

COMMISSIONING REVIEW: HIGHWAYS & TRANSPORTATION

3.4 HIGHWAYS MAINTENANCE SERVICES

3.4.1 The Highways Maintenance Service is a Hybrid set up with 80% of the workload carried out by the in-house sections and 20% carried out by external contractors via external procurement frameworks. Works contracted out are still managed by the In-House Technical and Operational services.

The overarching service operates from a depot based at Clydach and includes;

Planned Maintenance, Routine and Re-active Maintenance, Winter Maintenance, Highways Emergency Service, Street Works, Drainage and Coastal Management and Highway Licensing and Enforcement. Highways management systems.

Highways Maintenance employs 77 members of staff (excluding shared business, financial and administrative support staff);

The service is responsible for:

- Asset management, highways policy and guidance. The Highways Asset Management Programme (HAMP) is very detailed and explains how the Highways service works and considers all its assets. This is available online at <http://www.swansea.gov.uk/highways> ;
- Road resurfacing, footway resurfacing, safety barriers, white-lining, PATCH;
- Potholes, drain cleaning, pavement repair, signs, weed spraying;
- Highways Emergency Response 24 hours a day all year round;
- Winter Maintenance; including planned pre-salting, salt ('grit') boxes, snow ploughing, responsive salting;
- Co-ordination and Control of Utility Companies, events and all other highway works, interferences and road closures;
- Drainage consent, major flood relief schemes, surface water flooding and coastal defence management;
- Licensing and Enforcement for skips scaffolding, signs, works, and obstruction dangers;
- Highways claims management.

In order to ensure that the service can adequately respond to situations which often arise as a result of extreme weather conditions, staff resources can be called upon from across the entire service. This allows the Highways Maintenance function to operate with an overall lower staffing level.

It is critical that the Authority maintains a 24/7 highway emergency response service in order to comply with its statutory duty to maintain safe passage over the highway and to prevent and respond to flooding.

3.4.2 Good Practice Identified:

- Fully committed to Association for Public Service (APSE) Benchmarking, with a solid overall performance.
- 2012 Highways Maintenance “Best Improvement” Finalist in the APSE performance networks awards.
- Swansea pioneered the now recommended publication of a programme of planned maintenance works since 2000 for Welsh Authorities.
- The PATCH initiative (Priority Action Team for Community Highways) is acknowledged as good practice and publishes planned schedules in advance.
- Swansea is an active member of the All Wales Asset Management Project cited as good practice by the Chief Executive of the Institution of Highway Engineers. Swansea’s Highways Asset Management Programme (HAMP) and online publication of the PATCH schedule is available here <http://www.swansea.gov.uk/highways>
- The recent Pot Hole initiative (targeting repairs within 48hrs) has been delivered well and has been positively received.
- The ethos of continuous improvement and the use of Systems Thinking is already well established within the Service (e.g. Driving Forward Programme; Overgrowth Noticing).
- Cross-Service working (internal collaboration) is strongly supported and encouraged with staff being trained in more than one area of specialism.
- Openly engaged in collaborative works with other Councils and organisations (Fire and Rescue Services, Multi Agency Flood Group, Probation Service).
- Lifecycle ‘cost of ownership’ and preventative measures feature strategically in programme planning and asset management. For example, Swansea was one of the first Welsh authorities to embark upon a programme of lighting replacement (with LED lamps) in 2012, reducing maintenance costs and contributing towards carbon reduction at the same time.
- Swansea’s approach to thorough Gully Cleaning which focuses on outcomes in terms of flood reduction rather than ‘fix times’ was highlighted as Best Practice at an APSE conference.
- 2010 All Wales intervention Levels for safety defects agreed and implemented by Swansea. This is recognised as the way forward. Agreements have not yet been reached in England or Scotland;
- Robust Winter Maintenance and Safety Policies which have stood up to legal challenge.
- Open to the use of new technology to provide better services e.g. mobile technology (for works ticketing) and thermal mapping of the road network (to enable more effective targeted pre salting treatment of the highway).
- Operation and promotion of a Winter Warden scheme enabling local residents to assist in Winter maintenance duties (such as locating and using salt bins) was

highlighted as Best Practice by a national review and acknowledged internally by Scrutiny as a good way to engage with communities.

- Reduced staffing structure: 13 senior staff (40%), including Head of Service, managers and supervisors have left and not been replaced over the last 5 years.
- Although perceived as an 'easy target' for criticism, there is strong evidence of high quality work in both major and minor projects, and in provision of a service which is of value to residents.

3.4.3 Current Business Model

The service is provided via a 'hybrid' operating model which allows work to be delivered by in-house services or the private sector as is appropriate. The majority of Welsh Authorities operate their 'Highways Services' similarly with a mixture of in-house and external provision.

Works carried out by the Highways Maintenance and Engineering Cluster spans four different types of service: statutory oversight (policing and ensuring compliance of others); client and design functions; commissioning work; and operational work. Almost all of the operational services cover more than one type of role e.g. Planned Maintenance provide a Client and Design function, and also commission services.

The Highways service recognises that not all specialisms can or should be delivered in house for cost, efficiency or resilience reasons and as a result some works are outsourced via one of three channels:

- a) Through a partnership framework;
- b) Via competitive procurement processes; and
- c) By a combination of in-house provision and external supply.

These arrangements are further detailed as follows:

a) Partnership Framework

The Service tendered a framework partnership in 2008 and again in 2012 with the successful tender on both occasions being a consortium of a specialist resurfacing company and an established civil engineering contractor.

