



# Re-dual The Line

Ross Greer- MSP for West Scotland region  
David Prescott of AllanRail

*Commissioned by Ross Greer, MSP for West Scotland  
Based on a report by David Prescott of AllanRail*

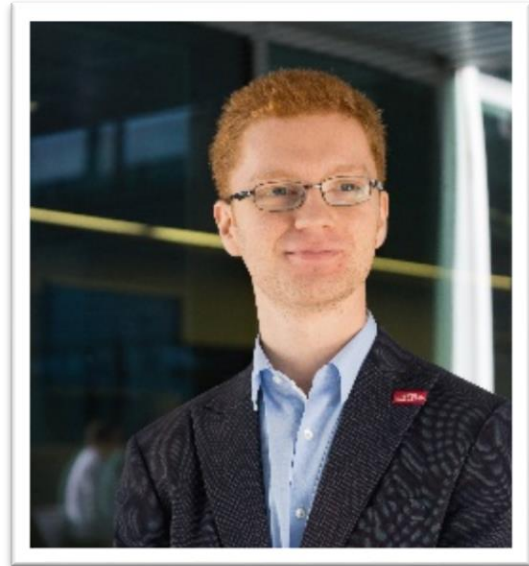


The Scottish Parliament  
Pàrlamaid na h-Alba

# Introduction

One of the most satisfying moments in my time as one of your MSPs came earlier this year, when the Scottish Parliament agreed to a £2 million Local Rail Development Fund, an idea which had been proposed, developed and negotiated by my parliamentary colleagues and I during the 2018/19 budget negotiations.

This fund will support communities across Scotland, many of whom have been calling out for improvements to their local rail services for decades but who, for various reasons, have been unable to progress their case. Bearsden and Milngavie is one such community.



Combined, Bearsden, Hillfoot and Milngavie stations are equivalent to the 11th busiest station in Scotland, but they are only connected to the rest of Scotland by a single track line, one which has the worst punctuality in Scotland. Just one in four trains arrives on time at Milngavie station.

That alone shows the need for change but the problems on this line cause delays and constrain timetables across west and central Scotland. Improving this small section of track would not only benefit the communities who use it but others across Scotland as well.

A good public transport system, along with support for active travel, are essential parts of tackling climate change, poverty and isolation. That means that projects like re-dualling the line to Milngavie and opening new stations like the proposed Allander halt are great ways of tackling some of the biggest challenges we face.

I hope that this report will support the campaign to secure a re-dualling of the line without delay and end the problems which have made the Westerton-Milngavie line the worst performing in Scotland.

I'd like to thank David Prescott of AllanRail, who not only produced this report and the technical documents which drive it but whose work was essential in developing the Local Rail Development Fund.

Ross Greer,  
MSP for West Scotland region (Scottish Greens)

# A Brief History of the Line

There's been a line from Westerton to Milngavie via Bearsden since 1863. It soon became established as a popular commuter and freight line and it was dualled in 1900, when Hillfoot station was opened. It was electrified in 1960.

Despite local protest<sup>1</sup>, the line was partially singled in 1990 as part of a resignalling scheme. The branch became single track with a section of double track in the middle between Bearsden and Hillfoot stations. At this time the Milngavie branch train service was a half hourly train between Milngavie and Springburn, but in December 2005 the Larkhall branch opened which meant the service to Milngavie was doubled to 4 trains an hour, full capacity for a single-track line. In December 2010 the Airdrie – Bathgate line was opened and what had been a local shuttle service from Milngavie into Glasgow now ran all the way to Edinburgh.

## The Problems

The Milngavie branch is the worst performing ScotRail route<sup>2</sup> in terms of punctuality with only 28.3% of trains arriving less than a minute late - known as Right Time arrivals – and 79.2% arriving within 5 minutes.

Station	% Right Time Arrivals	% Within 5 minutes
Carnoustie	38.1	83.2
Arbroath	37.8	65.5
Ardrossan Harbour	37.6	92.3
Paisley Canal	37.1	95.5
Girvan	36.5	92.1
Largs	29.1	88.6
<b>Milngavie</b>	<b>28.3</b>	<b>79.2</b>

*Table 1: Percentage of trains arriving at the right time and within 5 minutes at all "terminal stations" in Scotland with less than 40% right time arrivals (Source: Data for the year up to 26 May 2018 at <https://www.scotrail.co.uk/performance-and-reliability>)*

All five of the worst performing stations in Table 1 (Milngavie, Largs, Girvan, Paisley Canal and Ardrossan Harbour) lie at the end of a line with significant sections of single-track line.

