

Improving the roads and bridges of the Stirling area c 1660–1706

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ABSTRACT

The later 17th century saw a marked improvement in the public road system of the Stirling area, with new bridges, better road surfaces and probably some straightening and widening of the roads. In Stirlingshire this work was co-ordinated by the Justices of the Peace, whilst in Clackmannanshire the Justices joined in a more general committee for administering the sheriffdom. They used a combination of statute labour, taxes, fines and charitable donations to finance the work, which was sufficiently effective to make a recognizable contribution to the local economy. It is likely that similar improvements were taking place in other areas, at least in southern and central Scotland, during the same period. An alphabetical Appendix of the bridges recorded in this paper, giving further details of dating, work undertaken etc will be deposited with the National Monuments Record of Scotland and with Stirling Council Archives.

INTRODUCTION & BACKGROUND

There has been surprisingly little study of pre-modern roads in Scotland.¹ Almost a century ago Inglis argued that in the early 16th century there was ‘nothing that could be called a road in a modern sense’; he suggested that ‘regularly constructed or paved roads of definite width’ appear only in the 17th century (Inglis 1911–12, 303). Inglis gave no evidence to support his hints of 17th-century improvements, and Moir (1957, 171), who noticed the potential of the legislation of 1669 and its later modifications, assumed that ‘neglect was still general’. However, Moir’s study was entirely based on central records. It seems more likely that the Privy Council were more concerned with berating negligence than with awarding laurels for progress. Barrow (1984, 49–66) argued for a widespread network of roads in the 12th–14th centuries. Many were suitable for wheeled vehicles and allowed the transport of heavy military machinery but

Barrow thought these might have deteriorated in later centuries. There were a good many medieval bridges in Scotland, many of wood; river crossings, whether bridges, fords or ferries, were always potentially dangerous and had the effect of funnelling traffic (Barrow 1984, 59–60). Ruddock (1984, 67–9) wrote that, in the early 18th century, ‘cart roads’ such as the road from Edinburgh, via Stirling to Doune, useable by wheeled vehicles, were causeyed or calsayed (cobbed or surfaced with stones). Other roads might have a surface of only gravel and sand, and horse tracks were merely marked out and had no made surface at all. Ruddock (1984, 73–82) also discussed the structure of medieval and post-medieval bridges. Rackham (1986, 248–9) made it clear that, in areas of high rainfall and deep soils, where most land belonged to someone and where dangerous river-crossings were to be avoided, roads were essential and had the added advantage of reducing the chance of getting lost. Stell considered ferries, fords and bridges

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in Scotland from the later medieval period to third quarter of the 17th century, recognizing the potential for change following the legislation of 1669. The heavy costs for building and maintenance of bridges were usually borne locally, whilst frequent collapse and re-siting has implications for archaeology. Stell also noted that the documented or surviving bridges are the upper end of a wide range of bridge types, including many mainly of timber; he takes a more encouraging view of 17th-century road surfaces than most other writers (Stell 1988, 32–4, 37–8). Regional studies of roads tend to concentrate on later periods, though Silver (1987, 8–13) recognized that legislation in the 17th century was not without effect. Bailey (1992) discussed bridges, fords and ferries on the Carron over several centuries, and Page (2001) discussed Stirling Bridge over an equally long timescale. Various local roads and bridges are described by RCAHMS (1933; 1963).

ROADS

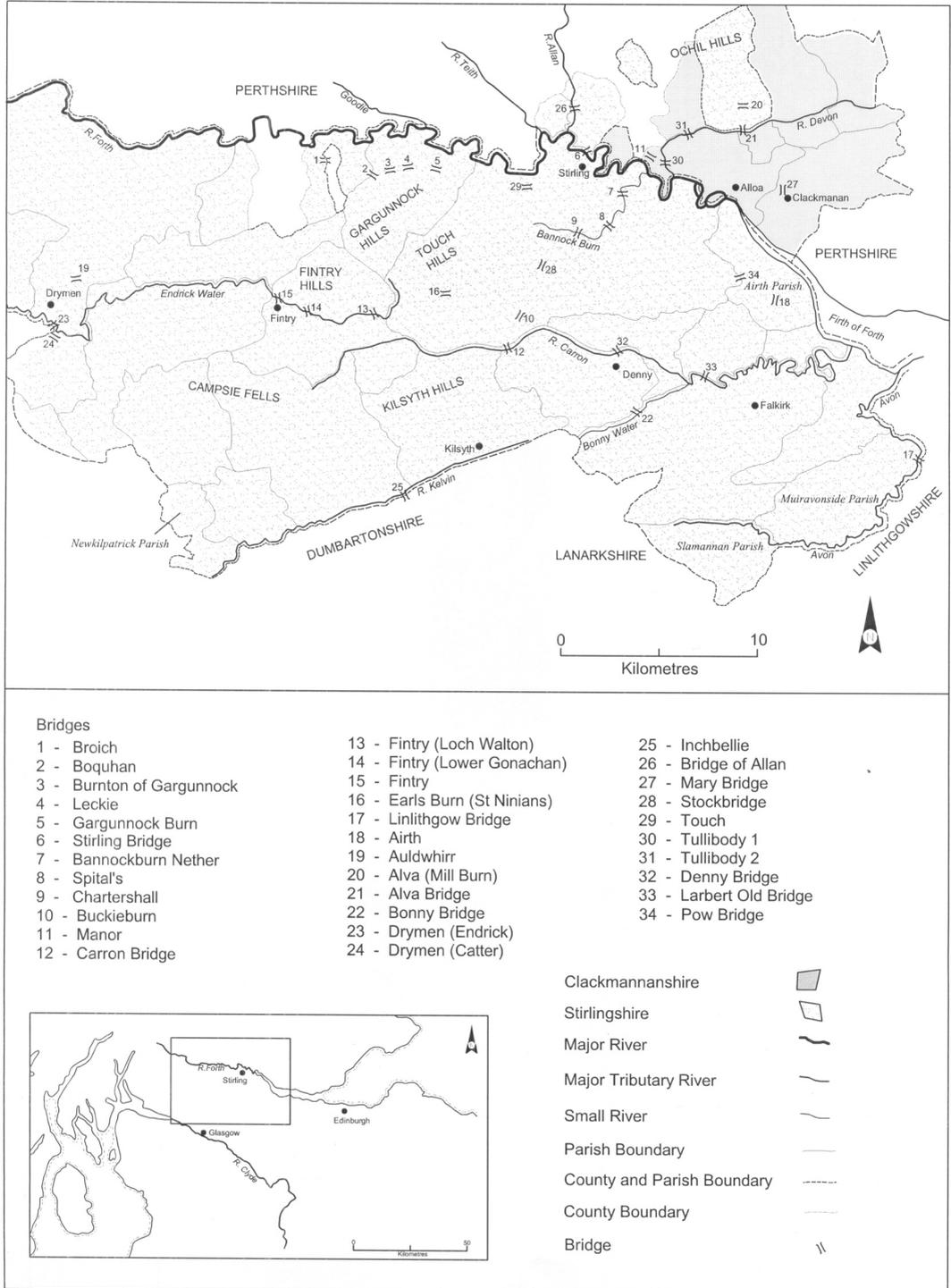
It may be that one cause of the dearth of studies is a perception that there is a shortage of documentary evidence. For the Stirling area, at least, this is a mistake. From the 1660s onwards, the records of the Justices of the Peace for Stirlingshire and of the County Committee for Clackmannanshire give considerable detail about efforts to improve roads and repair or build new bridges.²

In the later 16th and early 17th centuries, there was a well-recognized hierarchy of public roads in Scotland: the routes of national importance (particularly the main routes leading to Edinburgh), lesser roads between towns and the roads leading to kirks and markets, of local importance only.³ Below that, the charters in the Register of the Great Seal of Scotland show a profuse network of tracks, loans and paths, linking settlement with settlement or linking specific resources such as peat banks or mills; these routes were important for daily life but were essentially private property. Because carts

were widespread in the Stirling area, even in the early 17th century, these routes must have been able to deal with wheeled vehicles and many must have had simple bridges.

Two routes of national importance traversed the Stirling area. The main route between Edinburgh and Glasgow entered Stirlingshire at Linlithgow Bridge over the Avon, passing via Falkirk, along the Bonny and Kelvin valleys to Kilsyth and so west to the Dumbartonshire border. The other nationally important route branched from this west of Falkirk and ran via Larbert Bridge to Stirling with its important onward links.

From 1610, the Justices of the Peace were charged with maintaining roads, with a particular duty to resist encroachments on highways or attempts to divert them (RPC 2nd Series VIII, 303–4). Roads were generally to be made passable by coaches and carts. Many bridges are mentioned. Instructions issued in 1616, as preparations were made for an anticipated royal visit, record roads and bridges over a wide area; the responsibilities of Justices of the Peace for roads were re-iterated.⁴ But the records do not continue in the years following the visit, with a return to spasmodic central concerns about particular bridges. The 1620s and early 1630s saw further Privy Council activity in connection with proposed royal visits, for example in 1627 when the roads from Edinburgh to Linlithgow, from Stirling to Glasgow and from Stirling via Culross to Dunfermline and Falkland were amongst those to receive attention. It is almost a tradition to interpret this sparse material as indicating that nothing was done. However, James VI travelled with a huge royal baggage train over a very substantial part of Scotland, in the mid century; and armies managed to move field artillery about. Also, throughout the century, grain and coal and other heavy materials were routinely transported to and from the towns and markets.⁵ The hidden factors are statute labour and a near-independent local organization, neither of which has left records that are located readily.



