Estimating price guide for path projects

paths for all

FOR A HAPPIER, HEALTHIER SCOTLAND

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HEALTHIER SCOTLAND

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Using this guide

We have prepared this guide to help you estimate the cost of your path project.

It is divided into sections; allowing you to calculate the cost of different types of work such as clearing vegetation from a path route, constructing the path with chosen surface type, erecting signage or installing a gate. Reference to certain design specifications are taken from the Paths for All 'Outdoor Access Design Guide'.

All prices were estimated at the date of issue and are based on the cost of a competent contractor supplying the materials and carrying out the work. **VAT is not included** in the prices and **no allowance been made for contingency**. It is recommended that a minimum contingency allowance of 7.5% is included within your estimations for any path works.

For any additional help in using the guide, to provide feedback on any of the costs contained herein or to request additional pricing information, please get in touch by email technical@pathsforall.org.uk

Units of measurement

We have used the following abbreviations for measurements:

Unit	Abbreviation
millimetre	mm
linear metre	linm
square metre	m^2
cubic metre	m^3
kilometre	km
each	ea
week	wk
hour	hr

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Welfare & storage facilities

Everyone who works on a path construction site should expect to have:

- access to adequate toilet and washing facilities
- a place for preparing and consuming food and refreshments
- somewhere to dry and store clothing and personal protective equipment (PPE)

With smaller projects, typically those expected to last less than a week, it may be that a contractor has obtained permission to use suitable nearby welfare facilities and / or utilise construction vehicles for breaks and some storage. On larger projects, it should be expected the contractor will install purpose designed site huts or cabins to enable construction workers, and any visitors to the site, to wash their hands, take breaks, make hot drinks, have meals, dry clothing and store equipment. The nature and scale of these welfare and storage facilities will depend on the size, location and type of project but can typically include:

- toilet
- hand washing facility
- drinking water
- changing rooms and lockers
- facilities to allow periods of rest
- steel container for storage of materials, tools, machinery

Where provided, these facilities must be adequately maintained until the contract is completed. This will come at an additional cost and the costs listed within this guide have made allowance for this.

With larger projects, this welfare and storage provision is normally included within the “Preliminaries” and can typically amount to between 5% and 10% of the total project value. This allowance may also include costs associated with erection of warning signage and, in some instances, traffic management.

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Welfare & storage facilities

Estimated costs for welfare facilities

Item	Range £	Average Cost
On-site welfare facilities Delivery, installation and servicing of welfare facilities (e.g. toilets, hand washing, rest area, high security safe store and drying-room) *Example costs noted below are for standard welfare facilities (based on min 2 week hire period)*		
Site office – standard static welfare unit (20' x 8' or 22' x 8' for up to 8 person + drying room and weekly servicing)	£165 to £175 per wk	**£170.00**
Transport (each way) – 0 - 10miles 11 - 20 miles 20 - 30 miles 30+ miles	£85 £105 £125 £60 per hr (*round trip*)	
Site office – standard mobile welfare unit (7 person with no office space[(1)] - 9 person plus office space[(2)]. All with weekly servicing)	£170[(1)] to £250[(2)] per wk	**£210.00**
Transport (each way) – 0 - 10miles 11 - 19 miles 20 - 29 miles 30+ miles	£50 £70 £90 £60 per hr (*round trip*)	

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Welfare & storage facilities

Item	Range £	Average Cost
On-site welfare facilities (contd.)		
High security safe store		
10' x 8'	£15 per wk	
20' x 8'	£12.50 per wk	
20' x 8' with electrics	£22.50 per wk	
Transport (each way) – 0 - 10miles	£70	
11 - 20 miles	£85	
20 - 30 miles	£110	
30+ miles	£60 per hr (*round trip*)	
Welfare vehicle (< 8 persons)	£270 per wk	
Security fencing (Herras)		
Typically, 3.5m wide x 2.0m high mesh panels supplied with rubber feet, stabilisers and single fence clip (price is per panel)	£8 per wk	

Above costs for on-site welfare facilities were kindly supplied by Jarvie Plant Group Ltd. Grangemouth and were correct at the time of Rev 1 issue (June 2019).

Site clearance

Clearing vegetation

Before a path installation can begin, it may be necessary to cut back vegetation; to help define the path route and / or clear the way for construction machinery. Adequate clearance of the route can also assist in reducing ongoing maintenance costs and make the path more accessible and attractive to users. The prices listed below and are based on general clearance of a 3.0m wide path corridor, for example a 2.0m wide path and a further 0.5m either side, and with an overhead corridor height of 3.5m above finished path surface.

Tree felling

It may be necessary to fell larger tree(s) along the route of your path. Understandably, the cost per tree can vary considerably; due to its size, location, proximity to buildings / power lines / other utilities and whether the felled tree(s) can be left on-site or require further processing and removal. If you have no experience of tree work, you should ask a competent tree surgeon or forester for advice.

Estimated costs for site clearance

Item	Range £	Average Cost
Clearing vegetation (scrub) Clear existing vegetation and stack on site (light scrub clearance)	£4.00 to £4.50 per linm	**£4.25**
Tree felling Cut down individual trees, stack larger logs and chip the smaller branches on site with a woodchipper	£10.00 to £50.00 per tree(1)	**£30.00**
Trees less than 1.0m girth(1) Trees more than 1.0m girth(2)	£50.00 to £400.00 per tree(2)	**£225.00**

Note: *tree girth measured at a height of 1.5m from base of tree and at the upper side of the tree, if on a slope*

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Removing an old structure

There may be an existing structure that requires to be broken down and removed before you can proceed with the proposed path installation. For example, you may need to break out old concrete foundations, remove a fence, take down an unsafe bridge or there may be some paving that needs to be lifted and removed.