Data also shows that, despite an upturn in use of railways both in Scotland and across the UK<sup>3</sup>, and an increase in usage of the adjacent stations at Westerton and

<sup>1</sup> [http://www.heraldscotland.com/news/11917986.Single\\_track\\_line\\_apos\\_will\\_not\\_affect\\_safety\\_apos/](http://www.heraldscotland.com/news/11917986.Single_track_line_apos_will_not_affect_safety_apos/)

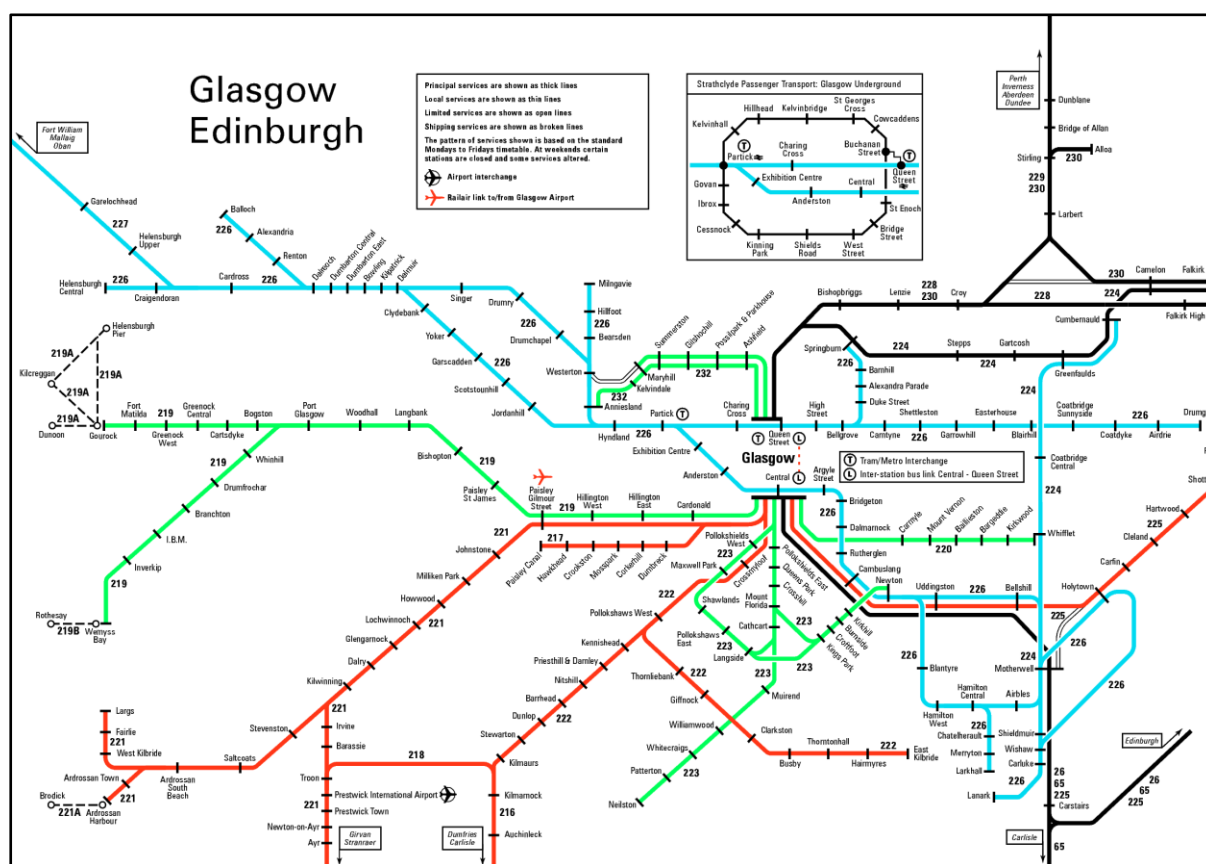
<sup>2</sup> Data for the year up to 26 May 2018 at <https://www.scotrail.co.uk/performance-and-reliability>

<sup>3</sup> [http://orr.gov.uk/\\_data/assets/pdf\\_file/0014/28013/passenger-rail-usage-2017-18-q4.pdf](http://orr.gov.uk/_data/assets/pdf_file/0014/28013/passenger-rail-usage-2017-18-q4.pdf)

Anniesland, the use of Milngavie, Hillfoot and Bearsden stations has been decreasing.