ILLUS 1 Locations of main identifiable bridges in Stirlingshire and Clackmannanshire in the late 17th and early 18th centuries

Most major public roads in the Stirling area kept to firm ground, either along ridge routes or on ledges fringing the carse. The easiest of these routes to follow today, where something of their 17th-century character might be appreciated, are a road west from Gargunnoch to Kippen (bridges 1–5 on *illus 1*) and the one between Menstrie and Alva (crossing bridge 21 on *illus 1*).⁶ The carselands presented particular problems for pre-modern roadmakers as the clay was tenacious when wet, and froze or dried into hard ruts and ridges, whilst the absence of stones made surfacing difficult.⁷ One important local route to lie on the carse for a substantial distance was from Stirling Bridge to Causewayhead (the Lang Calsay) and so east, across Manor Pow (bridge 11), to cross the Devon by the bridge below Tullibody (bridge 30) where it took to higher ground. There were two recognized routes from Stirling to Bridge of Allan – the dryfield and the carse roads – the dryfield being the longer but probably nearer to an all-weather route.⁸ One evening in January 1642, Mr James Drummond said that he had intended to take the ‘over gait’ to Bridge of Allan but was persuaded to take the nether, though he knew it to be ‘ane darnt and obscure way’ [darn = excrement, ‘mucky’] and there he fell into a ‘deip and dangerus lair’, his horse up to its saddle in the mire.⁹ But such tales are unusual and Drummond acknowledged that the sensible route, at twilight in January, was the ‘over gait’ or dryfield road. Low and high routes in the Falkirk area are contrasted as the ‘deal’ and ‘muir’ roads to Glasgow, where ‘deal’ corresponds to the dale or valley route (Mitchell 1906, particularly 325).

BRIDGES

There are early records of several bridges in the Stirlingshire area. Stirling Bridge is on record from 1297 (though at times it was ‘down’). Dunblane (Perthshire) had a bridge by *c* 1409 (Dennison & Coleman 1997, 67; Page 2001, 141–65). Linlithgow Bridge is on record in 1518.¹⁰ The earliest parts of Tullibody Bridge,

linking Fife and Clackmannanshire to Stirling and Central Scotland, are early 16th century and a bridge is on record in 1560 (RCAHMS 1933, 312–13). There was a bridge across the Teith at Doune by the 1530s and at least one bridge across the Carron, probably at Denny, in the 15th century (RCAHMS 1933, 312–13; Bailey 1992, 55). There must also have been others, of less substantial construction.

River crossings presented particular problems; bridges were expensive to build and to maintain, ferries could be unreliable and many were entirely impractical for horses and cattle, whilst fording might be difficult, dangerous or impossible. In the first half of the 17th century, with no regular public funding, the cost of road and bridge maintenance was met by statute labour (in effect a silent subsidy for travellers), supplemented by tolls and charitable donations.

In the later 16th and early 17th centuries, the Scots Parliament and Privy Council showed periodic concern about specific bridges. Some local examples show how the system worked for bridges prior to 1669. In 1600, a local laird, Robert Seton, was admitted as a burgher of Stirling free in return for carrying out repairs to the important bridge at Tullibody at the town’s request (Renwick 1887, 96). In 1616, the inhabitants of Tullibody were granted a toll for three years for repairs on Tullibody Bridge (RPC 1st Series X, 555, 591; RCAHMS 1933, 312–13). In 1664–5, Stirling was again pressing for concerted efforts with local landowners for work on Tullibody Bridge, which they recognized as important for their business (Renwick 1887, 249).¹¹

The bridge over the Avon at Linlithgow was on an even more important route. By 1623–4, there was sufficient concern for one of the bailies of Dumbarton to be sent as commissioner for the town ‘to visit the brig of Lynlithgow that was decaying’, according to instructions from the Privy Council (Roberts & MacPhail 1972, 36); by 1626 it had fallen. The ford was difficult of access and passable only in a drought. Voluntary

contributions – presumably from commercial interests such as the Burgh of Dumbarton and from local people – had failed to raise the necessary funding and the town of Linlithgow was granted the right to levy a toll of 4d for each laden cart, 2d for each cow, ox or horse and 1d for each foot passenger for three years to come (RPC 2nd Series I, 371–2). The bridge, which survived until the mid 20th century, had a 1626 date stone.

Three years later, two bridges over the Pow at Airth – clearly on much less important routes – were dilapidated. The Privy Council decided that the inhabitants of the parish were those most closely concerned; they should meet with the Minister, decide how much two suitable stone bridges might cost and agree to tax themselves to raise the money (RPC 2nd Series III, 209).

At Denny, the bridge had been destroyed by a great thunderstorm and flood; houses and people were swept away, cutting the ‘ordinary passage from Stirling to Glasgow, Hamilton and other parts of the south and west’. The inhabitants petitioned the Privy Council in 1636 for permission to appeal for charity. But further investigation, significantly by the Justices of the Peace, found that much of the blame was attributable to a mill lade which ran through the north arch of the bridge and which belonged to ‘people of quality’. The Earl of Wigton was to ‘deal with’ these people and ensure that they paid their due share of the costs (RPC 2nd series VI, 305, 318). However, two months later, the Town Council of Glasgow agreed that they would contribute towards the cost of the work at Denny (Marwick 1876, 378), clearly on account of its importance for their business.

In the same year, the ministers of Larbert and of Falkirk and a town councillor from Stirling were presumably representing wider interests when they entered into a contract with a Stirling-based mason to repair the ‘decayed’ parts of the ‘brig of Larbert on the watter of Carroun’, particularly on its south side, but also some ashlar work on the north and a weir above

it.¹² It is not clear if the bridge had been damaged by the same flood as Denny Bridge.

In these cases, we can see an interplay of local and national, charitable and practical considerations at work. The involvement of the towns shows that the value of bridges for commerce was recognized. It is local people who took the initiative, even if they succeeded in persuading the Privy Council or Parliament or the burghs to support their appeal. But requests for assistance with bridge repairs from widely separate areas of Scotland, whilst showing the problems, also show the expectations.

At Scotlandwell, in 1642, a ruinous bridge forced people to take a difficult detour through ‘deepe diches and sinkeing myres’, to the hazard of their lives (RPC 2nd Series VII, 303–4). At Glen Luce (Wigtownshire), in the 1660s, the bridge over the Water of Luce was down, though it was on the main route between the south-west of Scotland and Ireland, and the river could be impassable for days together in a flood; the lack of a bridge cut the parish in two so people could not get to kirk or market and the children could not get to school, and several people drowned. Complaints from Berwickshire around the same time were in similar terms (RPC 3rd Series II, 167, 623–4), but what is being described is something abnormal: the petitioners expected others to sympathize with them, precisely because the situation was abnormal, not because all was rack and ruin everywhere but because functioning effective bridges were widespread and normal.

ROAD SURFACES

Evidence on 17th-century road surfaces is scarce. Clearly the temptation to extrapolate back from later 18th-century complaints and assume that things must have been worse a century before must be resisted. Complaints can reflect rising expectations or even unreasonable demands. The vastly increased and much faster traffic of the late 18th century put new stresses and demands on road surfaces. The preparations

in 1616 for the royal visit refer to making roads passable for coaches and carts, the latter of which would draw the baggage train. A target width of 16ft for roads left little enough passing room (RPC 1st Series X, 542, 548, 570) whilst bad surfaces might force travellers to trespass on the surrounding arable, particularly in winter (RPC 3rd Series IV, 468–9).

In Linlithgowshire, in 1633, one section of the royal route was ‘ane evill gaitt’ which needed to be calsayed; another section needed to be cleaned and the stones taken out. Much of the main route from Edinburgh to Linlithgow was barely 8ft wide and all needed to be cleared of ‘hills, braes and stones’. None of it was as good as it had been in the King’s father’s time, the report continued, with an appeal to precedent and the mythic past where everything was always better, which is hardly evidence that things really were getting worse (RPC 2nd Series V, 75–6).

Astonishingly, in parts of Fife in 1629, some road surfaces were ‘exceedingly good’ (RPC 2nd Series III, 138–41). The ideal was that the surfaces should be calsayed, a surface that seems to have been commoner in the vicinity of bridges and through settlements but was generally rare elsewhere. Almost all road surfaces in the larger towns were cobbled by the early 17th century, though mainly as an aid to drainage rather than to facilitate transport (Harrison 1998–9, 67–8). On rural roads, however, drainage and surface quality were inextricably linked.

LEGISLATION AND CHANGE

In 1655, under the Commonwealth, the office of Justice of the Peace was revived after a period of seeming dormancy. The Justices were to take appropriate and economical measures for mending bridges and highways, particularly to and from market towns and sea ports, by ‘laying a penalty’ on the county to meet the estimated charge. Further legislation stated that people who obstructed highways were to

be punished; roads to markets were to be 20ft wide, and wider if they had previously been so; roads to kirks were also to be maintained; it was forbidden to obstruct or alter roads; people who evaded their statute labour responsibilities were to be punished; and ferries were to be adequate for both people and horses (APS VI, ii, 833b: ‘Instructions to the Justices of Peace in Scotland, 1655’). This legislation introduced several new features, particularly the tax-raising powers implicit in ‘laying a penalty on the country’ and the 20-foot width, however aspirational that may have been. Like other legislation of the inter-regnum, these ‘Instructions’ were repealed following the Restoration.