Estimated costs for removing an existing structure

Item	Range £	Average Cost
Lift paving Break up any foundations and remove all waste to licensed recycling facility	£3.50 to £6.00 per m^2	**£4.75**
Lift a concrete or stone kerb Break up simple strip foundations and remove all waste to licensed recycling facility	£3.50 to £6.00 per linm	**£15.50**
Remove a fence Break up post foundations (if required) and remove all waste to licensed recycling facility:		
Timber post and wire fencing	£2.40 to £3.80 per linm	**£3.10**
Timber post and rail fencing	£4.80 to £10.50 per linm	**£7.65**
Remove and dismantle a structure Break up the foundations Remove waste to licensed recycling facility:		
Gates, bins, bollards, and signs	£3.90 to £5.90 per item	**£4.90**

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Earthworks

Earthworks mean just that - moving earth or stones onto, off or around a site to reshape the landscape. This will typically include works associated with the excavation of a path route.

You will often be able to re-use materials already on site however it may be necessary to bring in new materials, for example topsoil, and this should be allowed for as an additional cost. When moving excavated material away from the immediate working area, it will be necessary to include the cost of relocating this material (also called 'spoil') to a suitable location on the site or by taking it off-site, such as to a licensed landfill site.

Through the course of undertaking path related earthworks, you may occasionally find 'soft spots' in the bottom layer ('tray') of your path, especially if the ground is wet or boggy. These may not be apparent until you start digging which is one reason why you should always include a contingency allowance within your estimate.

Estimated costs for earthworks

Item	Range £	Average Cost
Reducing the gradient of a slope through 'cut and fill' works	£48.00 to £54.00 per m^3	**£51.00**
Filling with imported material	£34.00 to £50.00 per m^3	**£42.00**
Removing spoil material to licensed recycling facility	£7.50 per m^3	**£7.50**
Digging out soft spots and filling with imported aggregate	£42.00 to £98.50 per m^3	**£70.25**

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Revetments

A revetment is a structure designed to hold back a material, preventing it from slipping forward, or to protect a slope from erosion. The height, width and depth of the revetment will depend on the height of the material it is intended to hold back or protect. The greater the amount of material the more substantial, and costly, the revetment will be.

Revetments can be constructed from various materials including: wire baskets filled with stone (called “gabions”), recycled plastic boards, interlocking timbers, dry or mortared stone walls, woven willow, etc.

Estimated costs for a revetment

Item	Range £	Average Cost
Recycled Plastic board revetment (up to 2 boards high) Boards - 75 x 150mm (or similar) Posts - 100mm square Posts installed 1m apart and set in concrete 500mm deep	£60.50 to £95.00 per linm	**£77.75**
Timber sleeper revetment (up to 2 boards high) Boards – 250 x 125 x 2400 (or similar) Posts – 100mm square Posts installed 1m apart and set in concrete 500mm deep	£100.00 to £150.00 per linm	**£125.00**
Stone gabion revetment Install galfan coated 3mm dia. woven steel wire basket onto suitably prepared base and infilled with gabion stone (basket 1.0m x 1.0m x 1.0m)	£180.00 to £280.00 per linm	**£230.00**

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Drainage

There may be sections of the path where ground or surface water is a potential problem. Consideration will need to be given to the installation of appropriate drainage which removes this water from the path area and helps to avoid, or greatly limit, damage. There are a range of typical drainage options which can be used either in isolation or as part of an integrated drainage design within a larger site. The most common drainage types are noted below:

Ditch

A ditch is a simple, open channel with angled sides. Where there is sufficient space alongside the path surface, it may be possible to form a 'U'-shaped ditch, or the more open 'V'-shaped ditch, and both will require a minimum width of 600mm to be available alongside the path edge. This allows for a verge of minimum 300mm width to be left adjacent to the path edge and a ditch width of minimum 300mm at its widest point. For relatively short lengths of ditch, it may be suitable for volunteers to undertake the work but be aware that this can be messy and physically demanding work. Longer lengths of open ditch are usually constructed with an excavator; fitted with a ditching bucket ('U' ditch) or purpose made 'V' shaped bucket.

Swale

A swale is a wide and shallow ditch which has been lined with turf. It is capable of catching larger volumes of water during periods of heavy rainfall and the surface vegetation can help slow water running down steeper slopes. A grassy swale can also look less intrusive than an exposed earth ditch however it does require more space due to the increased width of construction. Swales are typically constructed using a tracked excavator where the surface vegetation is carefully removed and the turf and soil laid to one side. The swale is dug at least 200mm deep x 1m wide but can be wider if required. The excavated sides and bottom are re-lined with the excavated turf to quickly re-establish the vegetation, reduce soil erosion and improve the appearance of this drainage feature.

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Drainage

French drain

A French drain, or filter drain, is a vertical sided, flat bottomed trench containing a flexible and perforated plastic pipe which is surrounded with free draining gravel / aggregate. The trench may be lined with a geotextile; prior to laying the pipe and then backfilling with gravel. French drains are typically installed to catch surface water and / or where you don't want an open ditch or possibly don't have space for one. The gravel and pipe must be kept free of silt to keep the drain working effectively.

