Heathrow Airtrack

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November 2010

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- Context and Benefits for Runnymede
- Surrey's Approach
- Key Issue for Runnymede – Level Crossings
- Mitigation Package
- Conclusion and Next Steps

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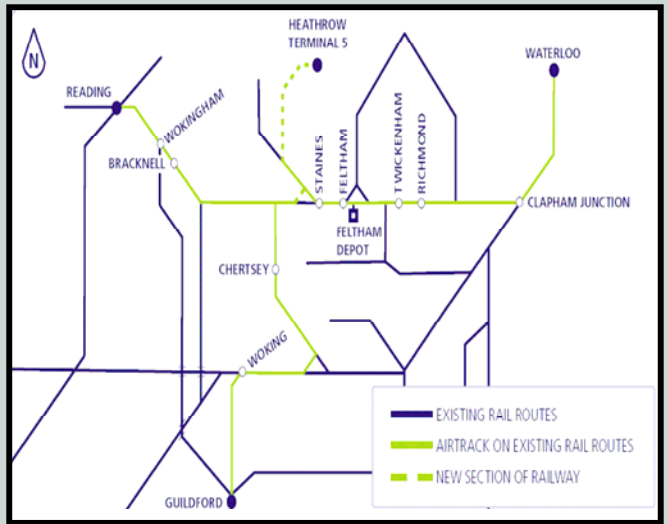
Context

- BAA are promoting the scheme
  - Direct rail link to Heathrow via Staines
  - £700 million – could be open in 2017
- Transport and Works Order Act Public Inquiry Spring 2011
- We have three choices:
  - Object to the scheme to stop it
  - Object to the scheme to change it
  - Support the scheme.



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Benefits for Runnymede

Studies have stated the following benefits for Runnymede….

- Businesses in Chertsey would have a 22 minute link to Heathrow, improving competitiveness and the existing rail travel time
- Productivity output in Runnymede increases by about £4million / year by 2031
- Improved access for employees working at Heathrow Airport
- Improved attractiveness of Chertsey for future developments, businesses and employment
- Airtrack has the potential to remove ½ million cars off highway network

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Surrey's Approach

- Support in principle, but submitted 20 objections and negotiating with BAA for "a better Airtrack"
- Absolutely determined to get the best possible outcome for Surrey
- Anything that we negotiate must pass scrutiny at a Public Inquiry and meet planning tests such that it mitigates the impact of Airtrack

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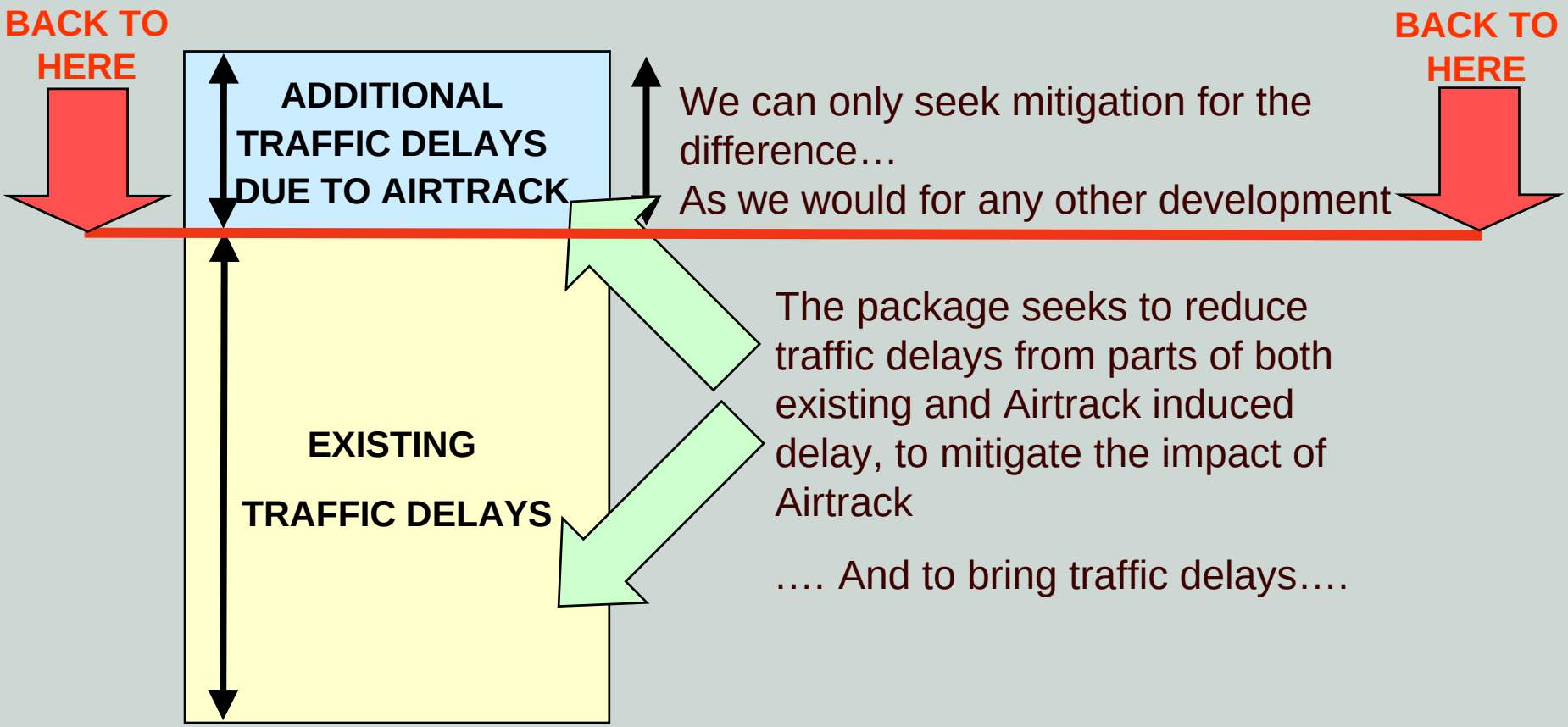
What mitigation can we seek from Airtrack and defend at a Public Inquiry ?