Justices of the Peace were reinstated by Parliament in 1661, with their former responsibilities, though the new Act did facilitate diversions of roads around enclosures (APS VII, 306–14: ‘Commission and Instructions to the Justices of Peace and Constables, 1661’), something which the old Acts had forbidden (APS IV, 533–41: ‘Act Anent the Justices for Keeping the King’s Peace and their Constables, 1617’). Whyte (1979, 102–3) gives 22 examples between 1661 and 1706, from parliamentary and Privy Council sources, of people taking advantage of that provision. In Stirlingshire, in 1664, the Justices were meeting when constables were appointed in March.¹³ In June 1665, Stirling Burgh Council sent two representatives to a meeting with the Justices of the Peace of Stirlingshire and the magistrates of Glasgow about rebuilding Carron Bridge, the old one having been demolished in a flood (Renwick 1887, 249). In May 1667, the Justices were considering if dykes would prevent the sea from spoiling the highways below Falkirk at spring tides. That concern may be related to a petition to the Privy Council from the inhabitants of the Bo’ness, Kinneil and Linlithgow area (West Lothian) – probably directed by the Hamilton estates which had substantial holdings in the area – pointing out that the ways were ‘deep’ and, consequently, presented difficulties that could only be remedied by calsayed, which the

inhabitants could not themselves afford. A tax or a toll would ease the burden (RPC 3rd Series II, 560).¹⁴ At the same time, the Justices arranged to inspect the highway between Buckieburn and Chartershall, ‘that the same may be rectified’, and on 28 October 1668, they resolved that the roads should be repaired according to the Acts of Parliament. The constables were to warn the inhabitants ‘where his majesties highways lies’ to be ready with horses and all materials necessary ‘to make them passable, from burgh to burgh and place to place’. They appointed supervisors for those routes identified as priorities.¹⁵ However, as reported in December, in practice the season made it impossible to repair the roads; it was necessary for the Carron Bridge road to be repaired as soon as the season permitted. In addition, it was essential that bridges were built at Carron, Buckieburn, Stockbridge and on the Bannock Burn near Chartershall, and that the cost of repairs to Bridge of Allan should be estimated. The Justices resolved to apply to the Privy Council for right to levy customs from ‘all passengers and their carriages’ and took other local measures for raising revenue.¹⁶

In 1663, Parliament had granted two pleas on the same day. In the first, the landowners of Gargunnoch and Kippen pointed out that the bridge at Boquhan, on their shared march, had been destroyed by floods; it was not just important for themselves but for all those travelling between Edinburgh and the west. The landowners were granted a toll of 4d on each loaded horse, 2d on each unloaded horse, 2d for each load on a person’s back and various rates for livestock – as usual, this was a toll on trade. In the second plea, the landowners of Kippen pointed out that their distance from fairs and markets was a serious drawback and they asked for two yearly fairs, a plea which was also granted (APS VII, 484). The potential for improved roads to stimulate trade was to be an increasing theme, locally and nationally, over the following decades. Meanwhile, Stirling Burgh Council was pressing for the replacement of Carron Bridge (see above) and also for

something to be done about Tullibody Bridge ‘which is so usefull for this burgh and cuntrie’ (Renwick 1887, 249).

So, there had been a good deal of local activity even before Parliament passed a new Act in 1669 (APS VII, 574–6: ‘Act for repairing High ways and Bridges’). This noted that Justices had generally failed to maintain the roads and identified the reason as lack of sufficiently specific instructions. New rules for meetings and procedures in regard to roads were laid down and the statute labour responsibilities were redefined. The Act picked up on the 1655 legislation, again requiring roads to be 20ft wide at least, or wider if they had been so before; more radically, it set a clear target that roads should be passable by horses and carts during summer and winter. Where roads passed through arable land, the occupiers were to ensure that they were properly enclosed by ditches or hedges and, if that was not done by 1671, the Justices were to do it themselves and charge landowners for the work, a provision which must have appeared draconian. Equally radically, the Act recognized that statute labour and the sort of fines the Justices could levy for failure to serve would not be sufficient to meet the costs and so brought back the tax-raising powers of 1655. The Justices of the Peace were to meet annually, assess how much needed to be spent and could then levy 10 shillings (£0.5) Scots per £100 Scots of valued rent, for which they had to account to the heritors. The Justices themselves were to be fined if they did not fulfil these duties (APS VII, 574–6).

There is no doubt that, in Stirlingshire and Clackmannanshire, pressure from the Privy Council was important, particularly in the 1670s, in providing momentum to get the new systems up and running. This legislation was to have a major impact in Stirlingshire and Clackmannanshire, at least until the later 1680s, and probably a general effect at least over central Scotland. In practice, the Stirlingshire Justices were amongst those who had done at least something about their duties before this. True,

the Act required some refinement and, when it was discovered that in some places the Justices still refused to serve,¹⁷ similar powers were given in 1670 to other county commissioners (RPC 3rd series III, 160). It was under this provision that the General Committee for Clackmannanshire, which had been in existence since 1660, began considering roads from 5 May 1670.¹⁸ Further changes in the way the laws were administered were made in 1686 (APS VIII, 590) and there seem to have been considerable variations in organization in different areas (Silver 1987, 11). Meetings were held in both Stirlingshire and Clackmannanshire most years, usually about May, through the 1670s; later Stirlingshire meetings were more frequent. By May 1671, the permitted 10s in the £100 was being levied in Stirlingshire.¹⁹ Clackmannanshire seems to have avoided an assessment until 1675 (see below).

In Stirlingshire, a practice emerged of permitting local assessments within each sub-district, the funds ring-fenced for specific local projects. For example, money collected in Campsie parish in 1675 was retained locally for work on two specific bridges. Perhaps it was found that local 'ownership' lessened resistance and increased the 'take'.²⁰ More traditional means of finance, including tolls and voluntary contributions, continued to be important (see below).

The Privy Council proceeded forcibly against those who failed to act, with fines and other penalties which certainly stimulated both Stirlingshire and Clackmannanshire (RPC 3rd Series II, 358–60).²¹ The Privy Council also put pressure on the road authorities to report regularly, and those in Stirlingshire and Clackmannanshire did so. The Stirlingshire Justices explicitly accepted the standard 20-foot width for main routes and the need for enclosure either by dykes or head rigs – primarily to prevent ploughs and harrows encroaching on the roads.²² When a road was closed at Kerse Mill in 1700, the alternative route was to be made four ells wide, near enough 4m but significantly less than 20ft on this minor route.²³ However, few

records of the enclosure of roads, as required by the legislation, have been found and Morer writes disparagingly that 'their fields are open, and without fences, unless here and there they raise out of the road some little continued heaps of stones in the nature of a wall, to secure their crops from the incursions of travellers' (quoted by Hume Brown 1891, 267).

The modest flow of applications to move roads to accommodate enclosures, heard both by the Privy Council and Parliament (above) is at least sufficient to show that this was not a dead letter. In 1678, the lairds of Dorrator (Falkirk Parish, NGR: NS 87 81) were granted the right to close up two of three roads through their lands as they were superfluous and a single route would prevent disputes between drovers and the 'confluence of people passing these ways' (RPC 3rd Series V, 484–5). In 1687, Broune of Seabegs complained to the Justices of Stirlingshire that carts and pedlars travelling to Glasgow and other places were using a route through his wood, which was formerly only a foot road between neighbour and neighbour and so destroying the grass of his wood. The Justices agreed that the path could be closed and the travellers confined to the King's highway on the north side of the Bonny.²⁴ In 1699, two similar petitions were heard on the same day: Mr Charles Bennet was allowed to close a byway at Livilands, where he wished to enclose and where there was an adequate alternative route; at Buchlyvie, not knowing the ground themselves, the Justices appointed a committee to investigate a similar request.²⁵ Further similar cases were considered by the Justices.²⁶ Such local decision-making – cheaper, faster and simpler than having to go to Edinburgh – is a striking demonstration that the legislation was known and found to be useful. Closures of minor footways and tracks, prohibited and fiercely resisted prior to 1669, seem to become commoner in the 18th century as more people travelled on increasingly congested roads and sought short cuts, sometimes to evade the tolls.

FINANCING ROADS AND BRIDGES

Stirling Bridge and Linlithgow Bridge were outside the system discussed here; they generated sufficient revenue for routine maintenance, called down some charitable donations in a crisis and were routine revenue-earners for their respective burghs, which administered them. The Convention of Royal Burghs oversaw the charges for passage on the bridges and associated causeys pertaining to particular burghs and a few others of particular importance for mercantile interests.