Soakaway

A soakaway is simply a hole dug into the ground, typically cube shaped, and filled with larger rubble/course stone. It allows surface water to be collected by ditch, swale or french drain and filtered back into the surrounding ground. A soakaway is often lined with a geotextile to help avoid the infill material from becoming blocked. To be effective, it needs to be installed within an area of ground that is known to drain well and is generally not suitable for managing regular or larger amounts of water.

Piped culvert

A piped culvert is a clay, concrete, plastic or metal pipe which runs beneath a path, carrying water from one side to the other. It can be installed to carry water from a stream or path side ditch / drain to the lower side of the path where it can drain naturally within the surrounding ground or discharge into another watercourse. Each end should have a stone, concrete or gabion style headwall to support the ground around it and help reduce the chance of water eroding the sides of the culvert at the inlet end. Dependent on the volume and speed of water flow through the pipe, it may also be good practice to install a 'splash plate' to the base of the pipe outlet. This helps to reduce possible erosion as water gushes out of the pipe during periods of heavy flow.

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Piped culvert (contd.)

A piped culvert should be wide enough to let water flow through freely, especially during periods of highest flow. If too narrow it might not be able to carry the volume of water during periods of heavy rain or it could become frequently blocked, for example by fallen leaves, resulting in the path becoming flooded and possibly damaged as a result. Most piped culverts installed on path projects are constructed using unperforated twinwall plastic pipe. This material is strong, lightweight, relatively low cost, easily obtained, produced in a variety of diameters and easy to cut.

Estimated costs for drainage

Item	Range £	Average Cost
'V' ditch Ditch dug by machine with 'V' bucket 150 - 300mm deep channel (300 - 450mm wide at top) Sides angled 45˚ for stability Dug material spread to side of the path	£1.90 to £5.50 per linm	**£3.70**
'U' ditch Ditch dug by machine with ditching bucket 200 - 300mm deep channel (300 - 450mm wide at top) Sides angled slightly for stability (can be steeper than 45˚) Dug material spread to side of the path	£1.40 to £3.80 per linm	**£2.60**

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Estimated costs for drainage

Item	Range £	Average Cost
Estimated costs for drainage (contd.)		
Swale Cut and lift turfs by machine Place to side for re-use Ditch channel dug by machine 200 - 300mm deep channel (1000 - 2000mm wide at top) Turfs re-used on base and sides of swale	£4.40 to £10.70 per linm	**£7.55**
Soakaway Hole dug by machine Min size 1000 x 1000 x 1000mm Fill with free draining gravel (20 - 40mm) or larger clean stone / rubble	£70.00 to £141.00 per soakaway	**£105.50**
French drain Trench dug by machine Line trench with geotextile sheet Lay 50 - 75mm depth free draining gravel (20 - 40mm dia.) in bottom Place perforated pipe in trench on top of gravel Cover pipe and fill with free draining gravel to ground level		
100mm diameter pipe in 300 x 300mm trench	£12.00 to £20.00 per linm	**£16.00**
150mm diameter pipe in 300 x 500mm trench	£16.50 to £37.00 per linm	**£26.75**

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Drainage

Item	Range £	Average Cost
Estimated costs for drainage (contd.)		
Piped culvert Trench dug by machine Line trench with geotextile sheet Lay Type 1 in bottom and place pipe in trench on top of Type 1 Cover pipe and fill with Type 1 Build headwalls 150 - 450mm thick around each end of pipe		
3000mm x 300mm diameter pipe	£360.00 to £420.00 per culvert	**£390.00**
3000mm x 450mm diameter pipe	£420.00 to £500.00 per culvert	**£460.00**

You can find out more information about drainage in "Lowland Path Construction Guide": https://www.pathsforall.org.uk/resources/resource/lowland-path-construction-guide

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A whinstone or granite dust path

Paths with a ‘dust’ wearing course (surface layer) are a familiar sight in many rural and semi-urban settings and can be an excellent choice of surfacing where a compromise between durability and value for money is required. When constructed to a high standard, and in the correct situation, an unbound whinstone or granite dust path will provide a smooth and firm surface that is suitable for all user groups. Care is needed to ensure that the correct depth of dust is applied during construction and/or any ongoing maintenance. Too thick and the path surface is likely to be soft when wet; too little and the larger angular base aggregate will be kicked up and lie loose on the surface making it potentially unsuitable for some path users, including horses and wheelchair users. In addition, there will be a need for higher levels of ongoing maintenance than other more expensive semi-bound / self-binding or bound materials however its ease of application makes it ideally suited to any ongoing maintenance by unskilled labour for example, local path volunteers.

Paths can be constructed using a half-tray or full-tray technique (see page 40 for further explanation) and we have allowed for each construction style within this guide.

Advice: If the ground is soft, or the soil is a heavy clay, then it is worth lining the excavated path tray with a geotextile membrane. This will help to stop fines from the soil potentially contaminating the base aggregate and causing ‘soft spots’. Where the ground is very soft and/or wet, you may also require a plastic geogrid to be laid on top of the geotextile. This will assist in strengthening the base layer further and better enable machinery to travel over the imported path base during the construction phase. Again, allowance has been made within this guide for paths using a geotextile and those using geotextile plus geogrid.