We can only seek mitigation for the difference…
As we would for any other development

The package seeks to reduce traffic delays from parts of both existing and Airtrack induced delay, to mitigate the impact of Airtrack

…. And to bring traffic delays….

Key Issues for Runnymede

- Progress on the objections fall under 4 categories:
  1. Addressed in negotiations on mitigation package with BAA
  2. Being pursued by other organisations
  3. Addressed by planning conditions or planning obligations
  4. Unlikely to be sustained at Public Inquiry
- The main objection in Runnymede is related to the impact on level crossing downtimes
- The County have been assessing the impact of Airtrack on the level crossings and seeking mitigation from the Airtrack scheme

Egham Level Crossings

- Current downtime in the AM peak hour is 26 minutes, average delay of 52 seconds per vehicle. The longest waiting time is 2 minutes 36 seconds.
- With Airtrack, this could rise to 32 minutes with average delay of 65 seconds per vehicle, and the longest waiting time increased to 6 minutes 40 seconds.
- This could be an underestimate – could be worse - we cannot control rail timetables
- So we looked long and hard for a solution – the potential for an overbridge / underpass at the existing level crossings

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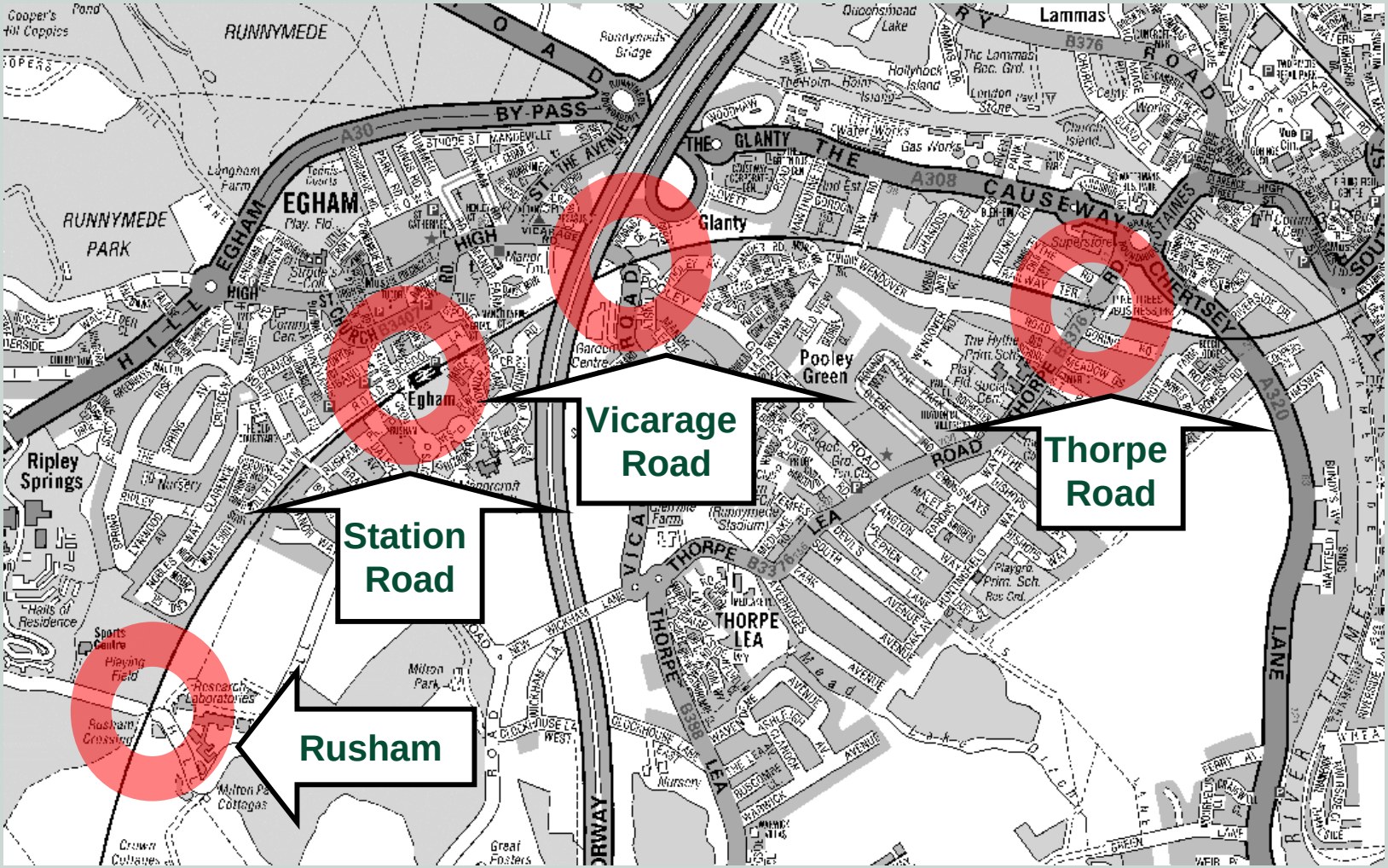
Egham Level Crossings



Egham Level Crossings

Initial assessment showed an underpass/overbridge solution is not feasible at 3 of the 4 level crossings:

- **Prune Hill** - remote from traffic, pedestrian & cycle flow,
- **Station Road and Thorpe Road** – too constrained in terms of gradients and adjacent properties,
- **Vicarage Road** – worth investigating

Does an underpass at Vicarage Road work?