Utilising an operational partnership approach adds resilience and allows progression of works where internal resources are fully committed. For example, following an award of a £300k quick spend grant from Welsh Government we were able to allocate the money directly to the partner to undertake necessary works when in-house resources were already committed to end of year schemes. The Partner undertook work on behalf of the Authority as a priority at a time when all local Authorities in Wales were trying to spend their own additional funding.

The partnership approach allows the Council to place orders for work at a best value rate without having to undertake a new procurement process for each separate order. The partnership is now in its eighth and final year (subject to current open tender results) and is considered to have worked well. The Authorities' partner commented on this as follows:

"we are able to provide significant economic and performance benefit to the authority by providing a single point of contact to manage numerous specialist maintenance schemes throughout the authority, from footway improvements to highway drainage

works. “The partnership arrangement allows us to reduce our supervision and measurement costs through joint working and by being part of a joint team.”

This Partnership and partnership approach is referred to throughout this paper.

b) Competitive Procurement

It is not always practical or cost effective for the Council (or the partner) to provide a service directly. For example, specialist resurfacing processes require significant capital investment in plant and materials, and unless such plant is heavily utilised it sits idle, depreciating.

Where neither the Council nor the partner have the required expertise or resource to deliver specialist works the Council may seek to procure that service competitively; either as a single competitive procurement or via period frameworks e.g. for road markings and safety barriers.

Using competitive procurement for services outside of the Partnership agreement ensures the Council can still obtain best value from the private market.

c) Combination

This is where the service is provided ‘in-house’ but parts of that service are still procured externally. This is the hybrid operating model at a functional level and can be demonstrated by the in-house Plant department which owns its own fleet, but hires in from external companies those plant items that are not cost effective to procure and hold internally.

This allows the Council to benefit both financially and logistically from operating it’s own Plant Service whilst still ensuring the sourcing of specialist equipment for hire is managed corporately and continues to be provided at best value.

Each of these approaches features some degree of external procurement of services.

The principle and practice of procuring specialist works (versus in house provision of everything) is well established and was recently challenged following a staff suggestion to undertake road lining in house. A feasibility study was undertaken which evidenced that such specialist work could not be delivered competitively by the authority.

This typifies the issues around specialist service provision where plant and equipment are expensive and not fully utilised. This is presented as Appendix 8 - Feasibility of Lining Works.

Financial Overview of the Cluster

The Operational Units managed and controlled budgets during 2015/16 as below:

Highways Maintenance Budget	Budget	Income
24001 City Centre	£69,800	
26015 Coastal Protection	£34,900	

Appendix 1

26017 Drainage	£116,000	
26028 Structural Maintenance	£1,402,900	
26029 Environmental Maintenance	£153,400	
26030 Safety Maintenance	£321,500	
26040 Winter Maintenance	£354,200	(£10,000)
26043 Routine Repairs	£1,827,400	
26044 Admin and Professional	£961,958	(£196,700)
26045 Flood Protection	£156,300	
26050 Operational Wages	£10,900	
26052 Routine Maintenance	£32,600	
26053 Recycling	£1,900	
Total Incl. Finance Purchasing & Stores	£5,443,758	(£206,700)

The following Capital Budgets are also managed by the Maintenance and Engineering team;

C02971 Castle Sq. Refurbishment	£7,000
C02990 15/16-Footway Renewals	£718,000
C02991 15/16-Dropped Crossings	£29,000
C02992 15/16-Repl Safety Barriers	£69,000
C02994 15/16-Carriageway Resurfacing	£1,338,000
C02995 15/16 Highways Spend to Save Programme	£1,000,000
C03307 Urgent Infrastructure Works	£142,000
C03369 15/16-Street Light Refurb	£428,000
C03512 15/16-Drainage Works	£440,000
C03551 Purch Plant Vehicles & Equip	£18,000
C03570 15/16-Unadopted /Private Streets	£101,000
C06228 West Cross Coastal Defence Wall	£181,000
C06230 15/16 Coastal Defence Works	£100,000
C06231 15/16-Wind Blown Sand Mitigation Works	£10,000
C07580 Cemetery Road Resurfacing 09/10	£102,000
Total Capital Projects	£ 4,683,000

3.4.4 Performance Comparison

Each function of the service has been examined individually and is presented as a description of how the service operates followed by its benchmarking and performance statistics which are provided as evidence.

A variety of benchmarking is undertaken across the Highways service to monitor performance and efficiency, ranging from Welsh National Performance Indicators to A.P.S.E. benchmarking. Comparisons are also undertaken with private sector rates and Welsh Government Frameworks.

Swansea are Welsh representatives for both maintenance and lighting with A.P.S.E. and have been involved in development of the joint Society of Chief Officers of Transportation in Scotland (SCOTS) / County Surveyors' Society Wales (CSS Wales) Performance Report and chair the Wales Highway Maintenance Performance Group.

A.P.S.E. performance indicators for 2014/15 have been used as the indicators are issued in November and the 2015/16 results have not been published to date. Where possible the information provided for 2015/16 has been provided to show trends.

Highways Maintenance

Highways Maintenance (as a group) directly employs 77 members of staff (operational and manual) and receives additional back-office support from the Finance, Purchasing and Stores section.

At a recent conference on Highways a comparison was given in relation to spends on the local road network. This is summarised below:

- Local Road networks have a typical lifecycle spend of £34,000 per km;
- The Welsh average for local road network spend is £8,800; and
- Swansea has an even lower spend at just £7,000 per km.

This statistic highlights the comparative lack of funding on Highways in Wales compared to the required lifecycle spend.

