accessible and enjoyable for open-air recreation, in ways which address social, economic and environmental interests. A forum will be established in the near future.