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Estimated costs for a whinstone or granite dust path

Item	Range £	Average Cost
For NEW whinstone / granite dust path:		
Full tray with geotextile Dug at least 150mm deep and lined with geotextile Lay and compact Type 1 - 150mm deep Lay and compact whinstone or granite dust - 25mm deep	£18.00 to £22.00 per m^2	**£20.00**
Half tray with geotextile Dug at least 75mm deep and lined with geotextile sheet Lay and compact Type 1 - 150mm deep Lay and compact whinstone or granite dust - 25mm deep	£20.50 to £24.50 per m^2	**£22.50**
Half tray with geotextile and geogrid Dug at least 75mm deep Lined with geotextile sheet Geogrid placed on top of geotextile Lay and roll Type 1 - 150mm deep Lay and compact whinstone or granite dust - 25mm deep	£23.00 to £27.00 per m^2	**£25.00**
To UPGRADE an existing path: Vegetation scraped off and placed to side Lay and compact Type 1 or 20mm scalpings up to 75mm depth Lay and compact whinstone or granite dust - 25mm depth	£14.50 to £17.00 per m^2	**£15.75**

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A semi-bound path (e.g. Ultitrec® - previously called Toptrec®)

A semi-bound surfaced path has a firmer and more durable structure and includes the commonly used surfacing material Ultitrec® which is supplied in both brick-red and black variants and is made from recycled materials such as graded road planings, blaes and crushed concrete.

For best results, an installer should lay semi-bound materials using specialist machinery. Semi-bound surfaces are best spread and levelled using an asphalt mini paving machine or purpose built drag box, reducing any risk of material separation when spreading by hand i.e. the coarse and fine materials can be separated / raked out ('overworked'), with the larger material being lifted to the top where it can sit loose. In addition, semi-bound surfaces require either a hard edge to be installed or require to be laid centrally on a wider base which extends not less than 150mm on either side of finished surface width. For the purposes of this guide, costs listed below have assumed the surfacing of a path with Ultitrec®; one of the most commonly used of the semi-bound materials.

Estimated costs for Ultitrec® path

Item	Range £	Average Cost
For NEW Ultitrec® path: **Full tray with geotextile** Dug at least 200mm deep Lay and roll Type 1 - 150mm deep Lay and roll Ultitrec® up to 100mm deep (min 50mm)	£26.80 to £35.20 per m^2	**£31.00**

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Item	Range £	Average Cost
Estimated costs for Ultitrec® path (contd.)		
Half tray with geotextile Dug at least 100mm deep and lined with geotextile sheet Lay and roll Type 1 - 150mm deep Lay and roll Ultitrec® up to 100mm deep (min 50mm)	£27.30 to £35.80 per m^2	**£31.55**
Half tray with geotextile and geogrid Dug at least 100mm deep and lined with geotextile sheet Geogrid placed on top of geotextile Lay and roll Type 1 - 150mm deep Lay and roll Ultitrec® up to 100mm deep (min 50mm)	£29.80 to £38.10 per m^2	**£33.95**

A bound path (e.g. dense bitumen macadam)

This surface is commonly used for cycle paths as it is smooth and highly durable. The bitumen and hard stone bind together to form a hard 'bound' surface when adequately compacted. A path like this may also be called a 'DBM' path which is the abbreviation for Dense Bitumen Macadam. Again, this type of surface requires to be laid by a competent installer with specialist equipment.

Path surfaces

For the purposes of this guide, costs listed below have assumed the surfacing of a path with 6mm stone DBM. Allowance for a hard edge, for example concrete kerbing, has also been included. Like semi-bound materials, where no hard is used the bound material will need to sit centrally on a wider base which extends not less than 150mm on either side of finished surface width.

Estimated costs for tarmac (DBM) path

Ite	Range £	Average
For NEW tarmac (DBM) path: **Full tray** Dug at least 150mm deep Lay and roll Type 1 - 150mm Lay and roll tarmac - 60mm	£24.80 to £42.00 per m^2	**£33.40**
Kerbing 900 x 150 x 50mm pre-cast concrete flat top kerb laid on suitable concrete foundation and with concrete haunching to both sides (*price is per linm and noting that kerbing will typically be required on both sides*)	£14.50 to £22.50 per linm	**£18.50**

You can find more information about path surfaces in "Surfacing Guide for Path Projects".

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Boardwalks

Boardwalks allow access to areas where a traditional aggregate filled path may not be suitable; such as marsh, wetland, areas prone to occasional low-level flooding or where there is a requirement to protect sensitive habitats. They are typically made of treated softwood or untreated hardwood timber or from recycled plastic and there are a wide range of decking styles available, many of which have anti-slip surfaces already installed.