Highways Maintenance – Planned Maintenance

The service provides a core client/design function which is a fee based commissioning service using both 'the partnership' and individual tenders/frameworks. This is a small in house team of six staff (5.5 fte) and fees charged are based on actual time spent on a job. Fees are also monetarily capped by the service at 90% of the maximum fee value prescribed by the Association of Civil Engineers (ACE) consultants.

Using the Partnership provides additional and specialist resources for Capital works programmes alongside the Construction Team.

The Highways Act 1980 sets out the main statutory duties; in particular Section 41 imposes a duty to maintain highways at public expense. This duty is further developed in the code of good practice for highway maintenance.

The service delivers robust asset management approaches for the Highway Authority for all non-trunk roads maintainable at public expense. The network includes 1102 km of carriageway and 1500km of footway, this includes long term

maintenance of the asset through the Highways Asset Management Plan, the 5 year Highway Works Programme and monitoring the road surface friction results.

The service is a member of the All Wales / Scots Asset Management Project where new legislation and best practice is regularly discussed, and where practicable responses can be made on an all Wales basis. Contracts can also be shared with other Authorities via this vehicle (e.g. the Carmarthenshire framework can be used by C&CS and is checked for a price comparison if works are tendered).

Swansea were heavily involved in the development of the PI Reporting toolkit (used for CIPFA returns) which was developed via the All Wales Asset Management Project and CSS.

The section oversees the PATCH programme to undertake localised repair works where local Members are actively engaged in identifying problems within their ward. This function relies on the ability to balance network need with political demands. This arrangement was studied by City of Cardiff Council’s Scrutiny team in 2013/14 and recommended as good practice. The PATCH programme is carried out by the Partners on competitively tendered rates.

The team have ownership and long term responsibility for the condition of the network that extends beyond a single programme of works. This vested interest allows prioritisation of the statutory oversight role which includes monitoring the highway for signs of exceptional use and damage. This is a critical role particularly when dealing with a deteriorating asset with a £50m backlog of work (carriageways and footways). The long term nature of the responsibility can be seen in Appendix 11 Depreciation Models which shows the current model for network depreciation over 20 years, together with the effect that budget reduction would have. As condition deteriorates the requirement for reactive maintenance increases dramatically which is far less cost effective. Deterioration may also lead to an increase in indefensible claims resulting in a greater spend on compensation settlements and increased insurance premiums.

The team undertake major works on a prioritised basis for the roads in Swansea and this includes allowances for internal re-prioritisation such as rearranging works that clash with corporate events. Residents (and the wider public) are kept informed with proposed Planned Works on footways and carriageways in order to minimise disruption.

Planned Maintenance Evidence

Benchmarking is carried out in conjunction with APSE and a sample of the core indicators are provided below. The following National Indicator is reported and is measured by external contractors working for Welsh Government.

National Indicator 2014/15		Best in Group	Average of Group	Worst in Group	C&CS	Position in Group
THS12	Condition of principal roads (TRACS type surveys - England & Wales)	4.5%	11.9%	19.7%	4.8%	2/22

This indicator shows the relative condition of the road network during 2014/15 and the Authorities PI for 2015/16 remains good at 5.1% although it is understood that the Authorities position has most likely dropped to 4/22. This was expected due to LGBI expenditure in other Authorities being targeted at carriageway resurfacing.

WALES 2014/15

A.P.S.E. Indicator		Best in Group	Avg in Group	Worst in Group	C&CS 14/15	Position in Group*	C&CS 15/16
PI 02b	Condition of principal roads (TRACS type surveys - England & Wales)	1.2%	4.15%	8%	3.2%	4/13	3.3%
PI 41a	% of carriageway length receiving planned works	8.3%	4.25%	0.04%	0.04%	11/11	Not yet available
PI 02e	Condition of non principal roads (Class B - England and Wales only)	2.8%	5.58%	10.8%	4.1%	4/13	4.5%
PI 02f	Condition of non principal roads (Class C - England and Wales only)	5.9%	13.7%	21.6%	7.1%	2/13	7.3%
PI 02g	Condition of unclassified roads (England and Wales only)	2.34%	14.4%	44%	Not available	2/10	7.6%

* Position is out of 22, results shown reflect number of returns.

PI02b, e and f are from the same survey as the National indicator but to a greater degree of detail. 15/16 results for Swansea also displayed

PI02g is based on a sample survey, the 2016 result for Swansea is listed and position compared to 14/15 results.

PI41a shows Swansea carried out planned maintenance works on the smallest length of road in Wales in 14/15 by a considerable degree. This would be a concern in terms of funding however it is recognised that during this period most Authorities bar Swansea invested the LGBI money available into carriageways and therefore had a significant amount of additional funding. This reinforces the success of the overall condition rating in light of the additional investment experienced by all the other Welsh Authorities and explains the drop in position from 2nd to 4th in terms of road condition. .

As staff work on Capital projects and are fee based, the following comparators have been made against both the Carmarthenshire Framework and the Welsh Government Technical Consultancy Framework.

C&CS Positon	Carmarthenshire Framework Average Rate	Welsh Government Technical Consultancy Framework Ave Rate	C&CS Hourly Rates*
Principal Engineer	£48.07	£47.61	£44.76
Senior Engineer	£36.27	£43.06	£39.61
Snr. Technicain	£33.04	£36.16	£34.40

*C&CS rates are shown at basic salary with a 2.2 multiplier for overheads.

Note: Whilst C&CS rates may in some cases be slightly higher than the Carmarthenshire framework average rate, we believe these rates are still broadly comparable and that the C&CS rates still represent good value.