- Physically feasible – just
- Would need to be 20mph standard and require traffic calming to achieve speed limit
- Considerable disruption during construction
- Would require compulsory purchase of properties and require its own public inquiry
- Cost circa £25 million
- Would need to be funded by both BAA and the Department for Transport
- But does it work in traffic and economic terms?
- Underpass assessed using computer traffic model

Traffic Modelling

- Traffic modelling is a standard technique to predict how drivers will react to changed road layouts
- The methodology is tightly constrained by the Government which we have to adhere to
- Our traffic modelling was based on observed counts of vehicles, “origin and destination” surveys, and journey time information

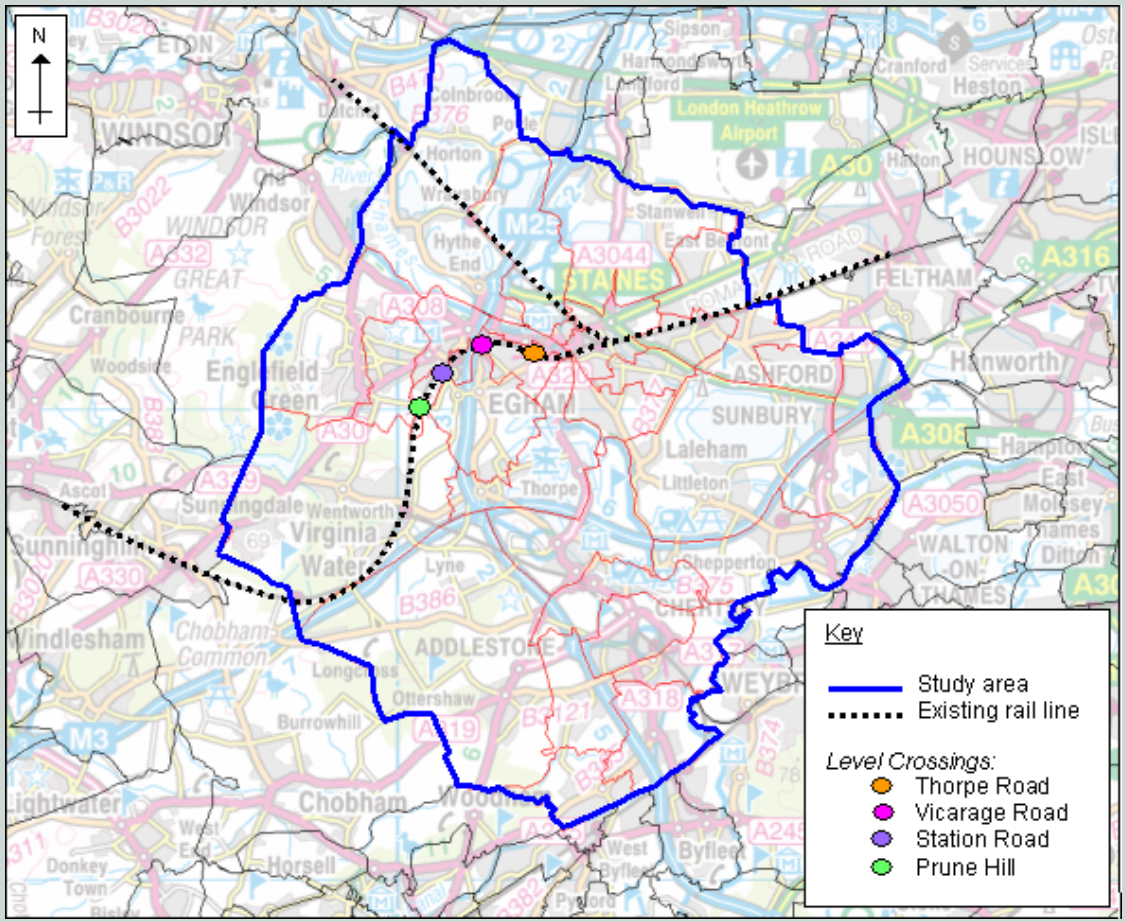
Model Assumptions

- Model used is a standard package
- Modelling follows Department for Transport guidelines
- Model is validated considering journey times
- Traffic surveys are taken on a neutral day/neutral month e.g. outside of school holidays
- Model Peer Reviewed

Model Assumptions - Forecasting

- Forecast years of 2016 and 2031
- Committed highway schemes have been incorporated:
  - M25 widening
  - A3 Hindhead improvement
  - Traffic calming along Pooley Green Road (which has now been constructed on-street)
- Proposed Waitrose and Hotel development within Egham town centre has been included
- Growth factors derived from DfT data (known as Tempro) were applied to obtain forecast year matrices

Model Enhancement



The model was enhanced within the study area. This included:

- The insertion of level crossings and key junctions
- A network audit

Could we build the underpass?

- We cannot build anything that we want on the highway network:
  - TWA Act Inquiry and the role of the inspector…
  - DfT criteria for funding major schemes…
  - Compulsory Purchase Order….
- All require a scheme with benefits that are higher than its costs
- The underpass needs to have benefits that exceed its circa £25 million costs
- Our estimate is that the scheme has disbenefits of minus £1million…it makes things worse

Why doesn't the underpass work?