The Stirlingshire Justices probably used the power granted by 1669 legislation to levy 10s in the £100 valued rent from the outset. By 1671 they had found that, if bridges were to be built, the permitted taxes would not be enough without central support.²⁷ In 1673, the Stirlingshire Justices asked the Earl of Callander (the Sheriff) to use the militia to enforce the Acts, although it is not clear what action was actually taken.²⁸

Clackmannanshire seems to have avoided any levy until 1675, when the Privy Council authorized a levy of 10s Scots in the £100 for repairing the Alva and Tullibody Bridges, with tolls exactable as well. By 1678, when two new (albeit small) bridges were being built, both in the vicinity of Manor, two years' tax (ie 20s in the £100) were levied to meet the extra costs.²⁹ True, in 1683, the Privy Council complained that in some areas taxes had not been levied, bridges had not been maintained and so on (RPC 3rd Series VIII, 176), but the Privy Council records and other sources suggest that the Stirling area was not unique in taking advantage of a new willingness to levy taxes to pay for public works.³⁰ By 1678, the Glasgow–Edinburgh road had been improved sufficiently for a stagecoach service to be instituted, an exercise which would have involved at least five local authorities as well as coordination by the Privy Council. An Edinburgh–Haddington coach was started about the same time (RPC 3rd Series V, 381), and there are hints of works in Fife, Angus and elsewhere.

The Valued Rent of Clackmannanshire³¹ was £26,482, and of Stirlingshire was £108,457 Scots, meaning that the 10s in the £100 tax would raise £132 and £542, respectively, in the unlikely event of full collection and zero costs. These were not large sums and even a full year's collection for Stirlingshire would not pay for a single large bridge. By the later 1680s, greater sums were being levied and perhaps some money was being switched from other taxes, though the precise mechanisms are not clear. Bridges at county boundaries were paid for jointly. On occasion, two or three years' levy might be exacted all at once, often on a local basis with the cash ring-fenced for specific, local projects.³²

The nominal statute labour force of Clackmannanshire was 120 men and 120 horses for 6 days in 1670;³³ their input might have been compensated by about 15s per day for a man and a horse,³⁴ £540 in all, or four times the value of the tax. People who failed to do their duty were fined – though because the force was sometimes deployed at short notice to meet specific needs, the cash would have been less useful than adequate numbers of men, horses, sleds etc on the days actually required. The full force was certainly not deployed every year, even in the 1670s and 1680s.

Tolls were clearly significant and expected to cover the costs of a bridge in a few years.³⁵ The payments exacted at Stirling Bridge, the only one for which figures are available for this period, include not just the charge for use of the bridge but also market dues. Indeed, the same charges were levied at other entrances to the town. Between 1660 and 1706, the bridge tolls were farmed for annual sums varying between £533 and £1167 with a fluctuating, modest but significant rise over the period. There was additional income from special levies for the various fairs and for some particular types of goods (such as horses) which usually brought in around £250 so that there were very few years when Stirling did not take £1000 from bridge collections (Renwick 1887, 304, 308; 1889,

408–11). Even though few other bridges in the area can have raised anything like that, the fact that people travelling any distance might have to pay to cross several bridges means that tolls must have provided much of the income.

The sentiment that bridge building was a pious religious activity persisted into the 18th century, in spite of the rising importance of taxation. David Stivenson, former provost of Stirling, left 300 merks as a legacy specifically for rebuilding the Carron Bridge³⁶ – originally estimated to cost 1000 merks (£666.6 Scots) though delays pushed up the final figure. Appeals for ‘voluntary contributions’ drew on this sentiment and were common and successful. In 1688 and 1689, a total of almost £90 was collected and reported for Carron Bridge and there were certainly other, unrecorded donations both from collections in local parishes and as gifts from towns likely to benefit.³⁷ When there was a shortfall for the Carron Bridge, a special plea was sent to Glasgow as the town’s trade would benefit and they had so far contributed nothing.³⁸ In 1692, the Privy Council authorized a voluntary collection for the regional roads and Stirling Burgh Council agreed to give a special intimation the week before and then make collections at the church doors (Renwick 1889, 67).

In Alva, in late 1685, the bridge over the Mill Burn was decayed and dangerous. The issue was considered by the Kirk Session, and a special collection raised £5 14s towards the eventual £8 12s 4d cost of a new timber bridge; the balance being made up from ‘the box’ (general kirk funds).³⁹ Another source of funds was the fines on various petty offenders. After 1692 or so, in particular, the Stirlingshire Justices were regularly exacting fines from alleged fornicators, raising £90 in a few days in 1695.⁴⁰ A request that the fines on the fornicators of western Stirlingshire should be ring-fenced for the bridges of Boquhan and others in the area was, however, rejected because the Carron Bridge was the priority of the moment.⁴¹

By the early 1690s it seems that the Stirlingshire Justices were no longer levying the

assessment; their only income was from fines supplemented by whatever could be gleaned from voluntary contributions and tolls. The fiscal deterioration was not catastrophic – as has been seen, the assessment was worth only one quarter of the statute labour and income from tolls and voluntary contributions continued. However, the decline corresponded to personnel changes, the disruption of the war of 1689, the famine of the late 1690s and other changes, touched on below; there seem to be extended periods when even the statute labour was not deployed. Some of the work done in the early 1690s was probably not fully paid for several years later.⁴² Some later work was done on road surfaces and a few minor bridges were either built or repaired but the impetus of active improvement was lost. The real collapse was organizational and there is no sign of a recovery prior to 1707. The decline in Clackmannanshire seems to have been even sharper, with no work recorded from 1687 to c 1715.

AIMS & OUTCOMES

Some general trends can be detected amongst the plethora of detail in the local and national records. Initially, both Privy Council and the County Commissioners were mainly concerned about repairing existing bridges and with remedying the worst defects in the road surfaces, setting priorities according to the old hierarchy of major routes, locally important routes and minor byways (RPC 3rd Series IV, 27–9). Both Stirlingshire and Clackmannanshire followed these directives to a large degree.

In Clackmannanshire, all the effort in 1670 and 1671 seems to have been on the road surfaces on the main east–west route via Kennet, Clackmannan, Alloa to Tullibody Bridge and so to the Stirlingshire march (linking bridges 11, 30 and 27). Only in 1673 is work in Dollar mentioned and thereafter the northern parishes seem largely to have taken care of their own network, again concentrating on the main

east–west route along the Hillfoots.⁴³ By 1678, and perhaps before, the Clackmannanshire authorities were also focusing on calysaying the roads, with the statute labour gangs transporting stones and sand for specified sections along the main Kennet–Alloa–Tullibody route and on to the march with Stirling and also along the Hillfoots route, perhaps also on the ridge route through Coalsnaughton and some of the north–south routes, linking the Hillfoots route with the Stirling–Clackmannan route.⁴⁴ Work leading stones and shingle and other materials for the surfaces was undertaken in 1682 and 1683.⁴⁵ In 1684, they noted confidently, work would soon be completed on ‘the remaining defects’,⁴⁶ though in 1686 there were still some ‘filthy slaps’ [holes] east of Craigmill.⁴⁷

The Stirlingshire system was more complex and the size of the sheriffdom meant that statute labour could not all be concentrated on one or two routes. The county was divided into districts, most consisting of three or four parishes, each with its own supervisor and statute labour gangs; in that way, each Justice knew ‘the tasks incumbent on them in the said work’.⁴⁸ Initially, priority was given to strategic routes, particularly the roads from town to town or market to market.⁴⁹ The Falkirk area seems to have progressed particularly rapidly – it was populous, had some substantial farms and estates and included the main Glasgow–Edinburgh route.⁵⁰ By July 1671, the Stirlingshire Justices reported that they had repaired all the King’s roads (so far as they fell within their area) viz: Linlithgow to Stirling (via Falkirk & Larbert); Stirling to Glasgow (via Kilsyth); Stirling to Dumbarton (via Kippen and Drymen – bridges 23, 19, 1–5 and 29); Glasgow to Linlithgow (via Kilsyth); Stirling to Dunblane (via Bridge of Allan).

All were now usable both summer and winter or work was underway to make them so. However, it was recognized that ‘There is many uther by wayes which is most fitt to be helped But the publick [ways] must be First perfytit’.⁵¹ In 1676, the Privy Council complained that

sections of the Glasgow–Edinburgh road between Hollinbush and Inchbellie (ie Kilsyth parish) were still not passable to coaches, carts and wains in many parts and that travel and commerce were impeded. Those who had been appointed supervisors were to be prosecuted (RPC 3rd Series IV, 505–6). Quite clearly, the Privy Council now regarded most of this major route as broadly satisfactory. This improvement was confirmed when license was granted to start a stagecoach service on the Glasgow–Edinburgh route in 1678 (RPC 3rd series V, 483–4), a move which can only indicate greatly improved road surfaces, facilitating travel for all sorts of vehicles. Thereafter, there is some evidence of work on quite minor roads in Stirlingshire but work on road surfaces is less prominent in the records, probably because in most areas it was being routinely dealt with by statute labour. An interesting late record is of the improvement of the carse route from Stirling to Bridge of Allan to make it suitable for coaches in 1703.⁵²

By 1675, Clackmannanshire embarked on work on Alva and Tullibody Bridges and, in 1678, two small bridges were being built in the vicinity of Manor and taxes levied to finance them.⁵³ Parliament granted rights to collect tolls to finance rebuilding of the main Tullibody Bridge (bridge 30) in 1681 and there was further work, perhaps extension of the bridge, in 1702 (above). In July 1686 it was decided that the Mary Bridge, across the Black Devon near Clackmannan, needed two extra arches, one on the south side and one on the ‘treuch’ [probably a variant of ‘troch’ and in this case a flood channel] on the north side, and an additional pend on the shell of the old bridge, so that it would be of three arches, 10ft wide within the ledges. That work, together with the two new bridges at Manor, forced an assessment on the shire but still, in March 1687, the mason said that he would either need the statute labour to carry stones and other material or he would need an additional £120 Scots.⁵⁴ A 17th-century bridge, crossing the Devon half a mile north of Tullibody on the Menstrie road (Tullibody