Station	2014/5	2015/6	2016/7	% Difference 16/17 compared with 15/16	% Difference 16/17 compared with 14/15
Milngavie	998,354	992,202	966,286	Down 2.61	Down 3.21
Hillfoot	326,896	318,676	317,352	Down 0.42	Down 2.92
Bearsden	570,722	565,354	555,990	Down 1.66	Down 2.58
Westerton	784,490	794,600	794,094	Down 0.06	Up 1.22
Anniesland	1,133,042	1,154,430	1,218,022	Up 5.51	Up 7.50

Table 2: Estimated number of "exits and entries" at stations in the last 3 years (Source: <http://orr.gov.uk/statistics/published-stats/station-usage-estimates>)



Map Showing Glasgow Rail Network

# Causes

The two services that operate on the Milngavie branch run to and from Edinburgh (via Glasgow Queen Street) and to and from Motherwell/Cumbernauld/Larkhall via Glasgow Central. Each of these routes interact with a number of other services<sup>4</sup>, which in turn interact with even more services, so a train delayed at Milngavie can lead to delays around the network. For example, up to 14 trains per hour run through Partick and Hyndland in each direction, so a delay to any train of just a few minutes will inevitably impact on other services. Indeed, delays on the West Coast mainline have been seen to cause trains to be delayed into Milngavie.

The Monday to Friday standard off-peak timetable is:

Towards Milngavie

	Edinburgh	Larkhall	Edinburgh	Larkhall
Westerton	XX 10	XX 24	XX 41	XX 55
Bearsden	XX 13	XX 27	XX 43	XX 57
Hillfoot	XX 15	XX 29	XX 45	XX 59
Milngavie	XX 18	XX 33	XX 49	X1 03

From Milngavie

	Motherwell	Edinburgh	Cumbernauld	Edinburgh
Milngavie	XX 10	XX 24	XX 39	XX 54
Hillfoot	XX 13	XX 27	XX 42	XX 57
Bearsden	XX 15	XX 29	XX 44	XX 59
Westerton	XX 18	XX 32	XX 47	X1 03

On a single track railway the train service has to be planned so that trains pass on the dual track sections. This means that trains in opposite directions are linked together in a much more constrained fashion than on a double track railway. As the Milngavie line is operating at 100% of its capability this means that once a train is planned the rest of the trains, in both directions, must fall into their required place in the timetable and there is no flexibility to move trains relative to one another. If train A is a few minutes late, the train coming the other way (train B) will face a delay. Train B will leave Milngavie late and cause a delay for an incoming train, train C, and so on.

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<sup>4</sup> Described in more detail in David Prescott's technical paper, commissioned by Ross Greer.

This also means that there's an impact on other trains coming through the junctions at Westerton and Hyndland, as they have to wait to allow late-running trains to come from Milngavie.

With a double track junction, the timetable that makes the most efficient use of the line is for a train to come off the branch at about the same time as another train joins. However with a single track section at between Westerton and Bearsden this is not possible. This means that every train that turns onto the Milngavie line creates dead space on the line in the opposite direction through Westerton.

A train coming off the Milngavie branch late also prevents the next train going onto the branch and requires it to stand in Westerton station platform. This creates a particular problem at Westerton because for every train that goes onto the Milngavie branch there is a train for Dalmuir following only three or four minutes behind. This impacts on services around the region as a whole.



*Photo: Westerton station*

# Where should the Line be Re-dualled?

There are 3 parts of the line that can be re-dualled. Westerton Junction alone could be re-dualled, or one or both of the single track sections of the Milngavie line. 39 miles of track in Scotland has recently been re-dualled or is about to be<sup>5</sup>- it's a common improvement to be made to our railways.

