



**GATWICK -  
why a new runway  
won't work**



*Gatwick is surrounded on all sides by areas of outstanding natural beauty, by green belt countryside, and by historic and attractive towns and villages.*



*The National Trust has stated that the Leith Hill area of outstanding beauty would suffer noise and visual intrusion from any new runway.*

### **Published by the Gatwick Area Conservation Campaign**

GACC's aim is to preserve the environment and the quality of life around Gatwick Airport.

This booklet is about airport safety and efficiency. We are producing it because we know the local topography, whereas many of those who call for a new runway at Gatwick appear unaware of the physical constraints.

**Campaign Office, Stan Hill, Charlwood, Surrey, RH6 0EP.**  
**Telephone: 01293 863 369**  
**[gacc@onetel.net.uk](mailto:gacc@onetel.net.uk)**  
**[www.gacc.org.uk](http://www.gacc.org.uk)**



*Over 80 County Councils, Borough and District Councils, Parish Councils and environmental groups are opposed to any new runway at Gatwick.*





Horley

Any new runway at Gatwick, as at other sites, would cause huge environmental damage. But Gatwick has a special problem. It is a small confined site, surrounded by the towns of Horley and Crawley, and by the historic village of Charlwood. There is a range of hills to the west and a main railway line to the east.

This means that the airport layout for any new runway would be cramped and convoluted.

There are a number of features of the runway designs proposed by the Department for Transport<sup>1</sup> which would create inefficiency, and could create potential danger.

This booklet is designed to explain why any new runway at Gatwick won't work.

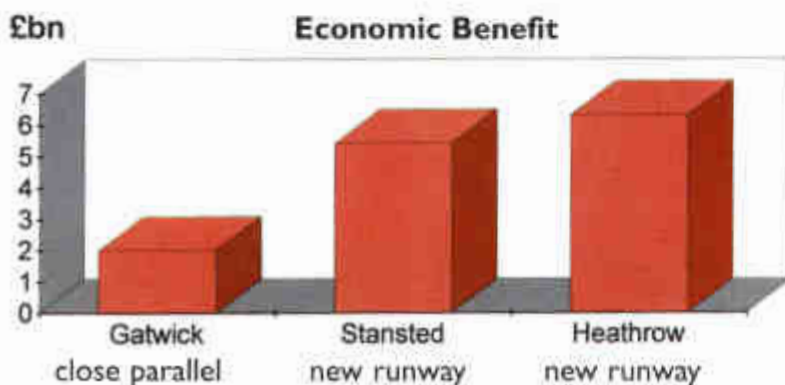


Charlwood Jubilee Celebrations

## WHY A CLOSE PARALLEL RUNWAY WON'T WORK

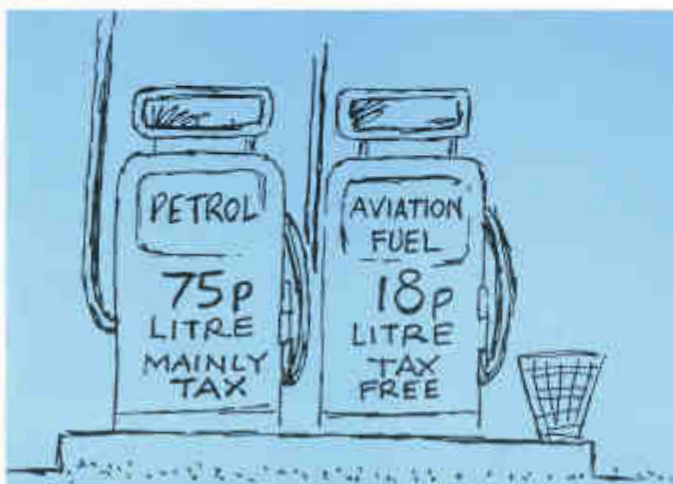
One proposal at Gatwick is for a close parallel runway 385m south of the existing runway. All aircraft using the new runway would have to cross the existing runway - one of the busiest in the world - to reach the terminals. If safety is to be maintained that must mean slowing down operations.