2), must have been built after 1674 when Alva and the main Tullibody Bridge were said to be the only crossings of the Devon in that area. It had a 17th-century blazon for Abercromby and Gordon on the parapet and was only 10ft 6in wide (RCAHMS 1933, 313; RPC 3rd Series IV, 294, 404). In May 1671 the Stirlingshire Justices approved the Laird of Sauchie's report:

in sua farr as he hes made the hiewayes so passable But in respect of ye vaste expense these [proposed] bridges will amount to The Justices thinks fitt to delay the same till a more Convenient tyme.⁵⁵

One exception was the bridge over the lower Bannock Burn, 'towards the kers of Polmaise', for which a public appeal had already begun; the wording of the Minute is ambiguous but seems to imply that the local people would be excused the year's public road money in view of their efforts on this project.⁵⁶ So, in July 1671, Sauchie agreed to pay for a piend bridge [peen = with a pointed arch] over the Stock Burn himself; later he would make enquiries about getting the work done on the other bridges at lesser cost. At the same time, the Laird of Keir reported that work at Bridge of Allan would cost 300 merks whilst others reported that work on the Stirling to Boat of Catter (Drymen) route was in hand, with little cost expected for the public, except repairing two bridges.⁵⁷ Consistent with Privy Council directives, it was noted in May 1673 that the bridges already standing but in hazard of falling should be repaired before any new ones were built; new bridges were needed at Torwood, Auchinstarry, Mumrills Burn, Abbeytown of Airth and Leckie.⁵⁸ These decisions could result in real – and surprisingly prompt – action. The bridge at Leckie is dated 1673, the year when need for one was first noted (RCAHMS 1963, 410), and the inhabitants of Falkirk were carrying stones for the Mumrills Burn bridge within weeks.⁵⁹ A bridge mooted for the upper Carron in 1668 was being constructed in 1670 when the theft of some of the building materials was investigated; the bridge was inspected with

a view to repairs in 1677,⁶⁰ though it seems to have fallen again and was not rebuilt until 1695–6, when work again proceeded very rapidly following a decision (see below).

It is not always clear which bridges were totally new, which substantially rebuilt and which merely repaired. A bridge had been mooted at Gargunnoch in 1655 but, in 1675, three local lairds proposed to build a stone bridge there, with a sufficient arch of stone, recovering some of their costs from a local levy.⁶¹ The bridge would link with the Leckie Bridge of 1673, the Boquhan Bridge of 1663, the Broich Bridge, mentioned in 1675 and 1677,⁶² and so west to the Bridge of Catter at Drymen which seems to replace the previous Boat of Catter about 1683.⁶³

Many of these flimsy bridges were probably of timber. A timber bridge crossed the Devon, between Alva and Alloa but in 1674 it was reported to be useless and was replaced with a stone one (RPC 2nd Series II, 294, 404). The bridge across the Water of Bonnie was to be inspected in 1688 and the costs of a stone bridge estimated.⁶⁴ Timber bridges were replaced with stone ones at Chartershall, Kilsyth and probably at Buckieburn in 1696 (see below). A bridge at Greenloaning in 1722 consisted of four piers of stone, covered with planks of oak and flags of stone.⁶⁵ Small, local bridges would continue to be mainly of timber for a long time but the trend, on the main roads by this time, was to build stone piend bridges. A bridge at Redburn, on the march between Stirlingshire and Dumbaron near Cumbernauld, was to be a stone and lime piend bridge, 9ft in breadth and only 3ft high, the cost (shared with the Dumbaron authorities) was to be only £76 Scots though statute labour would do some of the work.⁶⁶ And there are intermittent references to two other minor stone bridges in the Drymen area.

A surprising effort was put into the bridges on the road from Chartershall, via Buckieburn and Carron Bridge (bridges 9, 28, 10 and 12) to Kilsyth. It had been one of the first priorities mentioned by the Stirlingshire Justices, and a

former bridge at Carron Ford was replaced in the 1670s (above) but seems to have been down again by the 1688 when a contract was entered into for a bridge there to be:

ane large arch of brotched [chiselled] work from the one side of the water to the other being fourty eight foot betwixt the limmers [meaning not clear] of the pend and the height convenient . . . and ten foot up and downe the water betwixt the two outer heads of the pend.⁶⁷

There was to be a side-wall and various defences against floods and the bridge was to be calsayed. The masons were to furnish all the freestone, whinstone, lime, timber and sand as well as doing the work but the Justices would arrange for permission to work the quarries, provide horses to carry the materials and also statute labour for some of the other unskilled work. They were to pay 1000 merks (£666.6 Scots) in three instalments. In practice, technical doubts and the disruption of 1688–9 meant this work was delayed until 1696 when a slightly different site was chosen and the costs had risen significantly. Whilst work was underway at Carron in 1695–6, agreements were entered into with the same mason for stone bridges at Buckieburn and Chartershall and some materials, such as the timber coumes [false-work used to support the arch till it was complete and stable], were moved from Buckieburn to Chartershall.⁶⁸ The line was completed by replacing a timber bridge near Kilsyth with a small stone one, costing only about £80 with whatever local contributions could be raised.⁶⁹ The mason, Harry Livingstone, was to insert into the face of each bridge a ‘stone, purposely wrought and built by way of boxing with cornice about it, with the words BUILT BY THE JUSTICES OF PEACE OF STIRLING SHYRE IN ANNO 1696’.⁷⁰ The stone from the Chartershall Bridge survives and is now in the Smith Museum, Stirling. Sibbald (1898, 28), writing in the early 18th century, refers to the Carron Bridge as the New Bridge of Carron, on the march between St Ninians

and Kilsyth parishes, and Defoe (quoted by Harvey 1908, 94) gives a hair-raising account of crossing it in the 1720s.

Defoe says that his party, travelling from Kilsyth to Stirling, ‘mounted the Hills, black and frightful as they were’ and had need of a guide to direct them (quoted by Harvey 1908, 93). The investment in this route is the more surprising as there was a much easier route from St Ninians via Denny to Kilsyth, on lower ground and already well established. It was not primarily to facilitate wheeled transport as stones were to be set at the entrances to the bridges to prevent carts using them and the ford at Buckieburn was levelled to facilitate their passage there;⁷¹ there was also a ford as an alternative to the Carron Bridge. The incomplete evidence of the voluntary contributions for Carron Bridge suggests that the Duke of Montrose, and his feuers of Dundaff and other places in the immediate locality, gave a disproportionately generous ‘voluntary contribution’: £25 compared with many local baronies and some entire parishes contributing only £2 or £3. Contributors also included the chapmen-peddlars of Stirlingshire and the merchants using Crieff Fair, who contributed £10.⁷² The route could well have been attractive to drovers as an alternative to the low ground route via Denny and there are hints that local farms may already have been leasing grazing and selling hay to them, hence their interest in promoting the route.

Minor bridges mentioned such as those at Aldwhirr, Drymen, were probably even less suited to wheeled vehicles. Others of the older bridges, such as Larbert, Denny and Bridge of Allan, which were repaired during this period, were already stone.

The Chartershall–Kilsyth line of road and bridges represents something of a last flourish for the system. The settlement and war of 1689 left Stirlingshire deeply divided. Many of the elite of the previous 30 years, more or less Episcopalian and Jacobite in sympathies, were excluded from public office for refusing the requisite oaths of loyalty. Their successors were less experienced

and seem to have been under less pressure from the Privy Council in the matter of roads and bridges. The disruption of war was followed by the famine of the later 1690s and there are signs of factional power struggles within the county administration. Without the assessment (see above), income would fall significantly. The statute labour forces were out from time to time to deal with particular bridges (Boquhan, Bonny Bridge and intermittently at Carron, for example) and particular stretches of road. But from the mid 1690s onwards the Stirlingshire Minutes complain frequently of inquorate or very poorly attended meetings and note their own failure even to repair the roads with any regularity. In Clackmannanshire, meetings ceased altogether from the late 1680s. But, from the early 1660s to the mid 1690s, the system had built several new bridges and repaired others – albeit some of them seem to have been fairly flimsy. The main roads – and perhaps some of the lesser ones, too – now had better surfaces. Systems had been instituted which could deliver significant benefits, at least under favourable circumstances. What effect did these changes have?

IMPACTS

The improvement in the road system was not just a technical achievement but also a complex administrative feat, both locally and nationally. It involved setting priorities, drawing in the revenues, coordinating a number of local efforts, organizing labour. The Privy Council played a key role in that coordination, for example they gave instructions to deal with existing bridges before embarking on new ones, or to make roads passable by wheeled vehicles both summer and winter – in modern parlance, they were setting priorities and targets and insisting on joined-up thinking. This represents a new relationship between central and local government in Scotland – and the Stirlingshire Justices' plea for central support for capital projects completes the picture of modernity. The achievement is

the more impressive when it is recalled that the political changes and war of 1688–9 meant a near-total cessation of work until late 1693 when work resumed with a radically re-configured bench of Justices.⁷³ The famine of the later 1690s must have had serious impacts on revenue collection.