Highways Maintenance – Routine/Reactive Maintenance

This function is provided as a hybrid (in house) model with support from the partnership and the underlying statutory duty is to maintain the highway (and ensure safe passage). The service consists of circa 54 staff who deal with around 55,000 enquiries a year, with 86% of enquiries being responded to within 10 days (an indicator which is measured monthly).

Current arrangements were established following a best value review in 2000 and refined following the establishment of Street scene in 2010 and an Operational review in 2015.

The operational teams have extensive local and technical knowledge which is highly important in an area where records have traditionally been poor. Asset inventories are improving but even where good records exist the on-site knowledge is still invaluable in real time situations. For example the Authority have approximately 40,000 road gullies and numerous drains, channels or “grips”. The gullies are recorded on a mapping system however the grips are often located off road, in undergrowth or hidden from general view with their location only known from experience and local knowledge.

The service requires a flexible, multi-skilled workforce capable of responding to changes in priority in particular during exceptional circumstances (usually resulting from extreme weather events). For example a masons gang may be called upon to work in water courses or undertake winter gritting duties in times of need.

The partnership recognise that they cannot easily meet this requirement and have commented: *“Our current specialist works teams will remain available to maintain the current quality and programme confidence required by you to obtain your maintenance objectives. They are also available to complement your multi-skilled workforce in those areas that they are trained should your workload demand. We may however need to bring in sub-contractors for some works that are outside our core functions”*

Highway inspection services are not widely available outside of Local Authorities and private provision is focused on the individual’s responsibilities rather than the reasonably practicable approach that the budget holder requires when assessing risk. The reliability in court of an independent Inspector with no responsibility or buy in to the long term condition of the highway would be a risk.

The Highways network in Swansea is similar in size to that of Cardiff and is largely urban (excluding Gower/Mawr). Whilst an exact comparison of staffing is not possible we are able to show comparisons with our neighbouring authorities as below.

	Cardiff	Bridgend	Swansea
Operational Staff	42	38	34
Technical Officers	n/k	20	16

The service operates a 24 hour emergency service throughout the year dealing with flooding, traffic accidents and white outs, together with the more mundane issues of pot holes. Out of hours public safety functions are also covered in relation to dangerous structures and a number of other areas not part of the day time service.

Operationally staff have to be flexible and responsive at all hours whether they are part of the formal standby rota or not and need to pull together during emergency situations to safeguard people and properties.

Resilience is provided by the Partnership who can provide routine works via planned programmes of work and give an additional resource when required.

The Highways Maintenance “Driving Forward” programme was established in 2015 to review the service (following the split with Cleansing). Subsequently work processes have been reviewed, and perhaps most notably, the approaches for the pot hole initiative were developed at this forum following poor perceptions in the reputation tracker and concerns of senior politicians and their aspiration to see an improvement in the public perception of highway maintenance.

Routine/Reactive Maintenance Evidence

WALES 2014/15

A.P.S.E. Indicator		Best in Group	Avg of Group	Worst in Group	C&CS	Group Position*
PI 03a	% of Cat 1 defects made safe within response times (carriageways)	100%	82%	25%	94.42%	7/15
PI 39b	% of planned KM of safety inspections completed (carriageways)	100%	98.7%	93%	93%	10/15
PI 28	Number of Cat 1 defects per KM of maintained carriageway	0.0	0.45	1.6	0.57	10/15
WPI 001	Number of 3rd party claims per KM of maintained carriageway	0.00	0.075	0.24	0.14	14/15
PI 31b	% change in number of non repudiated 3rd party claims in last 3 years compared to previous 3 year period	93.7%	-4.7%	-50%	-3.86%	4/15
WPI 005	Headline indicator for net expenditure on the	£19,315	£8,861	£4,764	£7,066	8/15

	highway asset (per Km of carriageway maintained)					
PI 060	Km inspected per Safety Inspector (carriageways & footways)	3,066km	1,310km	324km	908km	NA

* Actual position is out of 22, results shown reflect number of returns.

PI03a is reported as a corporate indicator. Swansea reports the second highest number of Category 1 issues/emergencies, but manages a high return against these.

PI39b – This indicator reflects the robustness of the insurance inspection regime. Results are improving and the performance is monitored monthly.

WPI 001- This indicator is expected to be higher for urban Authorities with a much higher population per km. Cardiff was placed 15/15 for a similar reason.

PI31b Slight reduction in numbers non-repudiated, further information listed in the Highways Technical Systems section.

WP005 An important comparator measuring revenue expenditure per km. Swansea's performance is comparable against most Authorities, however no detailed work has been carried out to confirm the reliability of this indicator which has a medium confidence rating.

PI060 This is a new indicator and was not supplied by Swansea last year but has been calculated at 908km. Driven and walked inspections have not been separated and this will distort figures depending on the rural or urban nature of the Authority.

Due to the contractual nature of the current commercial partnership, and the fact that the arrangement is currently being re-tendered, staffing cost comparisons are considered commercially sensitive.

However, when our in house supervisory and operational staff rates are compared against the private sector rates (via our partnership rates) our costs, even including an overhead cost, are broadly comparable at lower levels and notably more competitive at supervisory level and in terms of standby provision.

Highways Maintenance – Street works

The street works service is mainly concerned with statutory oversight (policing function; ensuring others comply with legislation) and licensing of activities on the Highway. All Welsh Authorities provide this service in-house and collaborate in an All Wales manner when discussing problems with high profile statutory undertakers e.g. BT, Dwr Cymru etc.

Comparison with other Authorities is difficult due to differing structures and functions but the following shows the approximate staffing arrangements our more comparable Authorities.