UK Air Traffic Control has stated that a close parallel runway would only increase airport capacity from 47 movements an hour to 52<sup>2</sup>.



Treasury figures show that a close parallel runway - even if it achieved the intended capacity - would be comparatively poor value for the nation.<sup>3</sup>

BAA agree that the proposed close parallel runway would not achieve the intended capacity. They have put forward alternative plans. Some of these new plans involve putting the runways 482 m apart. Others involve aircraft crossing at the end of the runway - underneath other aircraft landing or taking-off. BAA admit that "*such an arrangement has not been used before at a UK airport and the feasibility of it requires further testing.*"<sup>4</sup>



GACC does not suggest that a new runway should be put somewhere else in the UK.

If air travel paid the same rate of tax as car travel, according to the Department of Transport computer, no new runways would be required anywhere in the UK.<sup>5</sup>



The Oxford University Aviation Study Group has found that a close parallel runway at Gatwick could create dangers from wake vortex turbulence, as well as from runway crossings.<sup>6</sup> (The wake vortex problem is less serious at Manchester because the runways there are staggered, but the Gatwick topography prevents this.)



Wake vortex study - NASA Research Centre

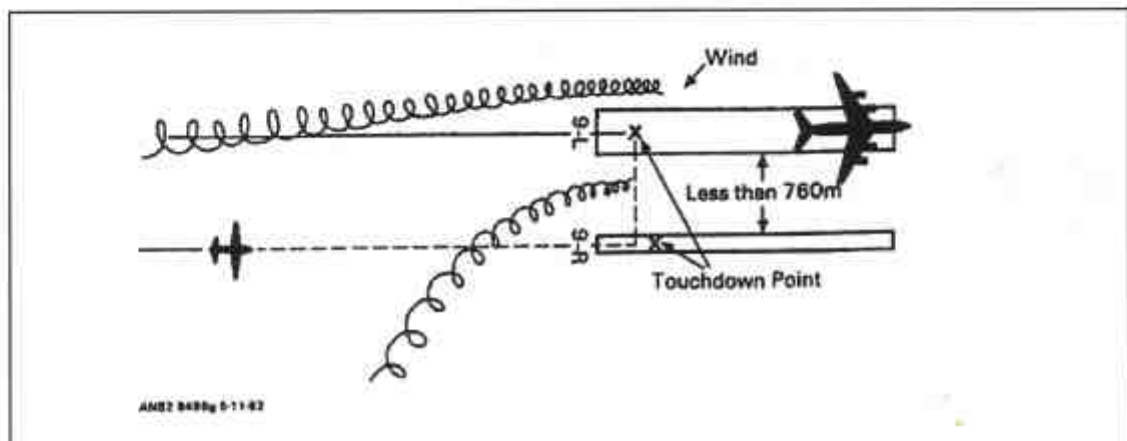


Fig.7. Landing behind a large aircraft on a parallel runway when the parallel runway is closer than 760 metres. Consider possible drift to the runway. Stay at or above the large aircraft's final approach path and observe its touchdown point.

Extract from Civil Aviation Authority Aeronautical Information Circular February 1999, showing wake vortex drifting across parallel runway.

The CAA circular goes on to state that "When parallel runways separated by less than 760 metres are in use . . . such runways are considered to be a single runway, for wake turbulence reasons, and the wake vortex minima [separation distances between aircraft] apply"

In June 2003 the CAA finally killed off the idea of a close parallel runway at Gatwick, saying it "would be likely only to achieve a limited increase in movements, because the required separation between aircraft, even in segregated modes<sup>7</sup>, would be such that the close parallel runway would largely need to be operated as one runway.... the need to cross one runway to use the other would further reduce the advantage of having two runways".<sup>8</sup>



## WHY A 'WIDE SPACED' RUNWAY WON'T WORK

The second option under consideration is for a 'wide spaced' runway 1035m to the south. But it would not be wide spaced: indeed the space between the runways would be much less than that between the two existing runways at Heathrow.