- Only a small amount of local traffic will divert from the other level crossings to the underpass
- This is due to the short journeys of vehicles which cross the level crossings and the large diversion involved to travel via the underpass
- This is further worsened by the fact that the majority of trips which divert via the underpass will also travel through Runnymede Roundabout
- Runnymede Roundabout and its approaches are very congested - delay here is large and worse than that provided at the level crossings

For example

- Observed data shows that nearly 60% of vehicle trips that cross Thorpe Rd level crossing are less than 3 miles
- Vehicles are not diverting away from their most direct route to travel via the underpass to avoid a level crossing
- Their most direct route remains the quickest in journey time
- Journey time comparisons are shown on the next slides

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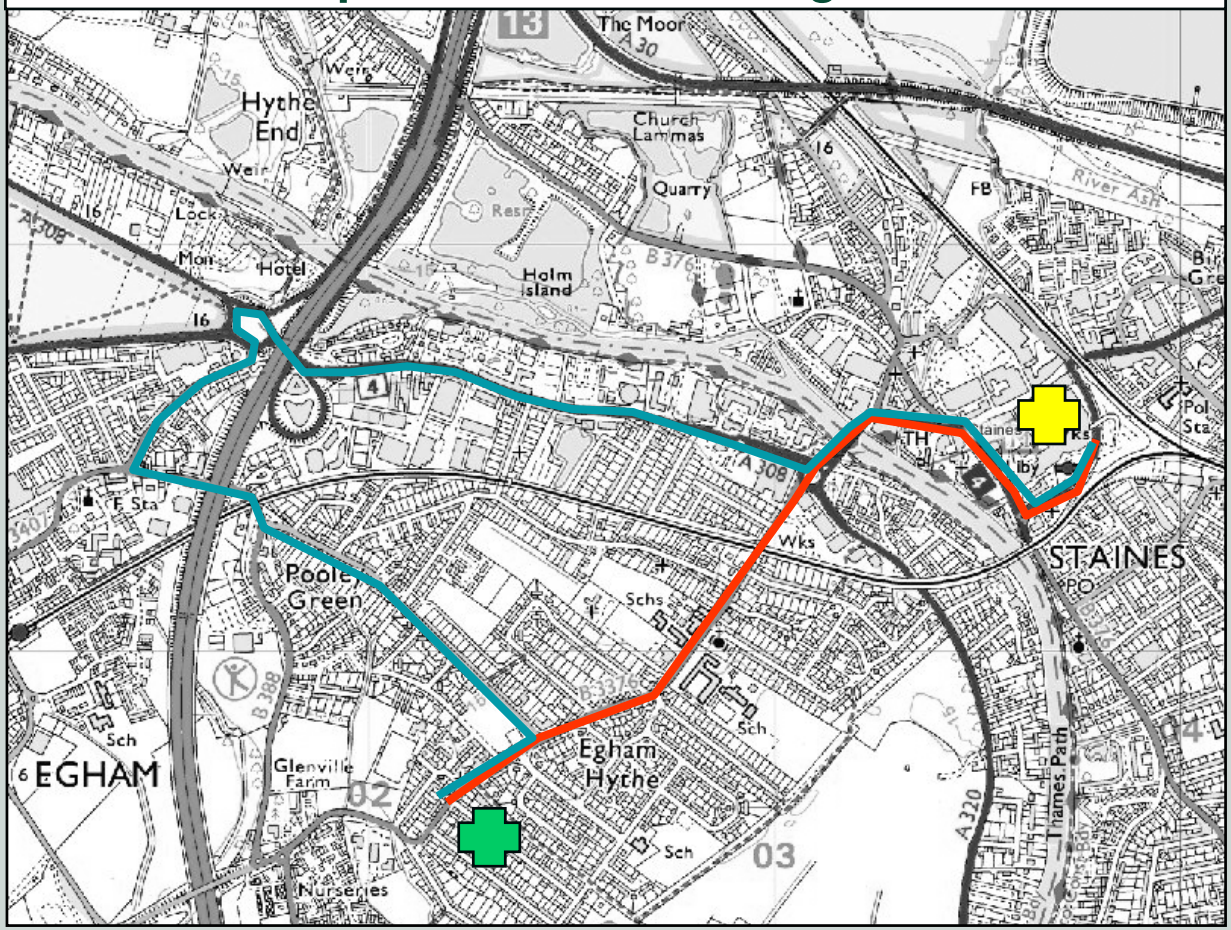
Comparison of trips between Thorpe Road and Vicarage Road



Origin

Destination

Route A via Thorpe Rd level crossing

Distance = 1.3 miles

Journey time = 14 mins

Route B via underpass

Distance = 2.8 miles

Journey time = 18 mins

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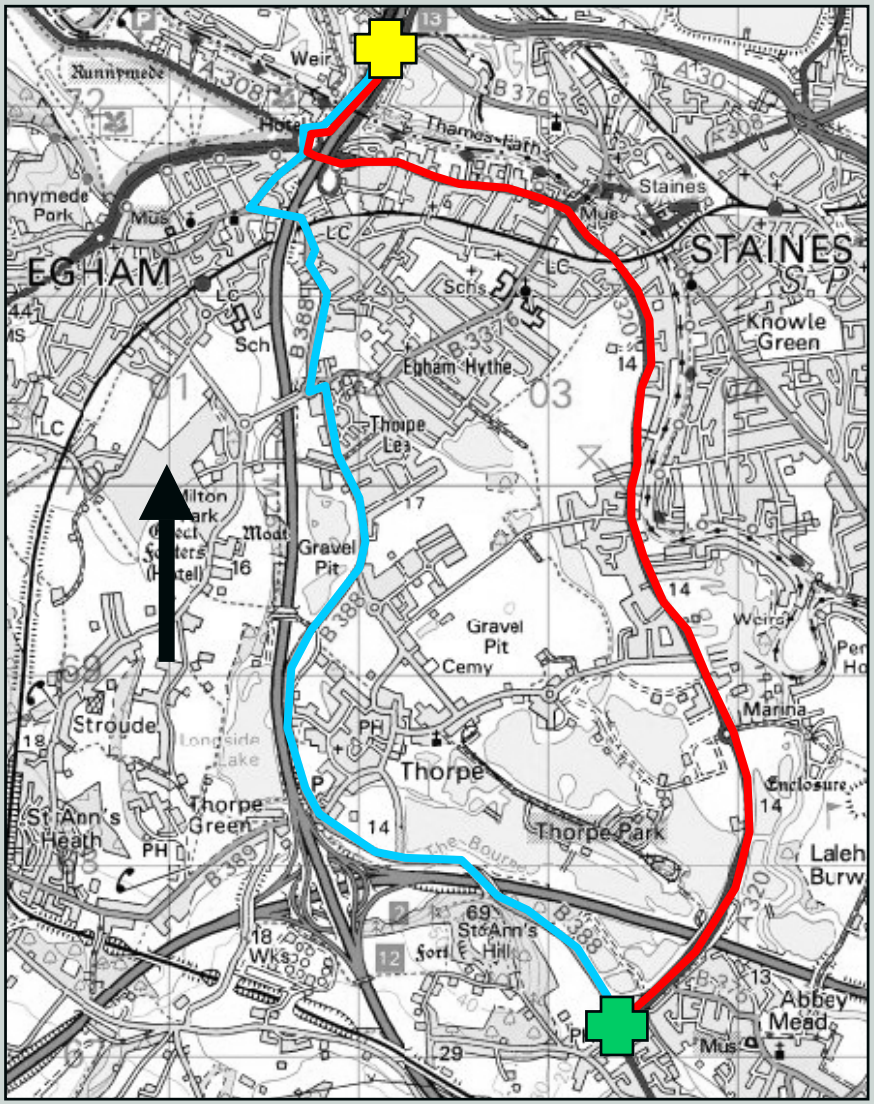
Long distance trips – attraction to underpass