Local petitions, doubtless drafted by Edinburgh-based 'lobbyists', emphasize three main reasons why their projects should be supported: commerce, the utility of the route to travellers between different regions of Scotland and the importance of maintaining local links with Edinburgh. Clearly, these were selling points, likely to elicit the sympathy and support of the Privy Council and the lobbyists assumed that the Council had a project to expand the economy, had a sense of the transport system as important in fostering links across the nation and wished to develop the importance of Edinburgh as a central (controlling) point.

The local bodies also had to work with other authorities on projects at their marches, particularly on bridges. Stirlingshire had to work with Dumbartonshire to achieve bridges at Catter and Redburn, with Perthshire on Bridge of Allan and with Clackmannanshire on Alva Bridge – Alva being in Stirlingshire but the south end of the bridge in Clackmannanshire. The east end of Tullibody Bridge was in Clackmannanshire, the west in Perthshire and the road from there west to Stirling passed through all three counties which were bizarrely intermingled. Both Stirling and Glasgow lobbied for improvements, particularly with regard to bridges, aware as their merchant elites were of their importance to trade; contributions for Carron Bridge came from as far away as Perth. The Convention of Scottish Burghs took a keen interest in bridges, regulating tolls and encouraging towns to contribute to voluntary collections.

The Justices had to account for the money raised in taxes to the heritors at annual meetings. There are no records of those meetings but they were, surely, occasions for each district to lobby for its own slice of the cake – just as the heritors

of the western parishes wanted to keep the fines levied on their local fornicators. The road authorities, whether they were Justices of the Peace, Commissioners of Supply or of Excise etc, were not elected but they were expected to be accountable, and that was also something new. A more subtle impact was the development of the 'police', as the constables, appointed regularly from 1663 on, were the primary means of citing and deploying the statute labour force. It was the constables who cited the fornicators to appear and pay their fines but they were also involved in apprehending offenders and other, more obvious, police-like functions (Harrison 2001, 21–3). The constables were operating before the road programme entered its most active phase but their utility for the roads programme must have underscored their utility for other functions.

The improvement of the Glasgow–Edinburgh route was surely the biggest technical achievement of this whole episode. The institution of a coach service was a symptom of improvements in the road surface which were far more important than the tiny numbers of people who would travel in the coaches themselves. Even without the improvements on other, more local routes, it brought much of central Scotland into easier communication with both Edinburgh and Glasgow. James Jaffray, carrier in Milton of Bannockburn, parish of St Ninians, was dead by 1670, the first carrier noted for the area; there were six further testaments of carriers registered by Stirling Commissary Court by 1706, several of them from St Ninians and Bannockburn, areas with significant coal industries and good local and regional road links.⁷⁴ By 1683, there was a regular weekly carrier operating between Stirling and Edinburgh, probably John Kemp.⁷⁵ Three carriers are named in a dispute in Stirling in 1692.⁷⁶

Some road surfaces were clearly less satisfactory than Glasgow–Edinburgh. Sleds and slypes, rather than carts, were used to transport stones for the bridges on the Chartershall–Kilsyth route and remedial work with spades

and mattocks was needed to remove hills on the approaches to the bridges, even after they were finished.⁷⁷ However, the chains of bridges along routes which were primarily of local importance are impressive. Airth Parish at first seems to have more than its fair share of bridges. However, this was a richly fertile area, with significant shipping and even ship-building and its largely flat terrain was traversed by a number of meandering streams, deeply incised into the carse clay. It needed bridges and could afford them.

By 1706, there were at least five stone bridges between Stirling and Kippen, although the western limit of this line, Bridge of Catter across the Endrick at Drymen, was only intermittently bridged. The Chartershall–Kilsyth route was complete. The Causewayhead–Clackmannan route had gained at least one new bridge, others were improved and both Tullibody Bridge and Mary Bridge had been extended. Bridge of Allan had undergone major repairs.⁷⁸ The evidence for building in, say, Campsie parish or at Bardowie, is less clear. Other bridges on the low ground, Stirling Bridge itself, Larbert and Linlithgow, for example, were maintained but do not seem to have required major work during this period, clearly because they were already of an acceptable standard.

What happened in Stirlingshire and Clackmannanshire, however halting and partial it may have been, was not a mere series of isolated projects, to be compared with an individual landowner's decision to enclose, to lime, to nurture the woodlands. It was a programme. In the first instance, that programme was driven by the central agency, the Privy Council, but local landowners and mercantile interests carried it forward. The organizational innovations must have been underpinned by changes in attitude, by an acceptance that it was possible and permissible to use infrastructural change to effect social, political and economic change. In parallel with the roads programme, other changes were underway in the local economy and landscape, some probably consequent on the roads programme, others sharing common causes.

The most obvious such change was that, in 1681, the town of Stirling reorganized and re-sited several of its markets and built a new Meal Market and Corn Exchange close to the foot of the long hill on which the town was situated, at the site now occupied by The Athenaeum, the junction of modern Baker Street and Spittal Street, a site accessible to wheeled vehicles (Renwick 1889, 32–3; NLS Ms 1646.Z02/21b). The improvement in the roads was also, almost certainly, a factor in the development of farming on the western carselands. East of Stirling, particularly close to the shores of the Forth, a fertile fringe had developed even by the early 17th century. It depended on ship-borne lime to maintain fertility and support a sophisticated agricultural regimen of three- and four-course rotations, producing wheat, legumes, barley and oats for the market (Harrison 1997, 72–8). By the later 17th century, the productivity of the area was encouraging moss reclamation at Throsk and Bandearth (Harrison 2002, 459–61). Lime was in regular use, too, in lowland areas of Denny and St Ninians, certainly by mid-century.⁷⁹ But west of Stirling, though the underlying soils are substantially similar to those of the eastern carse, there is no hint of a fertile zone in the first half of the 17th century. For example, a cluster of testaments around Frew, the best-drained part of the area, shows a group of substantial farms with significant numbers of livestock and clearly fairly well capitalized. But their produce was largely low-grade oats, some barley and dairy produce, with few legumes and no wheat (Harrison 2003, 68–74). The first hint that lime, perhaps from local sources, might be being used west of Stirling comes from a 1676 tack at Meiklewood, Gargunnoch, where ground seems to have already been enclosed to form ‘parks’ and the landlord undertook to supply lime, which the tenant was to transport. There follows another reference at Little Kerse, Kippen parish in 1677, although there it is only hinted at as a possibility.⁸⁰ Lime was clearly seen as an agent of improvement at Craigforth in 1683 where the rent was to increase as lime

was applied explicitly to the outfields, land previously left unmanured.⁸¹ By 1695, the use of lime had spread as far west as Easter Mye, near Buchlyvie,⁸² and about that time also, a landlord agreed to supply two boatloads of lime at Inchmoy, Port of Menteith. Ramsay of Ochertyre, a well-informed local man, identified 1700 as the period when lime began to be used extensively on the western carse and recognized that it was the key factor in transforming the area.⁸³ By the 1720s, the use of lime was widespread in the western carselands and was soon to result in pressure for systematic moss clearance there. Lime, in sufficient quantity to be useful, is heavy and difficult to handle. The source is not always given but much of it, for example lime from the upper Bannock Burn area or from Balgair (Kippen), must have been transported by road (Harrison 1993, 87; 2003, 77–9). Liming was explicitly associated with enclosure at Meiklewood and implicitly at Craigforth. By the 1710s, local records of field hedges begin to appear in sufficient numbers to suggest that older records are waiting to be found. The first hedges were very likely to be along the roadsides and/or to enclose ‘improved’ roads.

IMPLICATIONS

It is easy to see this sort of change as merely a harbinger of more rapid, substantial and sustained change to come in the later 18th century; there can be no doubt that it provided a springboard for that change. But the documentary evidence, supported by the evidence of surviving and recorded bridges, is that there was real and important change on the ground and that the road and bridge improvements had a locally significant economic impact. The documents discussed indicate new bridges being built and old ones improved, perhaps by upgrading from timber to a stone-built piend bridge or by extending multi-arch bridges to alleviate flood problems. Upstream engineering to protect

bridges was understood and the Carron Bridge was re-sited and re-designed to cope with the flood problems. Even very minor bridges could have a considerable impact in facilitating wheeled transport. Road surfaces were improved by levelling and by laying gravel, sand and, in places, by calysing the surfaces. Examples of work from this programme survive – the 1673 bridge at Leckie being the best example. Large parts of the route west from Gargunnock to Kippen and beyond can be followed as tracks and field paths where parts of the surfaces might survive. Fieldwork might yield other examples where hints of bridges and road surfaces might be identified on abandoned and downgraded routes or altered approaches to old bridges. The documents suggest that such remains should not always be dismissed as the products of the better-known roadbuilders of the 18th century.