Estimated costs for boardwalks

Item	Range £	Average Cost
Low level timber boardwalk with edge rails (profiles as listed or similar) Anti-slip decking boards - 150 x 50mm Stringers – 100mm x 75mm Support posts - 100mm square driven in by hand and set in a min. depth of 600mm, or until secure Deck-level edging rails - 75mm square	£126.50 to £161.00 per m^2	**£143.75**
Raised timber boardwalk with handrails (profiles as listed or similar) Anti-slip decking boards - 150 x 50mm Stringers - 150 x 50mm Support posts - 100 x 100mm square driven in by hand and set in a minimum depth of 600mm, or until secure Cross bearers – 150 x 50mm Handrail posts - 100 x 100mm planed timber Handrails – 100 x 50mm planed timber	£184.00 to £264.50 per m^2	**£224.25**

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Boardwalks and bridges

Item	Range £	Average Cost
Estimated costs for boardwalks (contd.)		
Low level recycled plastic boardwalk with edge rails (profiles as listed or similar) Decking boards - 150 x 50mm Stringers - 120 x 60mm Cross bearers - 230 x 80mm Deck level edging rails - 100 x 50mm	£203.00 to £258.00 per m^2	**£230.50**
Raised recycled plastic boardwalk with hand rails (profiles as listed or similar) Decking boards – 150 x 50mm Stringers - 120 x 60mm Cross bearers - 230 x 80mm Deck level edging rails - 100 x 50mm Handrail posts - 100 x 100mm square driven in by hand and set in a minimum depth of 600mm, or until secure Handrails - 100 x 50mm	£240.00 to £322.00 per m^2	**£281.00**

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Bridges

Bridges can be very difficult to price accurately because they will vary considerably in design, type of construction material, abutment designs, loading requirements, ease of access, etc. As a result, some bridges will be far more complicated than others and costs can vary as much as 300% or more.

Estimated costs for bridges

As a rule of thumb, the simplest of all timber bridge installations may be costed at £500 per m^2 of completed bridge section

A more complex timber and steel bridge may cost over £1500 per m^2 of completed bridge section

Bridges involving even more complex concrete or stone installations for abutments and piers may cost closer to £2500 per m^2 of completed bridge installation

You can appoint a bridge engineer to design your bridge and give you a more accurate estimate. There are also bridge manufacturing companies that can design, manufacture and supply bridges for all situations. Some will also provide an installation service.

You can find more information about boardwalks in "Outdoor Access Design Guide". https://www.pathsforall.org.uk/resources/resource/outdoor-access-design-guide

You can find more information about bridges in "Path Bridges - Planning, Design, Construction and Maintenance". https://www.pathsforall.org.uk/resources/resource/path-bridges

Steps

Well designed and constructed steps can assist many people in gaining access along a path where steep gradients would otherwise make passage difficult. They can also be a real barrier to many path users therefore they should only be used where alternative routes, that avoid the need for any steps, are either not available or may not be viable.

Where steps are required along your path route, consideration should be given to installing a narrow ramp alongside to assist cyclists and horse riders to gain access.

Estimated costs for steps

Item	Range £	Average Cost
Timber board and aggregate steps Vertical riser boards Half round stakes to hold risers in place Area between risers filled with well- rammed soil then Type 1 Surfaced with whinstone or granite dust	£80.00 to £110.00 per linm	**£95.00**
Ramped sleeper and aggregate steps Railway sleepers Half round timber stakes to hold sleepers in place Area between sleepers filled with well- rammed soil then Type 1 Surfaced with whinstone or granite dust	£110.00 to £150.00 per linm	**£130.00**
Stone steps Large stones Longest side of stone dug into the slope to least half its depth Height of step between 170mm and 200mm	£200.00 to £400.00 per linm	**£300.00**

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Fences

Fences might be installed along a path to separate people from potential hazards such as farm livestock, cliffs or deep water. They can also be used to keep people away from environmentally or historically sensitive areas, for example a nature reserve or historic site.

Fences can be made from a variety of materials, including recycled plastic and metal, but the most common type of construction is either a combination of timber posts and horizontal rails or timber posts and steel wire / mesh tensioned along the length of the fence and stapled on. Where livestock is being contained, it is not uncommon for barbed wire top line to be installed however this All timbers should be pressure treated, with an approved preservative, and be FSC Certified as a minimum standard.

Estimated costs for fences

Item	Range £	Average Cost
Timber Fencing (1.07m high above the ground) Fence with four horizontal rails (timber top rail should be added for shared use paths)		
Posts - 1675 x 100 x 100mm set 1.8m apart Four side rails - 100 x 38mm nailed to posts	£14.00 to £28.00 per linm	**£22.00**
Horizontal top rail added for shared use paths	£3.00 to £5.00 per m	**£4.00**

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Fences

Item	Range £	Average Cost
Estimated costs for fences (contd.)		
Timber and Wire Fencing (1.07m high above the ground) Fence with seven horizontal wires Posts - 1675 x 100 x 75mm set 5m apart Strainer posts - 2440 x 175 x 175mm High tensile plain wire – 7mm x 2 .5mm stapled to posts	£6.70 to £15.00 per m	**£10.85**
Fence with stock-netting (mild steel) Posts – 1675 (5ft 6”) x 75 x 75mm set 1.8m apart Strainer posts - 2440 x 175 – 200mm diameter Mild steel netting (specification: galfan coated C8/80/30) Mild steel plain wire - 2no. 2.5mm diameter Barbed wire – 1no. strand 2mm diameter Netting and wires stapled to posts	£6.50 to £10.50 per m	**£10.64**

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Gates and gaps

Gates

Where a path meets a physical boundary, such as a wall or fence, it will be necessary to consider the best method of continuing the path through that boundary feature. The least restrictive solution is to form an open gap however there are situations this is not always possible, for example, where livestock need to be contained or to stop unauthorised vehicles getting in. Where these considerations exist, you may need to install a physical barrier, ideally one which allows the least restrictive access for path users including wheelchair users, cyclists and horses. Typical access barriers would include gates, chicanes and bollards.