Origin

Destination

Route A via A320 (avoiding level crossings)

Route B via B388 and level crossing

- *Distance for routes A and B are the same*
- *2016 journey time is approx. 2 mins longer along A320 due to delay between Staines Bridge and Runnymede Roundabout*
- *The underpass (with 30mph speed limit retained) causes a reduction in travel time of approx. 30 seconds on B388*
- *Any reduction in travel time along B388, attracts vehicles from A320*
- *In AM peak hour (0800 – 0900) this attracts 100 vehicles from A320*
- *Scheme aimed at local trips and do not want to attract longer distance trips from main routes unaffected by level crossings e.g. A320*

Are we sure?

- All traffic models are estimates, but...
- .... this scheme is a very long way from having positive benefits
- Further data or investigation will not change the conclusions
- We looked at variations to the scheme – e.g. traffic calming, 20 mph limits - Nothing worked
- Tests were carried out to verify the model's reflection of level crossing delay
- Conclusion – the underpass does not help reduce delays caused by level crossings

So what can we do?

- We will work with Network Rail, the rail operators and BAA on the signalling and timetabling
- We have looked for other ways to reduce delays either side of the level crossings
- Most people are interested in the time it takes to do the whole of their journey
- Downtime is perceived to be unacceptable, but compare its delay with signalled junctions…

Delay comparison

Total existing barrier downtime AM peak hour at Vicarage Rd level crossing = 26 mins.

Total proposed barrier downtime with Airtrack in 2016 at Vicarage Rd = 31 mins.

Total existing equivalent red light on B3407 The Avenue arm to Runnymede Roundabout in AM peak hour = 49 mins. During PM peak this rises to 54 mins.

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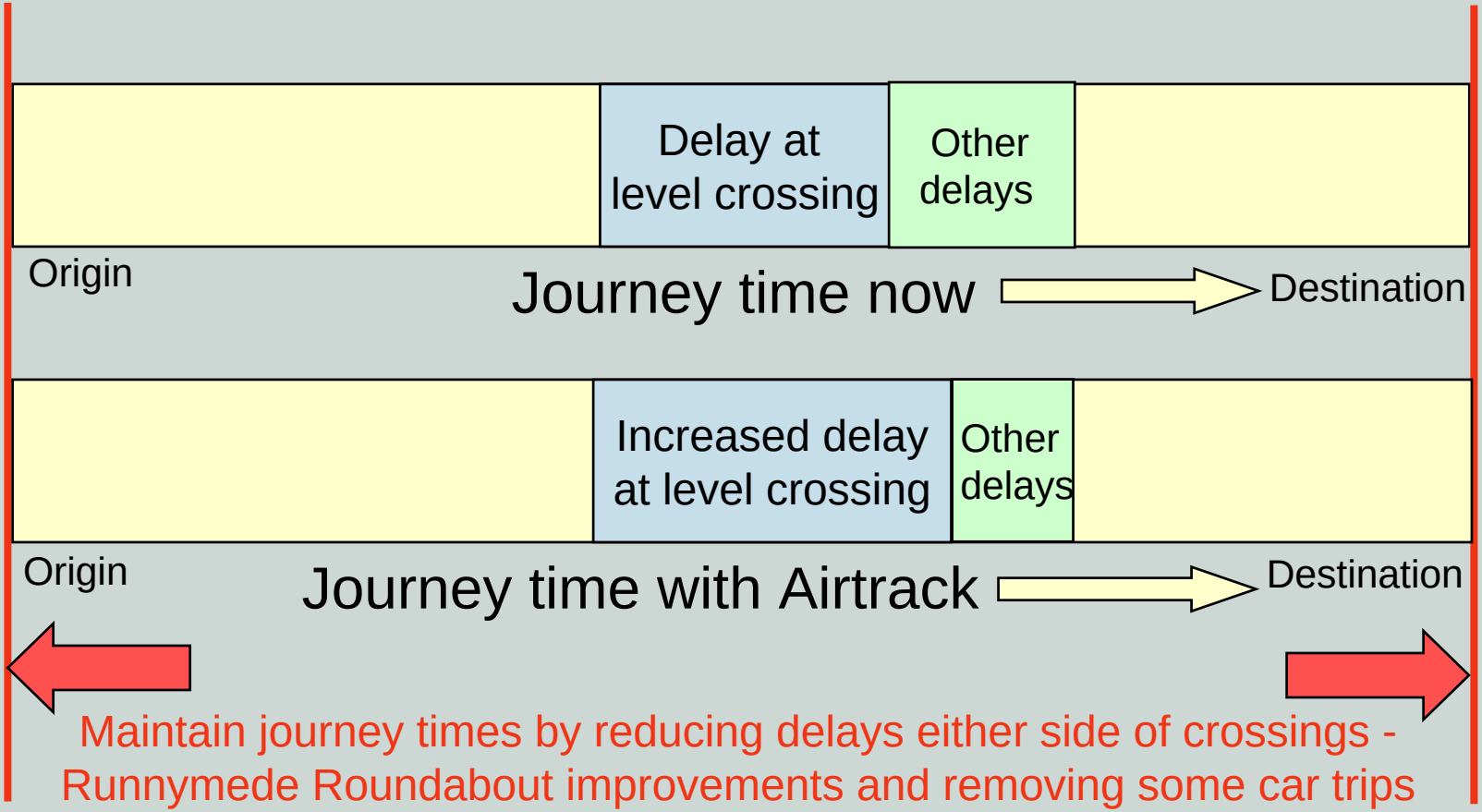
So in the case of level crossings, the aim is to maintain overall journey times