Authority	No Staff	Notices Handled	Note
Swansea	6	30,000	(5.5 fte)
NPT	4	4500	
Newport	5	5063	Excludes licencing
Cardiff	12	32000	

Controlling works on the Highway is important as uncontrolled works can cause physical damage to the highway, economic damage (via a disrupted network), and reputational damage (via public perception).

To address this, all works/events on the highways are assessed and planned to cause as little disruption as possible. Even with perfect planning some disruption is inevitable but the in house service is focused on safeguarding the network.

The process is supported by legislation and codes of best practice, and fines can be issued where non-compliance is found.

Income for this area in 2015/16 was approximately £130k but it should be noted that the legislation is based around cost recovery, and the limitation placed on “profit” would affect the viability of external provision. Income can be shown as follows:

Section 74: Charges in relation to over-runs of works	£ 11,100
Section 72: Charges in relations to defective works	£ 35,297
Sampling and Fixed Penalty Notices (Various fines & charges)	£ 82,930
Total	£ 129,327

Further developments are expected in this area as Welsh Government are looking to adopt the principle of internal noticing of works and have already indicated that Authorities will be encouraged to do the same. This will require additional processes to be introduced which may have resource implications, but importantly will need the service to be adaptable.

The service is currently trialling an initiative (known as the coring programme) which examines the quality of the repairs applied to the highway following ‘roadworks’. This is specialist work needing experience outside of the current team and operates on a cost recovery basis. It is currently estimated that the scheme will bring in £40-50k of income with approximately 45% being cost and 55% being ‘over recovery’.

Highway licensing is also undertaken by the team and is run in a minimalistic reactive way. The Authority has one officer dealing with this subject and intervention is carried out where non-compliance is reported either by the public or by members of staff. The Licensing function currently has a cost recovery/income stream of approximately £140k per annum.

Source of Income / Cost Recovery (2015/16)	Amount (£)
Skip Licencing	44,571
Scaffolding	21,183
Pavement Licences and A Frames	14,347
Temporary Traffic Regulation Orders (TTRO)	27,952
Other Licences	35,751
Total	£ 143,804

Total income excluding the coring programme for the team is £273k, total cost including a 30% overhead is £210k.

Street Works Evidence

The control of Street works is not an area included within the A.P.S.E. data sets, however statistics are collected nationally but not published, making comparison difficult. A full range of indicators is attached as Appendix 12 – Street Works Score Card.

Measure	2014/15				2015/16			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Days Occupancy	9236	8147	9067	10144	8555	9334	10809	13027
Percentage over-run	5.7	2.9	4.2	0.9	0.4	0.7	1.7	1.5
No. of Inspections recorded as chargeable	340	617	1003	1413	264	669	1003	1342

The example above highlights the sheer volume of roadworks registered and inspections undertaken throughout the year. This also highlights that in quarter 4 of 2015/16 only 1.5% of work over-ran against a total of 13,027 days of work undertaken.

A comparison has been made of the licensing costs; for example Private Works on the Highway has a chargeable range of £212 to £405, with C&CS at £395. This survey is carried out every 4-5 years and is due to be repeated. Rates are increased annually at or above the rate of inflation.

Further comparison will be undertaken in relation to C&CS new coring programme and results after the first 6 months will be compared to the other Authorities in Wales carrying out this work. Early indications suggest that the quality of utility repairs in the Authority are toward the bottom end of the spectrum. This supports the proposed extension of the coring programme with a view to driving up quality and protecting our assets (the Highway) from unnecessary and accelerated deterioration.

Highways Maintenance – Drainage and Coastal Management

Work undertaken is mainly a client/statutory oversight and is closely linked to the Flood and Water Management Act (2010). This Act designated the City and County of Swansea as Lead Local Flood Authority which resulted in the establishment of new statutory duties to coordinate and manage flood risk from local sources .i.e. surface water, groundwater and ordinary watercourses. The team consists of just four staff (3.5 fte).

The Service Functions undertakes the following statutory duties:

- Flood and Water Management Act 2010
- Flood Risk Regulations 2009
- Land Drainage Act 1991
- Coastal Protection Act 1949
- Reservoir Act 1975

Under the terms of Flood and Water Management Act 2010 Welsh Government produced the first National Strategy for flood and coastal erosion. This places significant responsibility on C&CS as lead authority, to ensure that the fundamental objectives below are delivered:

- Reducing the consequences of flooding
- Raising awareness and engaging people affected by flooding
- Providing an effective response
- Prioritising investment

Due to the nature of the statutory oversight and stakeholder support, the service is carried out internally with commissioning as required. Collaboration is undertaken both with WLGA and other local Authorities and the team are currently undertaking their first commission from a neighbouring Authority. The ability to offer such services on a larger scale are limited (as this is a small team) however, such sale of services does help to support the unit financially.

Long term policy and data management lends itself to internal services to ensure ongoing responsibility whilst the need to undertake flooding investigations limits the ability to use local specialists due to potential conflicts of interest. Part of the role includes assessment of drainage proposals for new developments; as such the internal provision ensures that long term maintenance and effects on the highway are given due consideration during planning applications.

The team provide valuable knowledge and expertise to routine operations in addition to the above functions and also commission a programme of Capital Drainage Improvements either through specialist contractors (Coastal Works currently £200k) or the Partnership (Drainage/Flooding £400k pa.). In addition to internal budgets the team have been successful in obtaining approximately £350k of capital grants for flooding/coastal related works this year.