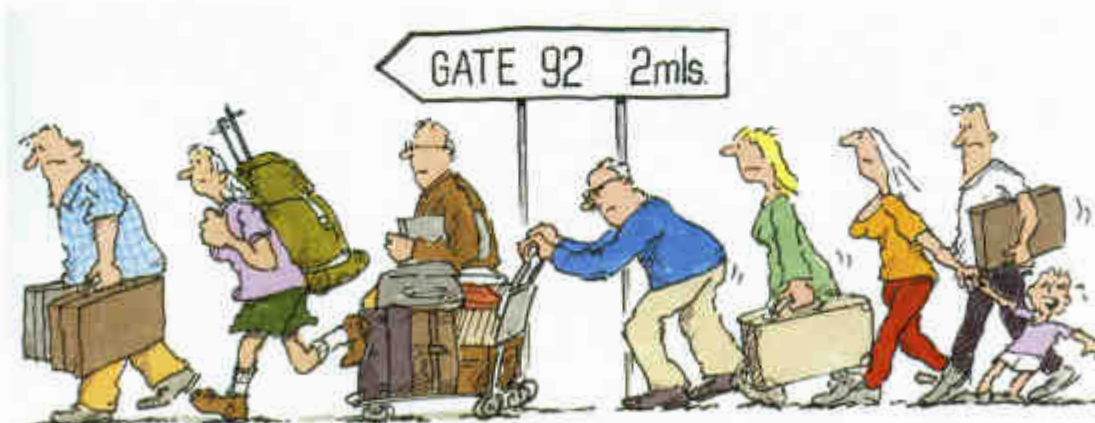
British Airways have pointed out that the separation is the minimum permitted for safety: *"While ICAO standards have recently changed to permit independent operations at 1035m (the 1995 standards required 1525m), this proposal is right on the limit, and the full capacities may not be achievable."*



The town of Crawley is so close that the runways cannot be put any further apart.

Moreover, British Airways *"believes that the space between the two runways is inadequate for the traffic assumed [an extra 40 million passengers per annum]. In our view, the additional facilities could only accommodate 20-25mppa."*

There would be no space for a normal airport layout with the main terminal area between the runways. One new terminal is shown on the plans, squeezed out at the side, with passengers having to travel over two miles from departure lounge to the furthest gate room.





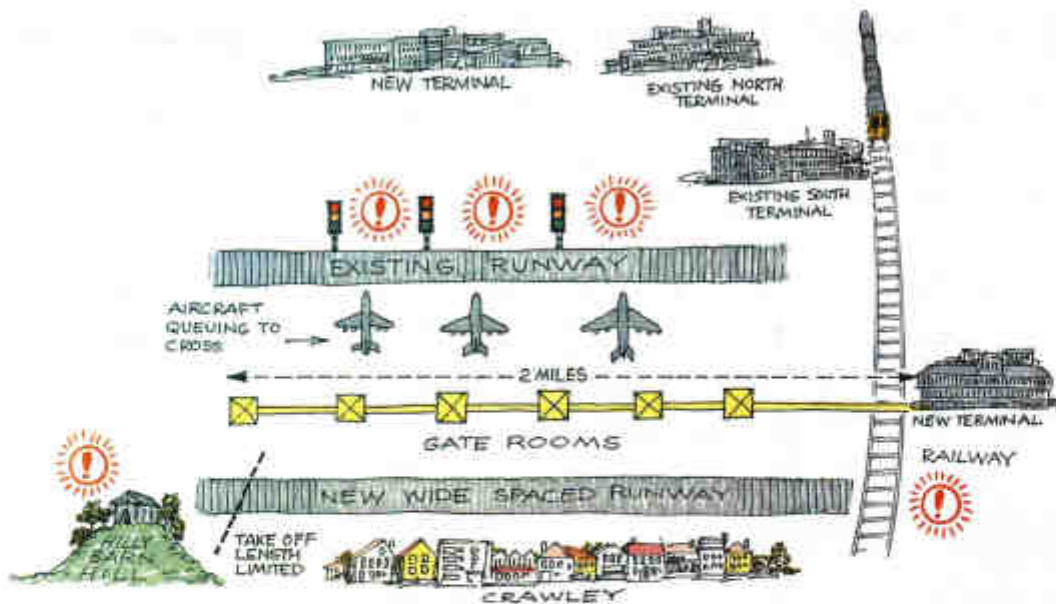


Diagram showing how the efficiency of a 'widespaced' runway would be reduced by the constraints of the site.