Maintain journey times by reducing delays either side of crossings - Runnymede Roundabout improvements and removing some car trips

Proposed Mitigation Package

1. **Runnymede Roundabout** – improvements to improve capacity and safety
2. **The Avenue/High Street/Vicarage Road Junction** – junction improvement
3. **Carbon Reduction and Environmental Measures** – walking/cycling improvements in the vicinity of level crossings, potential new footbridge(s), travel planning amendments to Rights of Way and SSSI compensation land.
4. **Egham & Staines Bus Priority Measures** – traffic management to compensate for bus delays.
5. **Improve Cycle Parking at all Surrey Airtrack Stations** – Guildford, Woking, Chertsey, Virginia Water & Staines.
6. **Staines & Chertsey Stations Controlled Parking Zones**
7. **Rusham Level Crossing** – safety improvements in the area
8. **Addlestone Level Crossing** – investigate bus priority at level crossing

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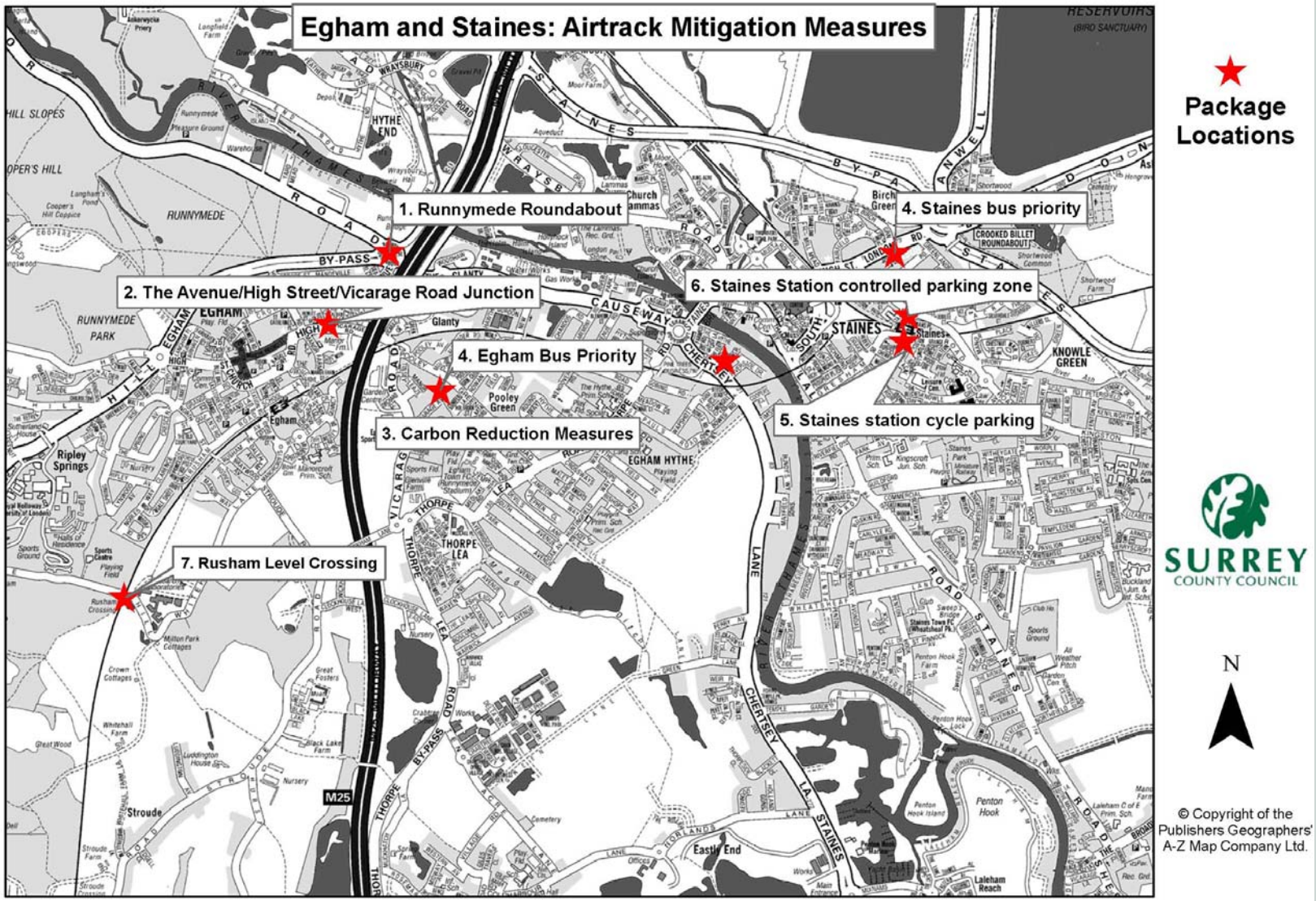