Drainage and Coastal Management Evidence

No indicators exist in relation to Drainage or Coastal management as much of this service is client/design based or fulfilling a statutory oversight role. All staff earn fees and scales of payment have been compared against the competitively tendered consultancy contract.

Positon (C&CS Job Title)	Carmarthenshire Framework Average Rate	Welsh Government Technical Consultancy Framework Avg Rate	C&CS Hourly Rates*
Principal Engineer	£48.07	£47.61	£44.76
Senior Engineer	£36.27	£43.06	£39.61
Engineer	£33.04		£34.40

**Overhead multiplier of 2.2 included in C&CS Rates.*

Highways Maintenance – Winter Maintenance

The Highways Winter Service is an in-house service that relies on resources from across the service to ensure service provision during winter weather conditions. The dedicated resource for this team is just one half of one person (i.e. 0.5 fte). Work is

carried out via a mix of commissioning (weather forecasting/ weather stations/ specialist vehicle servicing) and in-house operations.

The majority of this work occurs outside of normal working hours and is undertaken by staff drawn from other team operating on standby system. This can impact on day time operations as staff sometimes require rest days following overnight working.

This is an important service to the Authority and certainty of our ability to deliver is paramount; for that reason we must have robust arrangements in place and the requirement to provide this cover is written into staff contracts.

In other areas of Wales the gritting part of this service is provided in a similar manner or by full time night shift provision.

There are advantages in using internal staff as during whiteout conditions staff are able to provide a day time service as they are fully trained.

Use of a part year night shift is possible with staff rotation however this would leave day crews reduced in number. The night shifts are also less productive when winter operations are not being undertaken, as supervision is at a lower level, and quarries and other support services would be unavailable. Some works are also not possible at night due to noise issues. These revised arrangements have been trialled in some other authorities (Bridgend) but have not been widely adopted due to the loss of productivity during the day.

Winter Maintenance Evidence

Winter Maintenance is covered by A.P.S.E. and the following are an example of the indicators reported.

WALES 2014/15

A.P.S.E. Indicator		Best in Group	Avg of Group	Worst in Group	C&CS	Position in Group
PI 114	% of carriageway network subject to precautionary salting treatment	52.8%	35.6%	24.5%	42.7%	3/15
	Route Efficiency	53.75%	71.92%	170.64%	59.85%	4/15
	Top Priority Routes completed on time	100%	99.9%	99.1%	100%	1/15
	Average Route Length (kilometres)		80.39		131	NA

** Position is out of 22, results shown reflect number of returns.*

PI114 refers to the extent of the network pre-salted (gritted). Although Swansea treats more than most Authorities, the Authority is heavily urban and the route efficiency is 4th in Wales.

Average Route length is 131km which is the longest in Wales. This maximises the use of plant and staff but the operation is at the limit of that which is achievable - both in terms of legislation and reactivity (more than 4 hours from start to finish).

Highways Maintenance – Highways Technical Systems

This is a small core of staff who provide the technical back up for the operational units. Works cover everything from workflow management, inspection records and land registry searches to technical FOI responses and claims handling and investigation. Routine driven inspections are also carried out in accordance with the maintenance team's safety policy.

The front desk area is included in this review, however much of this function has been transferred to the corporate call centre in accordance with the back office review. Performance management is also included in this area (using the Mayrise management system) and provides management information for Corporate, APSE and internal uses.

Realistically this is a maximum of seven staff (3 technical staff, 2 admin staff, 2 inspectors); plus one security guard to supplement the external security provision.

The team work closely with operational staff and have developed mobile working to provide teams with real time workflow. The team has implemented significant ICT improvements for the highways service including data capture and communication via handheld devices. The team have also rolled out a service wide asset management system which captures valuable data and improves the efficiency and effectiveness of our operations.

Highways Technical Systems Evidence

As a primary support function the team do not hold a breadth of PIs of their own. They are however responsible for claims investigations and A.P.S.E. PI's in relation to claims are listed in routine maintenance which shares the function. In addition claims related statistics are listed below.

Year	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Claims received	347	347	262	360	368	211	211**

** Prediction based on partial years figures.

The repudiation (rejection) rate is currently 82.98% across all highways claims comparing to 83.99% in 2014/15.

A study by the RAC Foundation shows that 31,483 claims were made against Councils across Britain during 2015/16 for vehicle damage caused by poor road conditions, and 33% of those were successful.

The table below shows an extract of the Welsh data which highlights Swansea's success in defending such claims. This performance contributes toward our achievement of lower insurance premiums.

WALES		2015/16		
Local Authority	No. of claims	No. of Successful Claims	Percentage of Claims Successful	Total Value of Successful Claims
Cardiff	237	51	50%	£11,952
The Vale of Glamorgan	173	39	56%	£7,327
Swansea	97	6	7%	£584
Powys	77	20	54%	£7,878
Neath Port Talbot	76	17	77%	£3067
Bridgend	76	40	66%	£8,234
All Wales Totals	1279	249	33%	£62,332

2014/15 and 2015/16 figures were reduced partly due to a change in legal process.

3.4.5 Customer Satisfaction and Stakeholder Engagement

A wide range of customer and stake holder engagement is undertaken across the Service.

The corporate Reputation Tracker shows that performance is perceived poorly by the survey of 200 people. Only 26% believe a good service is provided. This is believed to relate to condition of the network rather than actual poor service delivery.

An Engagement Event was recently held for all staff in the Highways Service and alongside other staffing issues Commissioning was explained and staff were given further opportunity to contribute to future improvements and to make saving suggestions.