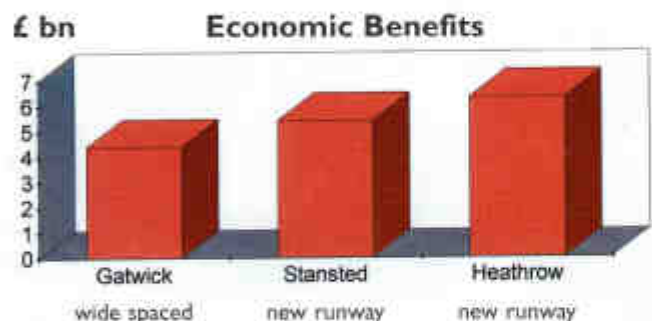
As British Airways has pointed out, "all aircraft operating from the existing terminals would need to cross the existing runway on either arrivals or departures, reducing capacity on that runway."

BAA has stated that "the presence of high ground to the west is likely to limit the runway take-off distance."<sup>10</sup>

On the Department for Transport plans, the eastern end of the runway is shown close to the main Brighton railway line. That would infringe the Department's new public safety guidelines. <sup>11</sup> To protect the public, the railway would need to be put in a tunnel - at extra cost, not included in the Government estimates.

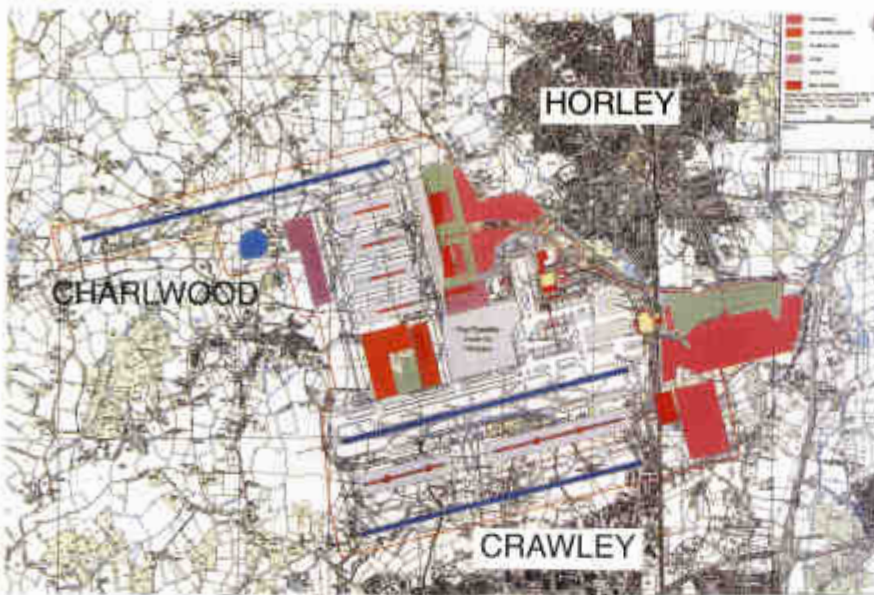


These buildings in Crawley would be less than 500 m from the new runway, and might need to have the top few floors removed to comply with safety standards.



Treasury figures show that a 'wide spaced' runway - even if full capacity were achieved - would be comparatively poor economic value for the nation.

## WHY TWO NEW RUNWAYS WON'T WORK



Another proposal put forward for consultation is for two new runways as shown on this map published by Department for Transport in April 2002. One would be to the north of the existing runway and one, identical to the 'wide spaced' runway, to the south.