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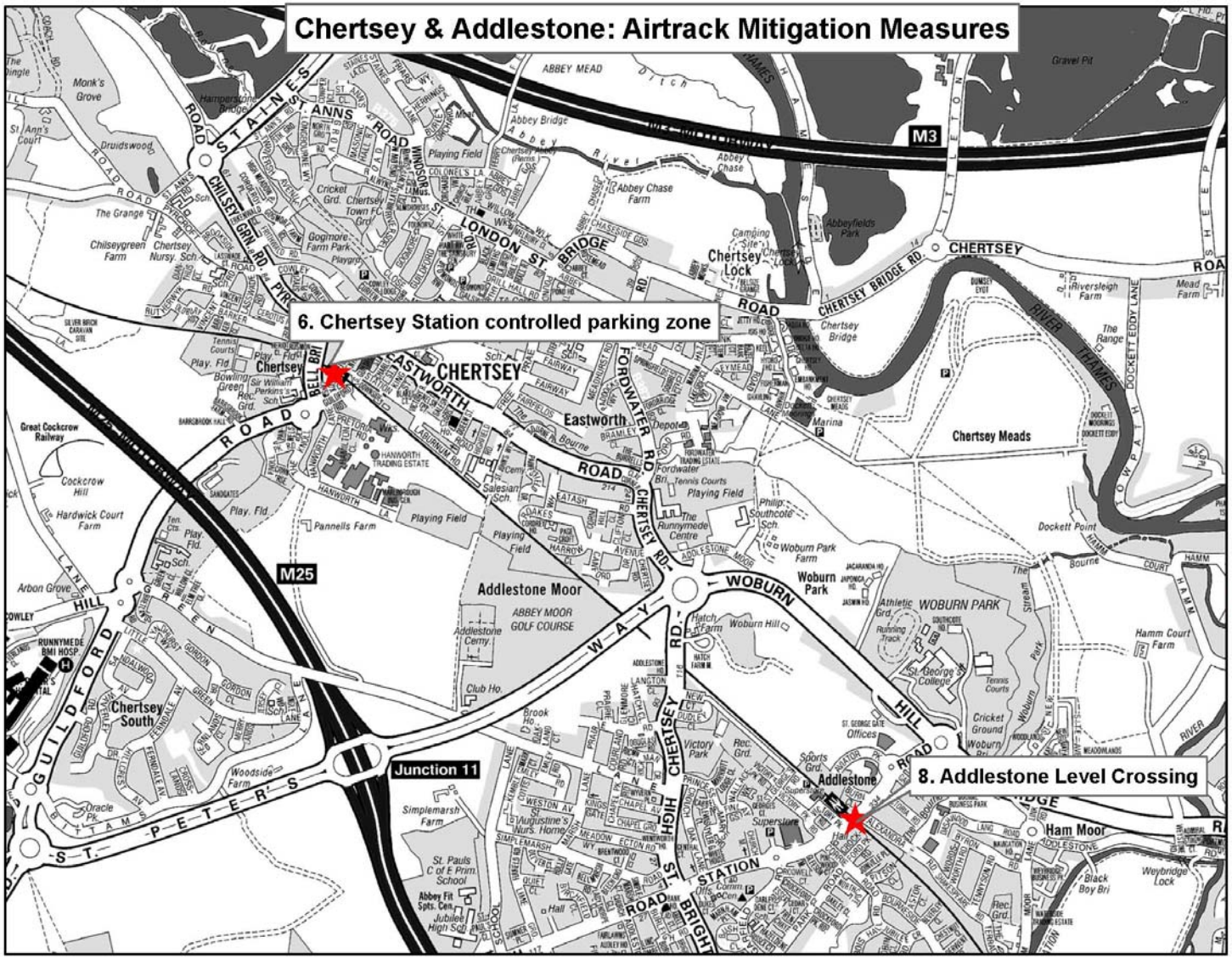

Runnymede Roundabout

Total AM peak hour existing junction delay = 431 hours

Redesign = 60 hours

AM peak hour existing average delay per vehicle = 4.5 mins

Redesign = 38 seconds

Existing problems:

- Tired and old (lack of markings, poor lane discipline, under utilisation of carriageway, over capacity etc.)
- 'Difficult' merge where The Glanty and Causeway meet
- Insufficient circulatory capacity
- High unbalanced delay on A30 arm
- Non-responsive part-time signals
- High numbers of u-turn traffic from The Glanty

Runnymede Roundabout

Why?

- Situated within ½ mile of a level crossing
- Approx. 40% vehicles which travel across the level crossings also travel via Runnymede Roundabout
- Reduces the predicted increase in traffic flow using Rusham level crossing
- Reductions in delay offset those experienced at level crossings
- Initial analysis indicates delay saving of approx. 3 minutes per vehicle
- Reduces ‘rat-running’ through Egham
- Provides modern adaptive traffic signal control
- Provides formal crossing facilities for pedestrians and cyclists