Highway Maintenance

- Scrutiny has reviewed the service in:

2010 Winter Maintenance

2012 Highway Maintenance

2015 Street scene (incorporating Highway Maintenance)

In general the feedback from the panels has been very supportive:

"Street scene services are and remain critical services for the people of Swansea. It's the one side of the Council that every citizen uses and interacts with on a daily basis,"

and

"Promotes and encourages communities to take up the Winter Warden Scheme by reducing the bureaucratic burden on the communities and individuals who want to sign up to the scheme"

- Feedback from the recent pot hole initiative is excellent. The following feedback has been received:
 - Corporate Communications have provided the following feedback:
 Evening Post - 3 positive stories, 2 positive opinion pieces
 Swansea Bay Radio – 1 positive story and website coverage
 593 unique page views on council website
 30,376 reached on council Facebook, 110 likes, 105 comments / shares
 52 likes, 25 retweets and conversations
- Positive feedback from our insurance providers in relations to Highways claims defence (2013). The Company’s ratings are Green, Amber, Red, and Black; the Authority’s practices were equi-distance between Green and Amber however it was decided to award a Green to Swansea and the following comment was made: *“The Authority was found to have a good, robust system and the overall standard was deemed Acceptable”*
- Planned Maintenance traditionally carried out works surveys for most schemes and feedback was very positive. However the view is that feedback tended to reflect that the stakeholders had received a new road rather than any perception of level or quality of the service provided. Two recent schemes have been surveyed (following works at Beaumont Crescent and Freeman Street) and initial feedback is shown below:

Question	Scheme Beaumont Crescent Average Score	Freeman Street Average Score
Workmanship	4	4
Communication	2.7	4
Co-Operation Of Workforce	3.2	4
Cleanliness Of Finished Site	3.7	4
Health And Safety	3.3	3.3
Environmental Awareness	3.3	3.3
Overall Average Score	3.4	3.8

Key 1 – Poor, 2 – Satisfactory, 3 – Good, 4 - Excellent

- The PATCH programme consults with Ward members prior to works being undertaken in their ward to allow comment or suggestions for alternative works. These have to follow suitability/priority guidelines but decisions are discussed with Councillors prior to works proceeding.
- Community Councils and Stakeholder groups are met on a regular basis, for example the Sandfield residents association was met to discuss measures to reduce sand on the Mumbles road; and the Marina Residents Association are regularly met in relation to Marina maintenance.

3.4.6 Conclusion on Current Service Provision across the Cluster

The authority provides a cost effective Highways Maintenance and Engineering Service which is delivered via a common in-house (hybrid) model. This is widely considered to be the most appropriate method of delivering the service as it maintains control and flexibility, allows income generation and still enables the externalisation of services and bolstering of resilience as required.

Like most highways services Swansea has been exposed to CCT and Best Value reviews, so the concept of becoming commercially aware is not a new one. Within this cluster income generation opportunities are limited to a small number of functions and a few fee earning staff, however, two of the functions that do earn fees (Construction and Plant Services) are able to operate as cost neutral or better (both generating a small surplus during the previous financial year).

Given the statutory nature of the work and the acknowledged low level of funding across the whole of Wales, it is important that this commercial approach continues.

The quality of the work provided by the service is believed to be good and despite perceptions about the service being an expensive one, evidence suggests it is actually well placed in comparison to the private sector and competitively tendered framework rates.

The service has been 'slimmed down' over recent years and the current service operates on three well founded principles:

- It is in the public interest that the authority owns and manages the local road networks, both from a cost efficiency and a safety perspective;
- Operating as a hybrid is essential to build service resilience and ensure that some specialist and lesser used services are delivered in a cost effective manner; and
- The ability, the local knowledge and the attitude of the workforce is fundamental to the delivery of a safe and efficient service.

The Service has an ethos of continuous improvement and this review has helped the service look more critically at how it can improve it's offering, and will help deliver new (and already planned) changes in a focussed manner.

3.4.7 Key Risks

- Further reductions in staff following the Senior Staff Review may restrict the ability of Highways and Transportation to meet increased workload demands, thereby reducing our ability to make savings and generate additional income.
- The ability to retain and/or recruit qualified and technical staff given the upturn in construction industry is a potential risk.
- Policy decisions at National and Welsh Government, particularly following the 'Brexit' vote could affect funding to Local Authorities.
- The balance between income and revenue budgets creates a potential risk around the net cost of the service.