The new north runway would require a cutting through Stan Hill. BAA have stated that it would be necessary to remove 25 times as much soil as at Twyford Down.<sup>12</sup>

*In June 2003 over 500 people confronted a bulldozer at Stan Hill as a symbolic reminder that the Twyford Down and other protests in the early 1990's stopped the predict-and-provide road building policy, and that the destruction of countryside to provide for unlimited expansion of tax-free air travel is equally unacceptable.*

The Oxford University Aviation Study Group has found that aircraft flying through the cutting might experience dangerous turbulence.

To avoid flying over Horley, the new north runway is planned to operate only to the west. Aircraft would land on the new south runway and many of them would need to cross the existing runway and taxi up to five miles before taking off on the new north runway.

The Oxford University Aviation Study Group has reported that "In the USA there have been a number of major accidents caused by aircraft taxi-ing onto an active runway in error. Any expansion of Gatwick, especially if it goes to three runways, will create very substantial risk."





The whole of Edolphs Copse, 65 acres of ancient woodland owned by the Woodland Trust, open to the public, would be bulldozed to make a cutting, 50m deep and 1.1 km wide.



Highworth Farm, grade 2\*, an unspoilt medieval farmhouse and barns, would disappear down the hole.



*Charlwood church St George's Day 2003*



Charlwood parish has over 80 listed buildings, including more small medieval hall houses than any other village in Surrey. A new research study has dated some as early as 1402. All would be demolished or left derelict between runways.

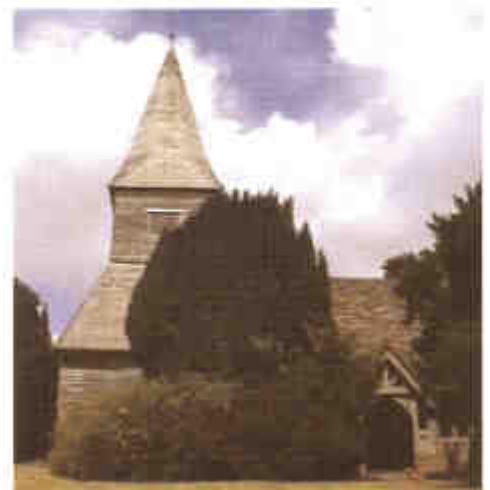
The proposed new north runway would leave the village of Charlwood sandwiched between the runways, and uninhabitable. The fine Norman church (c.1080), grade 1, with outstanding medieval wall paintings, would be left derelict.<sup>13</sup>



*Wall paintings - historical representation.*<sup>13</sup>

Aircraft would fly over Newdigate at about 400 feet.

New flight paths would bring noise to scores of towns and villages in Surrey, Sussex and parts of Kent.





East Croydon

According to the Government, either the 'wide spaced' runway option or the two new runway option would require a long railway tunnel under East Croydon.<sup>14</sup> Commuters would face years of delays.