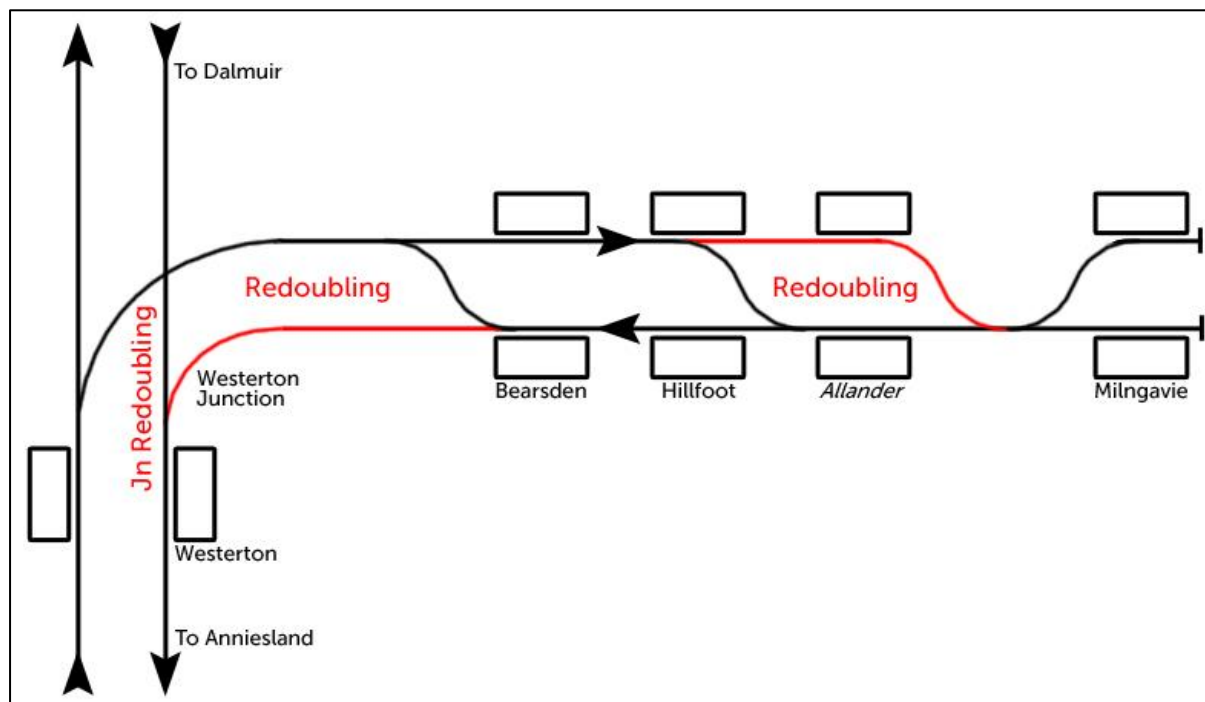


Figure showing one possible re-dualling option

## Westerton Junction

Westerton Junction is a “single lead” junction, meaning one movement onto or off the branch can be made at one time. This restricts the timetable and causes delays. There is also a higher safety risk with single junctions. A number of single lead junctions (Busby, Midcalder, Newton West, and Stirling Middle) across Scotland have been redoubled in recent years.

Because re-dualling of a junction needs to have space for trains to run onto the branch, re-dualling Westerton Junction will require sufficient line to be re-dualled, which means that at least around 1/3rds of the existing single-track section would have to be made double-track. The complication involved in points and signalling would likely mean the cost of providing a double track all the way to Bearsden would be no extra overall.

<sup>5</sup> Projects listed in David Prescott's technical paper, commissioned by Ross Greer.



*Photo: Westerton Junction, showing a train leaving on the single track, having crossed the double line. (Credit: David Prescott)*

## Re-dualling Westerton – Bearsden

If this section was re-dualled without Westerton Junction becoming a double junction there would still be a pinch point at Westerton and the costs are likely to be similar, each requiring an additional set of points and changes to the signalling and interlocking.

It's most cost effective to look at re-dualling the junction and the section of the line together.