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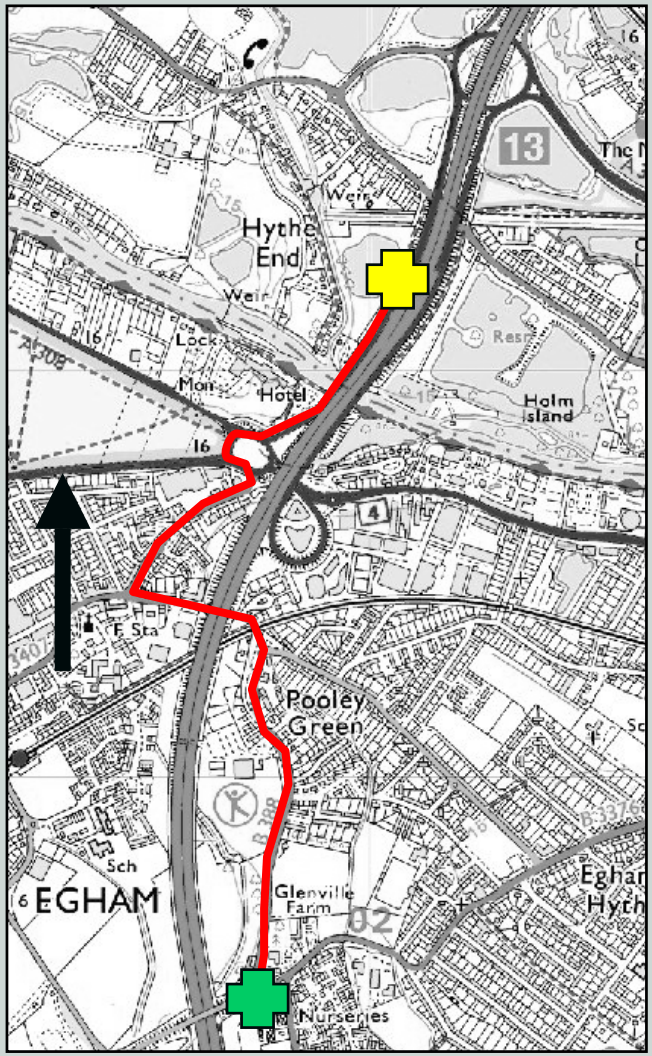

Origin

Destination

Northbound 2016 Average Journey Times

	AM Peak Hr (0800 – 0900)	Av. PM Peak Hr (1600 – 1900)
Airtrack no mitigation	09:07	09:23
Airtrack plus Runnymede Roundabout improvements	08:53	07:13
Difference	-14 seconds	- 2 minutes & 10 seconds

Northbound trips through Runnymede Roundabout and Vicarage Road

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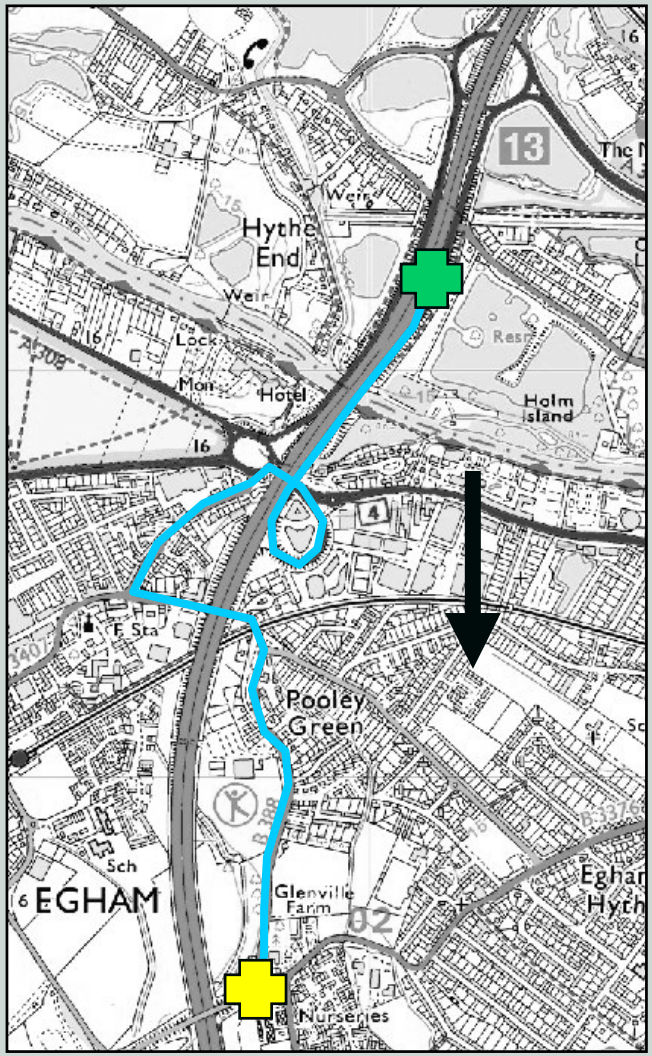

Southbound 2016 Average Journey Times

	AM Peak Hr (0800 – 0900)	Av. PM Peak Hr (1600 – 1900)
Airtrack no mitigation	09:43	10:07
Airtrack plus Runnymede Roundabout improvements	06:50	08:16
Difference	- 2 minutes & 53 seconds	- 1 minute & 51 seconds

Southbound trips through Runnymede Roundabout and Vicarage Road

Conclusion and Next Steps

- We really wanted to make the underpass work
- But traffic modelling shows that it makes delays worse, not better
- Even if we wanted to argue for it, we would almost certainly lose
- The negotiated package is a good deal for Surrey
- Consulting with Local Committees and report to Cabinet (Nov 2010) and Council (Dec 2010)

Committee Report recommendations

The Committee is asked to:

- give its comments to Cabinet and Council on whether the package being offered by BAA should be accepted. These views will form the basis of the report to Cabinet in November and Council in December
- review the comments previously agreed by this Committee in relation to the Heathrow Airtrack scheme following consideration of the updated information contained in this report
- give its views to Cabinet and Council in relation to specific aspects of the Heathrow Airtrack scheme as set out in the report and Annex A