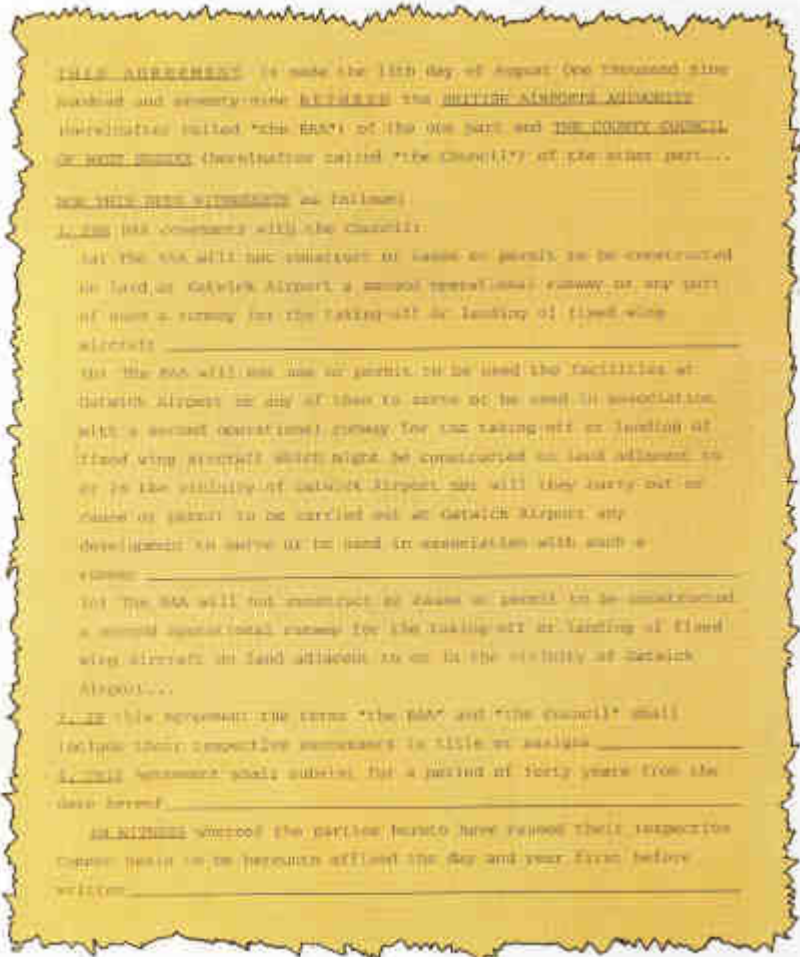
Any new runway at Gatwick would inevitably mean that the M25 (even after proposed widening) would be jammed solid. It makes no sense to expand Gatwick so as to attract more passengers from the north.

One new full scale runway would create around 50,000 new jobs.<sup>15</sup> Without substantial in-migration of labour (with extra housing equivalent to a new town the size of Crawley), severe staff shortages could be expected at the airport and in public services in the area - a further cause of airport inefficiency.

## References

- 1 The Future Development of Air Transport. February 2003
- 2 SERAS Runway Throughput Report. July 2002
- 3 DfT website: Economic Appraisal Calculations
- 4 BAA response to consultation. May 2003
- 5 The Hidden Cost of Flying. AEF February 2003
- 6 Runway Proposals for Gatwick: Safety Implications. June 2003
- 7 One runway for landing, one for take-offs.
- 8 CAA response to consultation. June 2003
- 9 BA response to consultation. May 2003
- 10 BAA response to consultation. May 2003
- 11 DfT Circular 1/2002. The existing runway also infringes the safety guidelines, but the guidelines apply only to new construction.
- 12 BAA response. May 2003. This is on the assumption that the new runway is made level with existing airport. If the runway were raised by 10-15m, the amount of soil to be removed would be ten times that at Twyford Down.
- 13 Details of the wall paintings can be found at [www.paintedchurch.org/chart1d.htm](http://www.paintedchurch.org/chart1d.htm)
- 14 The Future Development of Air Transport. February 2003. BAA suggest that the tunnel would not be required for the 'wide spaced' option, but only because they expect a higher proportion of passengers to travel by car, thus increasing the M25 problem.
- 15 Berkeley Hanover study for West Sussex County Council. June 2003. Includes employment in new industry attracted to the area.





Any new runway is ruled out before August 2019 by a legal agreement between BAA and West Sussex County Council.

The agreement could only be overturned by legislation which could take up to two years to go through Parliament, and might well not be passed.