## Re-dualling Hillfoot – Milngavie

Currently, there's normally only one train beyond Hillfoot at any one time, so the benefit here would be to reduce the impact of trains that start late from Milngavie on the next train to arrive there. It would give more flexibility in the timetable. This benefit is less obvious than that of re-dualling at the Westerton end, and would need to be weighed against the costs.

If re-dualling is done at Westerton junction, the timetable would need to be adjusted to maximise the benefits of the double-track junction and have trains passing at the junction. In this event it is probable that trains would need to cross on the approaches to Milngavie, which would require the Hillfoot – Milngavie section to be redoubled.



## What are the possible challenges?

The main issue with re-dualling a formerly double track railway is the requirement to meet modern standards, as modern standards may require more space than was provided when the original railway was built. The track may have been moved or renewed in a different alignment so the existing track may require moving or renewal. However, on the Milngavie branch most of the track seems to be in its original position, leaving space for the additional track to be laid where it originally was. On first inspection, significant land outside the railway boundary appears unlikely to be required.

Work may be necessary to three bridges, and cables and equipment may require moving. In comparison with the schemes that have been completed in Scotland over the past decade there is nothing that appears to be insurmountable and the costs should come in below the average.

## Allander Station

There has been long-standing support for an additional station between Hillfoot and Milngavie to serve a growing population in the Kilmardinny area and to provide a park and ride facility for commuters to Glasgow and beyond.

However, it is generally accepted that an extra station will add up to two minutes to the timetable compared with passing through non-stop. This would reduce required the turn round times for trains at Milngavie to around two or three minutes, which is not achievable.

The only likely way in which Allander station can be added would be with re-dualling of the Milngavie branch, and this would almost certainly need to be for the whole of the line.

A similar change happening with Kintore station, north-west of Aberdeen. This station is expected to be re-opened in 2019 and the line is being re-dualled. The key drivers for this re-dualling were the operation of a half hourly service all day and the re-opening of Kintore station. The only likely way in which Allander station can be added would be with re-dualling of the Milngavie branch, and this would almost certainly need to be for the whole of the line so that the timetable can be rewritten.

# Summary: What Needs To Happen?

It is quite clear that punctuality and reliability on the Milngavie line is exceptionally poor. This impacts services far beyond Bearsden & Milngavie and even beyond Glasgow and the west.

Whilst there are a number of factors contributing to this, the unavoidable reality is that the Milngavie line is operating at capacity for most of the day and so has little way of recovering from any delays. Only one timetable can be operated and this is severely constraining the wider Glasgow rail network.

Re-dualling Westerton Junction and the single line to Bearsden could result in improved performance and more flexibility. Re-dualling from Hillfoot to Milngavie is likely to increase this flexibility. The proposed Allander Station cannot be opened without this.

Future capital projects which enhance the Scottish rail network must be in line with the process described in Transport Scotland's Rail Enhancements and Capital Strategy published in March 2018<sup>6</sup>. It's intended to result in a "pipeline" of projects which are only developed with robust business cases and well understood costs. To proceed through the pipeline, works need a series of specified pieces of evidence.

The Local Rail Development Fund was a £2m fund negotiated by Ross and parliamentary colleagues as part of the 2018/9 Scottish Budget<sup>7</sup>. It allows organisations to bid for funds to appraise and develop projects at the "pre-pipeline" stage, after which implementation is expected to pass to Transport Scotland.

Bids were required by Friday 8 June 2018, and East Dunbartonshire Council, following the unanimous agreement of the council and meetings with Ross and other West of Scotland MSPs, submitted a bid.

If successful, this would support work on re-dualling and the council has committed to match the funding awarded. In addition, ongoing work on the A81 corridor has been funded by the council and should make a strong case for building an Allander station.

But there are communities all over Scotland making strong cases for their local rail networks to be improved. As well as a strong technical case, it is important for the community in Bearsden and Milngavie, and for those across the central belt who are affected by the poor performance of this line, to show the clear demand. Writing to Michael Matheson, Cabinet Secretary for Transport, to say No More Delay in improving the Milngavie lines is one of the most effective ways in which you can do that.

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<sup>6</sup> <https://www.transport.gov.scot/publication/rail-enhancements-capital-investment-strategy/>

<sup>7</sup> <https://greenscot.blog/a-chance-to-get-scotland-s-rail-potential-back-on-track>