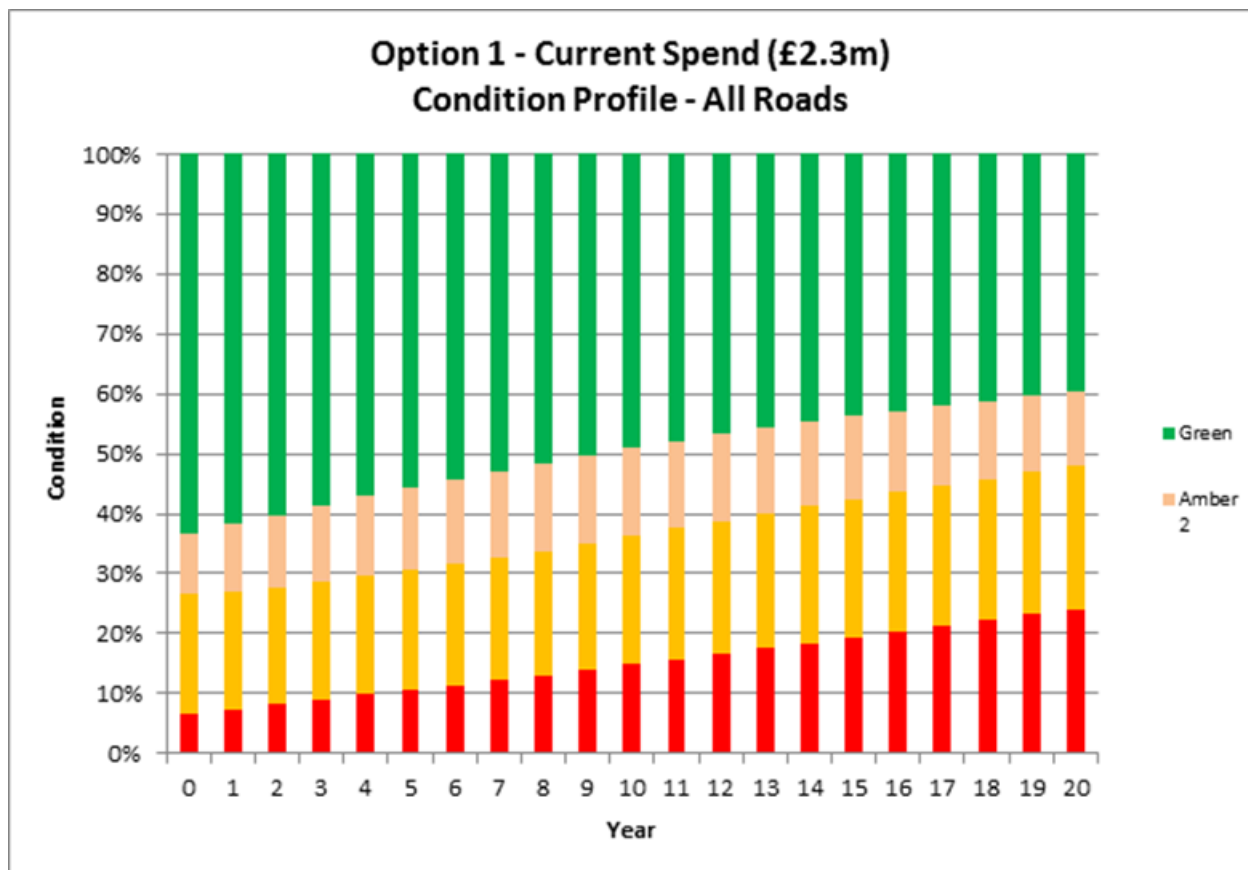
- The Highways Emergency Out of Hours and Winter Maintenance services are reliant upon staff from across the service with 'Gritter' drivers are recruited from both the Engineering and Highways Maintenance operational units (and the Cleansing Service). In the event that staff numbers reduce significantly then alternative arrangements would have to be made to ensure compliance with our duty to provide safe passage over the highway. Similarly, flooding to properties from highway land, or watercourses for which the Authority is responsible, would result in third party claims as well as have severe reputational issues.
- A service specific risk exists in relation to the expansion of the asset the service is responsible for. Under new Asset management guidelines assets are being transferred without either budget or staff resource and in sometimes poor condition. The risk is both in terms of maintenance and claims. E.g. recently 38 streets transferred from Housing responsibility to Highways within a 2 month period and without any additional budget.
- The long term condition of coastal defences is a concern in relation to the increasing number of with severe weather events. This concern is based on the increasing in severity and frequency of extreme weather events alongside a condition survey which was undertaken in recent years.
- In seeking to comply with the Active Travel Act (and provide more cycle routes) there is a risk that classifying a road as a recognised cycle route may result in more stringent criteria being applied when determine 'faults' (as per code of practice). For example, ironworks 15mm below the road surface may be acceptable on a general carriageway but could be interpreted as a significant risk to cyclists. The remedial measure may require the re-setting of all ironworks along a stretch of road.

5.1 Increased Highway Maintenance Capital Investment

The following budget proposal reflects the urgent need to increase the resources available to maintain the highway. It reflects the maintenance backlog of work for the Authorities 1,000km of carriageways which is calculated at £54m and recognises that without further investment the condition of the carriageway network will severely deteriorate over the next 10 years, significantly increasing the costs of planned and reactive maintenance.

The report is based on figures calculated by the Welsh asset management valuation tool and uses both a deterioration model for roads and the annual condition figures that are produced from highways surveys. The overall value of the carriageway network is calculated to be just in excess of £1,039m with an annual depreciation of £122m.

Current funding (including the £1m spend to save initiative) is around 50% of that required to keep the carriageway network in its current condition. The graph below shows how the roads will deteriorate over the next 10 to 20 years if current funding remains the same.



The important points to notice are

- a) by 2026 the number of roads in poor condition will have more than doubled.
- b) by 2026 the number of roads in good condition will have reduced from 62% to 47%.

This means that by 2026 the number of roads requiring reactive day to day maintenance (ie pot holes) will have increased by over 900 streets. Assuming revenue budgets remain constant (unlikely under current spending pressures) the service would be unable to meet minimum statutory obligations for a deterioration of this nature.

In terms of cost effectiveness, planned maintenance is far more cost effective than reactive maintenance, in simple terms a pot hole may cost between £50-£100m2 to fill whereas a metre square of resurfaced road is costed at £15m2 and preventative measures (e.g. surface dressing) may cost as little as £5m2.

These figures exclude a number of key issues which exasperate the situation and are not considered namely, traffic growth, network growth, the increase in HGV traffic to residential areas, the resilience of roads in poor condition to severe winters, increasing risk of flooding.

A suggested **additional expenditure of £2m per annum of Capital funding** would raise the level of carriageway funding to a steady state level where the condition of the carriageway network would not deteriorate as a whole.