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NOTES

- 1 Haldane's two books (1952; 1962), one first published over 50 years ago, continue to be popular and useful, though his readers do not always recognize, as Haldane did, that not all roads in 18th-century Scotland were either drove roads or military roads.
- 2 NAS SC67/83/3 is a compound volume including material for the Stirlingshire Justices of the Peace from 1663 to 1688 bound in with records for the Commissioners of Supply, of Excise etc. A recently recovered volume, SCA JP19/2/7 Minutes of the Justices of the Peace for Stirlingshire 1688–1723, continues the story up to and beyond 1706. For Clackmannanshire, a volume catalogued as Minutes of the Commissioners of Supply 1660, 1667–1763, in fact contains the Minutes of a Committee for Administering the County from the 1660s to about 1688, with later material, the Committee acting as Justices of the Peace, Commissioners of Excise and Militia etc.
- 3 RPC 1st Series VIII, 425–6 & 731, for the importance of Glasgow–Edinburgh route in 1610; RPC 2nd Series VII, 202, 228–9 & 327–8, for links to Port Patrick and Ireland; APS IV, 536, for highways between towns and to parish churches in 1617; see also APS V, 702a, for 1641 information and APS VII, 307, for the year 1661.
- 4 *Acta Dominorum Concilii*, 1504–54, page 118, where named as Bridge of Avon.
- 5 APS III, 108, for Tay Bridge; APS III, 214, for bridges of Leith and Cramond; APS III, 519–20, for Ayr and Irvine; APS IV, 85, for South Esk; RPC 2nd Series VIII, 303–4, Instructions to Justices of Peace, 1610; RPC 1st Series X, 542–3, 548–9 & 570–2, for work in 1616; APS IV, 538, for 1617, when Justices had charge of highways from market towns to ports and from towns to kirks.
- 6 RPC 2nd Series I, 536–8, 578 & 614–5, for work and routes in 1627; RPC 1st Series XI, 42–3, for Cramond Brig as the route to the west, pages 76 and 92 for highways in Berwickshire and page 113ff for measured distances on the roads.
- 7 Gargunnock Bridge to Bield Farm, track to Leckie Bridge (1673 at NS 690 945) track to Milton then to Boquhan Bridge (had fallen down and was to be replaced in 1663), track to Shirlarton and road to Kippen then via Rennie's Loan to Broich. Menstrie Old Bridge (apparently 18th century at NS 849 971) then via Ochil Road and track to Alva.
- 8 Contrary to popular belief, most of the carselands were not covered in peat in the historical period (Harrison, forthcoming).
- 9 NAS SC67/49/9, fol 1: the dryfield highway from Stirling to Bridge of Allan in 1682. It was here in the Westerton area, adjacent to Scobbie's Brae; SCA JP19/2/7, 2 February 1703, for the highway 'through the kerss from the bridge of Sterling to ye bridge of Allan'.
- 10 NAS SC67/1/2, fol 96r–97v: the two men in this incident 'went togiddder langis the calsay of Stirling' till they came to the land of Spittal, 'qr the over gait devydis fra the nether gait to Athray'.

- 11 NAS E82/55/5, 1664–5 discharge, page 10: payment to Robert Stivenson and James Russell going to Tullibody about the bridge.
- 12 SCA B66/25/677, 6 May 1636, contract to build a bridge on the Carron at Larbert.
- 13 NAS SC67/83/3: the section relating to the Justices of the Peace, which starts about two-thirds of the way through the volume, is paginated but other, earlier parts of the volume are not. For the constables and their police role, see Harrison 2001, particularly pages 21–3.
- 14 NAS SC67/83/3, page 8, May 1667.
- 15 NAS SC67/83/3, page 8, May 1667; *ibid*, page 11, 28 October 1668.
- 16 NAS SC67/83/3, page 13, 22 December 1668.
- 17 There were few legitimate rewards to offset the potential for being fined for absence and non-compliance, and an absolute need to force neighbours and others to pay money and do work they bitterly resented.
- 18 CLA CC1/1/1, particularly fol 8r, 5 May 1670.
- 19 SCA SC67/83/3, page 25, 30 May 1671.
- 20 For example, SCA SC67/83/3, page 36, 19 March 1673; *ibid*, page 39, 2 April 1673; *ibid*, page 68, 23 May 1676: Glen Bridge, Church Bridge and Bridge of Calder were repaired according to the former Acts and this cost £12 which was to be paid out of the half crowns of Campsie; *ibid*, page 87, 16 October 1683.
- 21 CLA CC1/1/1, fol 10r, 6 May 1671; NAS SC67/83/3, page 22, 9 May 1671; *ibid*, page 35, 19 March 1673.
- 22 NAS SC67/83/3, page 35, 19 March 1673.
- 23 SCA JP19/2/7, 17 February 1700.
- 24 NAS SC67/83/3, page 95. Seabegs Wood still exists; the route in question appears to be the Roman road along the Antonine Way.
- 25 SCA JP19/2/7 Justices of the Peace 1688–1723, 26 April 1699.
- 26 SCA JP19/2/7, 17 February 1700; *ibid*, 5 August 1701.
- 27 SC67/83/3, page 29, Report to the Privy Council, 4 July 1671.
- 28 SC67/83/3, page 41, 3 June 1673.
- 29 CLA CC1/1/1, f18v, 13 June 1678.
- 30 For Mid- and West Lothian, see NAS GD 30/2149, estimate for a new bridge at Newbridge in 1673; NAS GD18/1374, Justices alter a highway to Penicuik Church, 1675. For Fife, see B34/20/69, Justices of the Peace in the Presbytery of Dunfermline and alterations to a highway there.
- 31 CLA CC1/1/1, noted in back of volume.
- 32 NAS SC67/83/3, page 89: Bridges of Burn of Catter and Burn of Aldwhirr had fallen and were to be rebuilt; the costs of Catter were shared with Dumbarton. Payment was to be out of the half crowns of the parishes of Drymen, Inchcailloch, Balfron, Killearn etc, together with the 10s Scots in the £100 – extending to 30s Scots in the £100 to be applied for the bridges; *ibid*, page 93, 14 September 1686: Bridge of Allan was on the King’s highway and needed repair and 10s was to be levied in certain parishes; *ibid*, page 94, 28 June 1687 – since 30s in the £100 was demanded in the previous year, for easing the shire, only 15s was to be demanded in 1687 and intimation to be made.
- 33 CLA CC1/1/1, fol 8v, 25 May 1670.
- 34 NAS E82/55/5, discharge 1663–4, page 6–7, for wage rates for a man and a horse.
- 35 Tolls to pay for rebuilding bridges were granted for periods of from 3 to 19 years – see Appendix, Linlithgow Bridge, Tullibody Bridge (1).
- 36 SCA JP19/2/7, 11 September 1695, to enquire about the 300 merks left by the deceased David Stivenson for the bridge of Carron; *ibid*, 10 December 1695, to uplift the 300 merks left by David Stivenson [late provost of Stirling] for Bridge of Carron as ‘the bridge is now perfyted’.
- 37 SCA JP19/2/7, 22 August 1688 & 5 August 1689.
- 38 SCA JP19/2/7, 2 April 1698.
- 39 SCA CH2/10/1, page 126, 27 December 1685; *ibid*, page 142, 4 June 1686.
- 40 SCA JP19/2/7, 20 September 1695.
- 41 SCA JP19/2/7, 15 November 1695.
- 42 SCA JP19/2/7, 25 August 1702.
- 43 CLA CC1/1/1, fol 14r, for work in Dollar.
- 44 CLA CC1/1/1, fol 18v, 1678, for the intention to repair roads between: Tulliallan to Clackmannan, Alva Brig to Drummerhead, Clackmannan to Tullibody Town, Tullibody Town to the Bridge, Craigmill to Causewayhead. Work was also to proceed on the Foulbrig, and the Manor Brig and the Hillfoots parishes themselves were to proceed with work within their own bounds.
- 45 CLA CC1/1/1, fol 23r, 5 September 1682; *ibid*, fol 25v, 29 June 1683.
- 46 CLA CC1/1/1, fol 26v, 6 June 1684.
- 47 CLA CC1/1/1, fol 29v, 23 June 1686.
- 48 SCA JP19/2/7, 20 September 1693.
- 49 In 1671, for example, it was said that a road on the carse could not have public support until all the King’s roads had been dealt with but it would then be supported (NAS SC67/83/3, page 26). This did