Gates will keep livestock in while allowing people to pass. They can also deter unauthorised access from motorised vehicles while providing additional safety by slowing the progress of path users, especially cyclists, where the path exists onto a road. A gate should open wide enough for people to get through comfortably and, ideally, they should open in both directions. Cyclists, horse riders, wheelchair and mobility scooter users may find gates a little more difficult to get through although there are gates available that have been specifically designed to accommodate these user types. If you can't fit a two-way, self-closing gate, the next best thing is a gate that opens only in one direction.

You will have to decide if you want metal or timber gates. H-frame gates are made of metal and comes in one piece shaped as the capital letter 'H'. The legs and crossbar of the H-frame gate are set in concrete. For timber gates, you need two posts, one to hang the gate on and the other to secure the gate closed. These posts are installed with well-rammed earth and stone.

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Gates and gaps

Estimated costs for pedestrian gates

Item	Range £	Average Cost
Self-closing gates (two-way opening) All gates 1.2 metres high		
Galvanised steel gate - 1.2m wide H-frame gate Two-way self-closing hinges Easy latch and gate stop Set in concrete 0 .7m deep	£350.00 to £372.00 per gate	**£361.00**
Galvanised steel gate - 1.5m wide H-frame gate Two-way self-closing gate hinges Easy latch and gate stop Set in concrete 0 .7m deep	£425.00 to £498.00 per gate	**£461.50**
Timber gate - 1.2m wide Timber gate Two timber posts (1 .7m apart) Two-way self-closing hinges Easy latch and two-way gate catch Set in stone and earth 0 .7m deep	£301.00 to £410.00 per gate	**£351.60**
Timber gate - 1.6 metres wide Timber gate Two timber posts (2.1m apart) Two-way, self-closing hinges Easy latch and two-way gate catch Set in stone and earth spoil 0.7m deep	£269.00 to £390.00 per gate	**£329.51**

PATHS FOR ALL

Gates and gaps

Item	Range £	Average Cost
Estimated costs for pedestrian gates (contd.)		
Self-closing gates (one-way opening) All gates 1.2 metres high		
Galvanised steel gate - 1.5m wide H-frame gate One-way self-closing hinges Easy latch and gate stop Set in concrete 0 .7m deep	£125.75 to £373.00 per gate	**£249.38**
Timber gate - 1.2 metres wide Timber gate Two timber posts (1 .5m apart) one-way self-closing hinges Easy latch and gate stop Set in rammed stone and earth 0.7m deep	£328.00 to £368.25 per gate	**£348.13**
Timber gate - 1.6 metres wide Timber gate Two timber posts (1 .5m apart) One-way self-closing hinges Easy latch and gate stop Set in rammed stone and earth 0.7m deep	£344.00 to £384.00 per gate	**£364.00**

PATHS FOR ALL

Gates and gaps

Field gates

A large field gate is wide enough to allow passage of large vehicles and livestock. It can be heavy for many people to open and close and can cause issue if left open or otherwise not properly secured. For this reason, we recommend you consider fitting a self-closing style gate to one side.

Estimated costs for a field gate

Item	Range £	Average Cost
Metal field gate (one-way opening) 1.2 metres high Galvanised steel gate - 3.6m wide Timber hanging post - 140mm diameter Timber slamming post - 140mm diameter Self-locking gate catch Rammed in stone and earth 0.7m deep	£194.00 to £650.00 per gate	**£422.00**

Gaps

Speed humps can discourage motorbikes or slow cyclists down at hazards. They will create a barrier to wheelchair and mobility scooter users but should not affect walkers, cyclists or horse riders.

A **single row of bollards,** set a minimum of 1500mm apart, will stop most vehicles but not motorbikes. They will allow walkers, cyclists, horse riders, wheelchairs and mobility scooters to pass. If vehicles need access for maintenance purposes, it is possible to install removable bollards.

PATHS FOR ALL

Gates and gaps

Chicanes are typically hoops; fixed one behind the other and slightly offset so that people can get through but motorised vehicles can't. Chicanes can be used to slow down and warn cyclists when they are approaching a busy road. They are generally very accessible for cyclists, horse riders, wheelchair and mobility scooter users however, if the gap between the hoops is too narrow (less than 1500mm), some users may not be able to get through.

Estimated costs for gaps

Item	Range £	Average Cost
Speed humps Hump - 4m long x 0.1m high Installed on path with white surface markings	£500 to £1000 each	**£750.00**
Round bollards 1.6m high x 150mm diameter bollard 1.5m between bollards installed 1m above ground Set in concrete 0.6m deep	£200 to £500 each	**£350.00**
Chicane Two 1.6m high x 100mm diameter steel hoops Maximum 3m apart with maximum 100mm overlap Installed 1.0m above ground Set in concrete 0.6m deep	£2400 to £2500 per pair	**£2450 per pair**

PATHS FOR ALL

Benches

Well-placed seats and benches allow people to stop and rest or enjoy the view. You have a range of furniture to choose from.

Benches come in timber, metal or recycled plastic. When you are choosing your material, you should take account of the fire risk or vandalism in your area.

Estimated costs for benches

Item	Range £	Average Cost
Timber bench Seat - 2000 x 310 x 100mm without back or arm rests Set in 500mm well rammed stone and earth Height of seat: 450 - 520mm	£900.00 per item	**£900.00**

You can find more information about benches in "Outdoor Access Design Guide".
https://www.pathsforall.org.uk/resources/resource/outdoor-access-design-guide

PATHS FOR ALL

Signage

Signs

Directional signs help people find their way around the area without getting lost. Some thought should be given to the kind of signs you would like, such as finger posts with text, coloured way-markers on wooden posts to mark out the route, or orientation panels to let people see where they are.