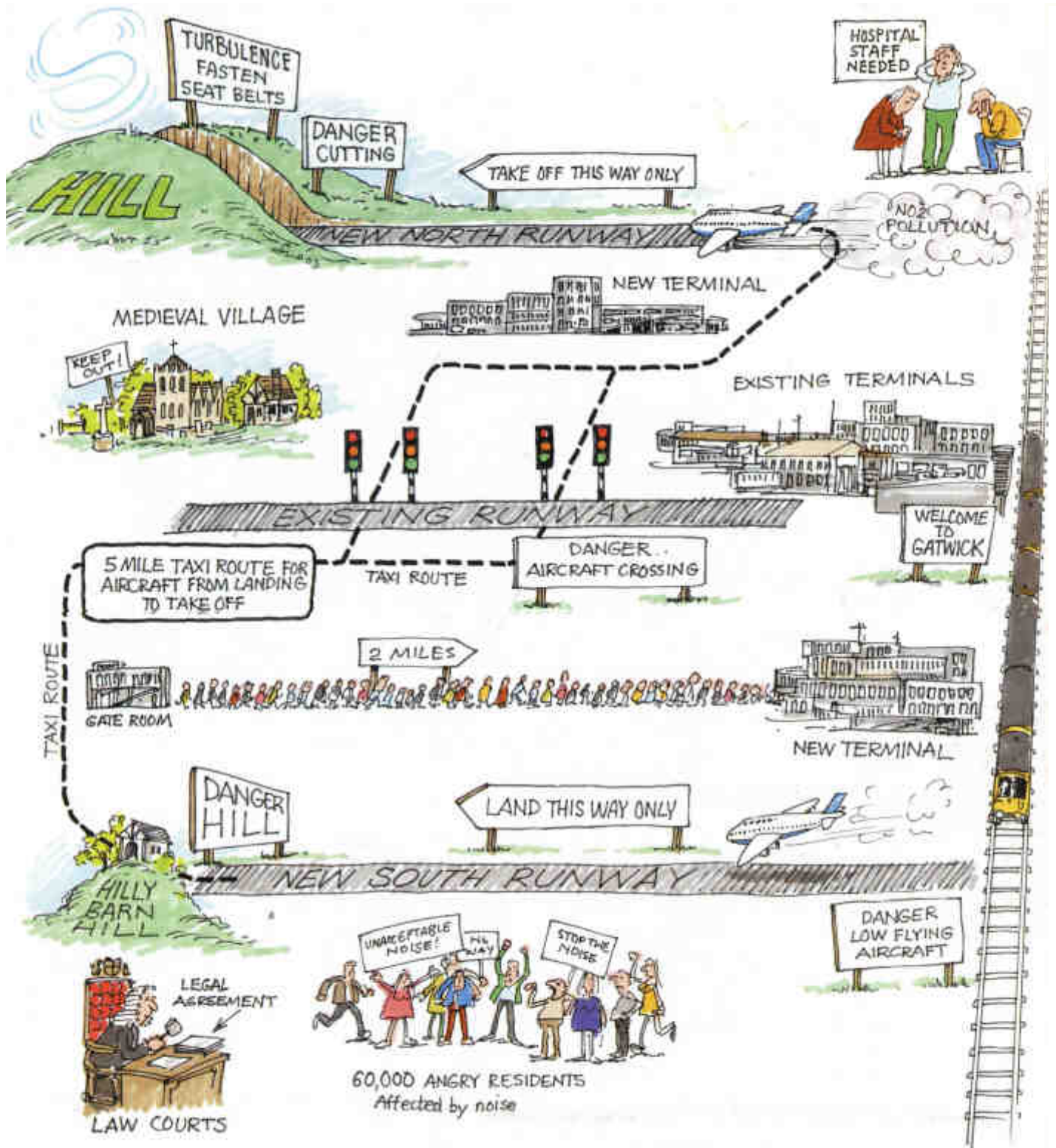
**After 2019 all the physical constraints will remain.**

**The towns, villages and hills will still be there.**

**Any new runway would still have the same convoluted and inefficient design.**

**A new runway at Gatwick won't work before 2019.**

**It won't work after 2019.**



AFTER THREE YEARS OF DETAILED STUDY  
 COVERING BOTH ECONOMIC AND  
 ENVIRONMENTAL ISSUES, THE GOVERNMENT  
 DECIDED IN JULY 2002 TO RULE OUT ANY NEW  
 RUNWAY AT GATWICK FOR THE WHOLE PERIOD  
 UP TO 2030

THEY WERE RIGHT.