- not preclude work being done by statute labour without direct public cost; see, for example, NAS SC67/83/3, page 15, for work on gullies and bridges in the Cornton area, coordinated by the feuers, the constables and the Justices of the Peace in 1669.
- 50 NAS SC67/83/3, page 22, 9 May 1671.
- 51 SC67/83/3, page 29, Report to the Privy Council, 4 July 1671.
- 52 SCA JP19/2/7, 2 Feb 1703, for the highway 'through the kerss from the bridge of Sterling to ye bridge of Allan' to be mended and repaired so as to be suitable for coaches.
- 53 CC1/1/1, fol 18v, 13 June 1678.
- 54 CC1/1/1, fol 29v & 30r, 23 July 1686 and 30 March 1687.
- 55 NAS SC67/83/3, page 26, 30 May 1671.
- 56 NAS SC67/83/3, page 26, 30 May 1671; for the public contributions for the nether bridge of Bannockburn in the carse, see SCA CH2/1024/4, 25 January 1671.
- 57 NAS SC67/83/3, page 28, 4 July 1671.
- 58 NAS SC67/83/3, page 39–40, 6 May 1673; the bridges to be repaired were Bridge of Allan, Bridge of Calder and Bridge of Touch.
- 59 NAS SC67/83/3, page 42.
- 60 NAS SC67/83/3, pages 19 & 74.
- 61 SCA CH2/1121/1, 12 February 1655: bridge to be built at Burn of Gargunnoch; NAS SC67/83/3, page 63, 4 May 1675.
- 62 NAS SC67/83/3, pages 66 & 74.
- 63 NAS SC67/83/3, page 87, 16 October 1683; *ibid*, page 89, 3 November 1685.
- 64 SCA JP19/2/7, 2 October 1688.
- 65 Mitchell, 1906, 311.
- 66 NAS SC67/83/3, page 65, 1675.
- 67 NAS SC67/49/5, fol 108, registered 1705 but dated 1688; see also SCA JP19/2/7, 5 June 1688.
- 68 SCA JP19/2/7, 16 Nov 1694; *ibid*, 16 March 1695; *ibid*, 13 May 1695; *ibid*, 17 June 1695; *ibid*, 22 September 1696.
- 69 SCA JP19/2/7, 24 July 1696; *ibid*, 22 September 1696.
- 70 SCA JP19/2/7, 22 September 1696.
- 71 SCA JP19/2/7, 22 September 1696; *ibid*, 31 July 1697.
- 72 SCA JP19/2/7, 22 August 1688; *ibid*, 5 March 1689.
- 73 SCA JP19/2/7, 20 September 1693.
- 74 The following testaments were registered by Stirling Commissary Court, Jaffrey James, elder and carrier in Mylnetown of Bannockburn, on 8 April 1670; Forrester Allexander, carrier in Stirling, on 23 October 1674; Thomson Margaret, spouse to William Rid, carrier in Bannockburn, on 14 July 1676; Johnstoun Robert, carrier in Falkirk, on 1 March 1679; Jaffray John, carrier in Milnetowne of Bannockburn, on 1 December 1682; Rob John, carrier in Falkirk, on 16 May 1682; Walker William, carrier in Stirling, on 12 September 1684; see www.scottishdocuments.com.
- 75 NAS RH15/106/492/10, James Russell to Andrew Russell, 5 November 1683; NAS CC21/19/1 bundle 1, Alexander Burn to John Burd, 17 April 1682: 'I desire that you may send in to me all the money you can with John Kemp or a sure bearer the next week ...'.
- 76 SCA B66/16/19, 7 May 1692 and 4 July 1692 for Richard and John Chambers and James Anderson.
- 77 SCA JP19/2/7, 13 August 1695; *ibid*, 31 July 1697.
- 78 SCA JP19/2/7, 28 September 1692.
- 79 For example, SC67/50/1 bundle 1652, tack dated 1641, to Anderson at Gartclush (East Gartclush is at NS 820 890); SC67/50/2 bundle 1662, tack for 19 years dated 1654, at Auchenbowie (NS 79 87) where the land has been newly divided and the tenant can quarry and sell limestone.
- 80 NAS SC67/50/6, bundle labelled 1681 dated 1676, tack Graham to Shirray alias Johnstone; NAS SC67/50/5, bundle labelled 1679 dated 1677, tack Gourlay to Thomson.
- 81 NAS SC67/50/6, bundle labelled 1683 dated 1683, tacks by Hegin to Paterson and to Wright.
- 82 NAS SC67/49/2, page 106, tack to James Yule dated 1696.
- 83 Allardyce, II, 206–7.

REFERENCES

PUBLISHED SOURCES

- Allardyce, A (ed) 1888 *Scotland and Scotsmen in the Eighteenth Century*. Edinburgh.
- Anonymous 1899 *Scottish Antiquary* 14, 49.
- APS 1814–15 Thomson, T & Innes, C (eds) *Acts of the Parliaments of Scotland*. Edinburgh.
- Bailey, G B 1992 'Along and across the River Carron; a history of communications on the lower reaches of the River Carron', *Calatria* 2, 49–84.
- Barrow, G W S 1984 'Land routes: the medieval evidence', in Fenton & Stell, 49–66.

- Cooper, R 1730 [Map of] *The River and Frith of Forth*, Edinburgh.
- Dennison, E P & Coleman, R 1997 *Historic Dunblane: the Archaeological Implications of Development*. Scottish Burgh Survey, Perth.
- Fenton, A & Stell, G (eds) 1984 *Loads and Roads in Scotland and Beyond, Land Transport over 6000 Years*. Edinburgh.
- Haldane, A R B 1952 *The Drove Roads of Scotland*. London.
- Haldane, A R B 1962 *New Ways Through the Glens*. London.
- Harrison, J G 1991 *Stirling Burgess List 1600–99*. Stirling.
- Harrison, J G 1993 ‘Lime supply in the Stirling area from the 14th to the 18th Centuries’, *Forth Naturalist and Historian* 16, 83–9.
- Harrison, J G 1997 ‘Between Carron and Avon: the Grangemouth area since 1600’, *Forth Naturalist and Historian* 20, 71–91.
- Harrison, J G 1998–9 ‘Public hygiene and drainage in Stirling and other early modern Scottish towns’, *Rev Scott Culture* 11, 67–77.
- Harrison, J G 2001 ‘“Policing” the Stirling Area 1660–1706’, *Scott Archives* 7, 16–24.
- Harrison, J G 2002 ‘The Pottery at Throsk, Stirlingshire c 1600–1800’, *Proc Soc Antiq Scot* 132, 459–73.
- Harrison, J G 2003 *Flanders Moss: Historical Background*. Scottish Natural Heritage, Edinburgh.
- Harvey, W 1908 *The Stirling Repository*. Stirling.
- Hume Brown, P 1891 *Early Travellers in Scotland*. Edinburgh.
- Inglis, H R G 1912–3 ‘The roads and bridges in the early history of Scotland’, *Proc Soc Antiq Scot* 47, 303–33.
- Mackay, J J 1998 *Border Highways; The Story of the Roads and Early Transport in the Scottish Borders*. Kelso.
- Marwick, J D 1876 *Extracts from the Records of the Burgh of Glasgow AD 1573–1642*. Glasgow.
- Mitchell, Sir A (ed) 1906–8 *Geographical Collections relating to Scotland Made by Walter Macfarlane*, vols 51–3. Scottish History Society.
- Moir, D G 1957 ‘The roads of Scotland. II: Statute labour roads, the second phase’, *Scott Geograph Mag* 72, 167–75.
- Page, R 2001 ‘The ancient bridge of Stirling: investigations, 1988–2000’, *Scott Archaeol J* 23(2), 141–65.
- RMS, *Register of the Great Seal of Scotland*, various dates.
- RPC, *Register of the Privy Council of Scotland*, various dates.
- Renwick, R 1887 *Extracts from the Records of the Royal Burgh of Stirling 1519–1666*. Glasgow.
- Renwick, R 1889 *Extracts from the Records of the Royal Burgh of Stirling 1667–1752*. Glasgow.
- Renwick, R 1908 *Extracts from the Records of the Burgh of Glasgow 1691–1717*. Glasgow.
- Roberts, R & MacPhail, I A M 1972 *Dumbarton Common Good Accounts 1614–1660*. Dumbarton.
- RCAHMS 1933 *Inventory of Monuments and Constructions in the Counties of Fife, Kinross and Clackmannan*. Royal Commission on the Ancient and Historical Monuments of Scotland, Edinburgh.
- RCAHMS 1963 *Stirlingshire*. Edinburgh.
- Ruddock, T 1984 ‘Bridges and roads in Scotland: 1400–1750’, in Fenton & Stell, 67–91.
- Sibbald, R 1892 *Sibbald’s History & Description of Stirlingshire, Ancient and Modern, 1707*. Stirling.
- Silver, O 1987 *The Roads of Fife*. Edinburgh.
- Swann, A 1987 *Clackmannan and the Ochils; an Illustrated Architectural Guide*. Edinburgh.
- Whyte, I 1979 *Agriculture and Society in Seventeenth-Century Scotland*. Edinburgh.

UNPUBLISHED SOURCES

Clackmannan Libraries Archives (CLA)

CC1/1/1 Minutes of Commissioners of Supply etc

Edinburgh City Archives (ECA)

SL30/1/1/3 Minutes of the Convention of Royal Burghs 1596–1605

National Archives of Scotland (NAS)

B34/20 Inverkeithing Burgh Records, Miscellaneous items

B48 Linlithgow Burgh Records

CC21/19 Stirling Commissary Court Miscellaneous Correspondence

GD18 Clerk of Penicuik Papers	<i>National Library of Scotland (NLS)</i>
GD30 Shairp of Houston Papers	MS 1646.Z02/21b Plan of the Town and Castle of
GD124 Mar and Kellie Papers	Sterling, 1740
GD190 Smythe of Methven Papers	
PC4 Privy Council Minute Books	<i>Stirling Council Archives (SCA)</i>
RH9/11 Papers relating to royal and other burghs	B66/1 Stirling Burgh Records, sasines and protocol
RHP 30799 Plan of the Estate of Cardross and Easter	books
Garden, 1761	B66/9 Stirling Burgh Register of Deeds
SC67/1 Stirling Sheriff Court Books	B66/16 Stirling Burgh Court Minutes
SC67/49 Stirlingshire Sheriff Court, Register of	B66/25 Miscellaneous Stirling Burgh material
Deeds	CH2/10 Alva Kirk Session Minutes
SC67/50 Stirlingshire Sheriff Court, Vouchers of	CH2/1024 Stirling Holy Rude Kirk Session Minutes
Deeds	CH2/1121 Gargunnoch Kirk Session Minutes
SC67/83/3 Minutes of Stirlingshire Commissioners of	JP19/2/7 Minutes of Stirlingshire Justices of the
Excise, Militia, Peace and Supply etc	Peace