Metal posts are made of galvanised steel and / or powder-coated to stop them rusting.

Think of the three D's when designing finger posts - Direction, Destination and Distance.

Lettering can either be carved out (routered) and painted, glued in with plastic inserts, or printed on adhesive vinyl.

Estimated costs for finger post wayfinding

Item	Range £	Average Cost
Timber post with finger blades 100mm square post, 3 - 3.65m high Up to 3 finger blades - 150 x 500mm Text routered and painted in single colour Set in well-rammed stone and earth 1m deep	£200.00 to £250.00 per signpost	**£225.00**
Plastic post with finger blades 100mm square post, 3-3 .65m high Finger blade(s) - 150 x 500mm Text inserts in white vinyl Set in concrete 1m deep	£240.00 to £310.00 per signpost	**£275.00**

PATHS FOR ALL

Signage

Item	Range £	Average Cost
Estimated costs for finger post wayfinding (contd.) **Steel post with finger blades** 75mm diameter round hollow post, 2-4m high with top cap and base plate 1 or 2 double-sided aluminium finger blades,190mm x 600mm White vinyl text on green background Metal fixing clamps Set in concrete 1m deep	£180.00 to £210.00 per signpost	**£190.00**

You can find out more information about signage in "Signage Guidance for Outdoor Access: A Guide to Good Practice": https://www.pathsforall.org.uk/resources/resource/signage-guidance-for-outdoor-access

PATHS FOR ALL

Maintenance

Planned and regular maintenance is an essential requirement of any path project as it will greatly assist in maintaining the paths functionality and safety.

We have included within this guide some estimated costs for typical path maintenance tasks such as litter picking, strimming and minor repairs to the path surface which will have occurred through normal wear and tear. These costs are based on a competent contractor undertaken the work however many miles of path networks are now maintained by community volunteers and this will significantly reduce the itemised rates below.

Estimated costs for general maintenance

Estimating a general unit cost for the overall maintenance of a path is a significant challenge as it depends on the age of the path, its general condition, the surfacing material used, the frequency of maintenance visits, the frequency and type of path user and many, many more considerations that will impact what needs to be done and how often.

Analysis of annual maintenance costs attributed to Scotland's Long Distance Routes (for example, The John Muir Way and Cateran Trail) has shown that they can vary from £450 – £680 per km of path.

Estimated costs for typical maintenance duties

Item	Range £	Average Cost
Herbicide application Application of systemic herbicide by knapsack sprayer (operated by qualified and insured operator)	£0.20 to £0.30 per m^2	**£0.25**
Litter pick Uplift all general litter and remove to licensed recycling facility	£0.10 to £0.20 per m^2	**£0.15**

PATHS FOR ALL

Maintenance

Item	Range £	Average Cost
Estimated costs for typical maintenance duties (contd.)		
Path/Verge mowing Mow grass path or path verge with petrol powered pedestrian mower (operated by qualified and insured operator)	£0.10 to £0.20 per m^2	**£0.15**
Hedge cutting Cut or flail hedge and leave arisings on-site	£2.00 to £2.50 per linm	**£2.25**
Leaf clearance (blowing) Blow leaves, with petrol powered leaf blower, from path surface and onto adjacent verge area	£0.08 to £0.12 per m^2	**£0.10**
Cut back overhanging tree/shrubs Includes overhanging vegetation to a height of 3.5m	£0.04 per m^2 £0.10 per m^2	**£0.07**
Unbound surface defect repairs Re-dust path/track surface (assumes base is level/firm and includes compaction)	£3.50 per m^2	
Pothole repairs (includes excavation of hole to a max depth of 75mm, infill with suitable granular fill, re-dust and compaction)	£18.50 per m^2	
Path/Verge strimming Strimming of path with petrol powered strimmer (operated by qualified and insured operator)	£0.10 to £0.20 per m^2	**£0.15**

PATHS FOR ALL

Maintenance

Item	Range £	Average Cost
Estimated costs for typical maintenance duties (contd.)		
Semi-bound surface defect repairs		
Re-surface path/track (assumes base is level/firm and includes compaction		
Regrade path/track surface and re-dust (includes compaction of base and wearing course)		
Pothole repairs (includes excavation of hole to a max depth of 75mm, infill with suitable granular fill, re-dust and compaction)		
Gate and Access Controls		
Apply paint, or other wood treatment, to timber gate and hanging/slam posts	£65.00 to £85.00 ea.	**£75.00**
Adjust and grease gate hinges and catches	£6.50 ea.	**£6.50**

You can find out more information about maintenance in "Lowland Path Construction Guide": https://www.pathsforall.org.uk/resources/resource/lowland-path-construction-guide

PATHS FOR ALL

Glossary of terms

aggregate	graded stone used to form the sub-base, base and surface layer of a path. Available in various sizes and is often the term given to all quarried stone
blaes	red coloured industrial waste material, made up of shale rock derived from mining waste
bollards	short, upright posts used to stop vehicles entering the path
drag box	purpose made steel grading box, typically filled and hauled by a dumper, designed for the spreading of sub-base and surfacing aggregates to the desired depth and width on a path
galvanised steel	steel which is hot coated with zinc to help prevent rust
girth	the measurement around the middle of something e.g. the measurement of a tree around its trunk (measured at 1.5m above ground height and on the upper side of any slope)
geogrid	a strong plastic mesh (like a mat) with open square or triangular holes
geotextile	a strong synthetic sheet that allows water, but not soil, to pass through
high-tensile wire	fencing wire that can withstand greatly increased tension than mild steel wire, when strained
maintenance	routine inspection and minor repair of a path on a regular basis. Includes the clearance of drains, minor surface repairs, vegetation clearance, etc
mild steel wire	a plain wire, not as strong as high tensile wire, but easier to work with

PATHS FOR ALL

Glossary of terms

mini paver	purpose made self-propelled machine designed specifically for the spreading of bitumen coated surfacing materials to the desired depth and width
routered	numbers, symbols and/or lettering which have been cut out using a specialist cutter, typically into wood or recycled plastic
spoil	soil and stone left over from digging a hole, trench, or path tray
stock netting	variable grade wire mesh fencing, typically used for fencing in livestock
stone headwalls	walls built with stone around the ends of a piped culvert, to protect it from water erosion at either end. Can be either dry stone or mortared construction technique
type 1	a material that can be made from crushed limestone, granite or clean concrete. The crushed material is screened into a mix of larger (40mm) and smaller (<2mm) sizes. To be classed as 'Type 1' it must comply with the Department of Transport Specification for Highway Works, clause 803 (SHW 803)
whin dust	a crushed limestone rock dust (6-0mm in size) which can be used as an unbound surface layer on a path (wearing course)

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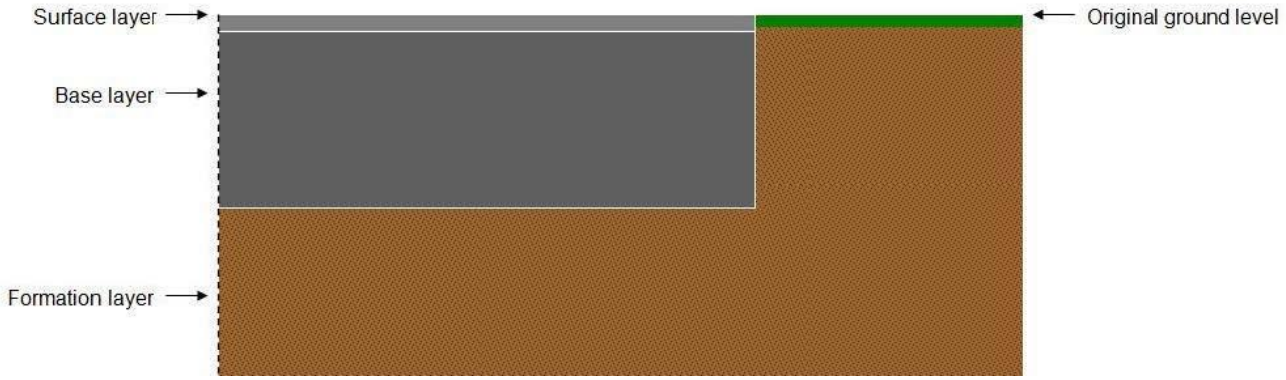
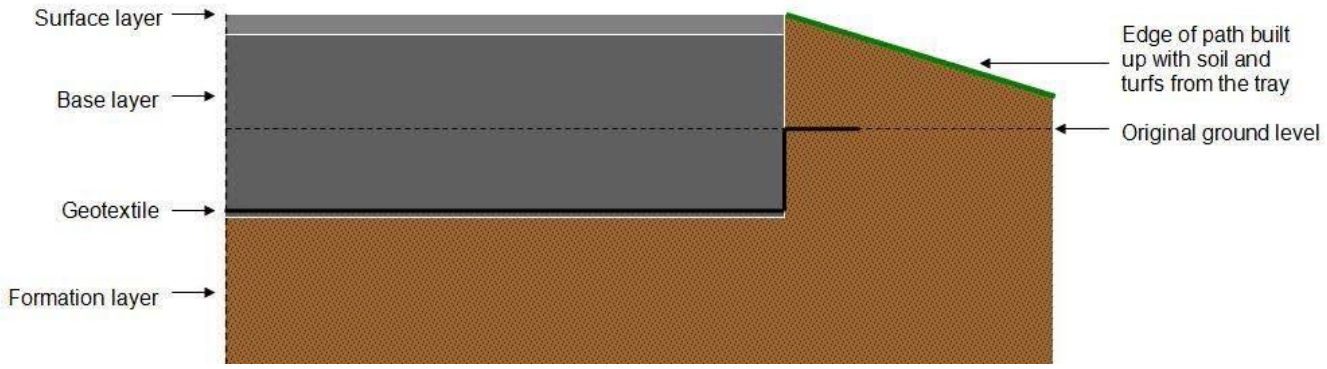
Cross section of a new path

If you are new to path building, it might help to see what a new path will look like from the side. Look at cross section diagrams below to get an idea.

A well-drained path crossing hard ground would look like this. Notice that the surface layer of the path is level with the original ground level. We call this a **full tray**.



If the ground is soft or wet, the path is usually built-up above ground level to prevent water running back on to the surface. In the diagram below, you will see that the surface layer now sits above the original ground level. We call this a **half-tray**.



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Front cover photo: Section of the Clyde Walkway, nr. Blantyre in South Lanarkshire

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