



## Farnborough Proposal: Framework briefing notes – Wed 24th July 2013

██████████ CAA SARG Consultation  
██████████ CAA SARG ACP Case Officer  
██████████ NATS Consultancy  
██████████ NATS Farnborough ATC Unit Management  
██████████ NATS Farnborough ATC Unit Management  
██████████ NATS Airspace Change Specialist

The FWB itself was agreed, and the following was discussed:

██████████ commenced a presentation to update the meeting on the airspace change proposal. He outlined the progress to date and highlighted the changes to the project compared to the last FWB meeting.

██████████ stressed that we need to provide detail on the design options that were considered and rejected. As there are at least 30 designs, ██████████ undertook to provide a summary of the design concept decisions that led to the “Gliders decision point” circa Opt 17-22, and the main detail will be around the reasons rejecting the direct-to-CPT-path SIDs. The Do Nothing option will be considered.

Discussion around requirement to resolve the radio fail procedures for arrivals.

Question from ██████████ about likely TAG reaction to delaying the consultation and implementation and general agreement that implementation in summer period was not a good idea.

██████████ suggested that we need to put realistic forecast traffic figures into the consultation documentation (██████████ stated that this was in hand).

Discussion around the Odiham missed approach procedure and requirement to ensure that procedures are clearly defined. This is not part of the consultation or ACP but something that needs to be agreed between Farnborough and Odiham.

██████████ suggested that we need to have really strong evidence for the environmental benefits/disadvantages along with the mitigations for the extra track mileage that will be flown on the CPT departures.

██████████ outlined the importance of balance in terms of the compromises that all stakeholders may need to make. It was also highlighted that Farnborough ATC already feel that they make a large number of concessions to GA in order to ensure that they received a good service, and that, in some cases,

this may not be fully recognised by some elements of the GA community. [REDACTED] undertook to raise this in the consultation.

[REDACTED] raised the subject of the Lasham MoU and that Lasham had refused to re-sign it. [REDACTED] agreed to raise this matter with the SRG inspector, should agreement not be reached with Lasham to continue the MoU. This is outwith the FWB *per se*, but illustrative of the difficult negotiations in which Farnborough ATC is involved.

[REDACTED] raised the issue of SIDs not being entirely within CAS but that the mitigation was the climb rate of aircraft on these SIDs. Discussion ensued about CAP 778 requirements and [REDACTED] advised that this was being looked at across the country and therefore did not anticipate any issues with Farnborough taking this approach as this would not be setting a precedent.

Discussion around the possible design of an RMZ area and also the Gatwick fillet of airspace that is being negotiated with Gatwick. The point was raised that more aircraft flying in this area could affect some residents, however there is Class G available for GA use in that area, albeit lower.

[REDACTED] advised on the topic of publishing a departure route over an area of outstanding natural beauty and the requirement to mitigate this as a route is not presently published.

[REDACTED] outlined the present and proposed arrival and departure routes.

Discussion around Fairoaks operation and impacts of design upon them. Proposal is that the “sharks-fin” area would be LL CTR down to the surface but could have ATS delegated to Fairoaks or Farnborough. The plan would be for Farnborough to be the airfield which determined the met conditions in this area as it is closer than Heathrow.

Change to GA patterns (effect to people on ground) was discussed (both generally and Fairoaks-Bracknell option). [REDACTED] stated that, if GA can fly in an area (VFR or SVFR) and would continue to do so, it is a “no change” scenario regardless of the effect of CAS, due to random nature of GA flights.

Question of whether population count was required, due to the use of OS maps showing the proposed tighter track corridors – [REDACTED] would consider this when appropriate.

Discussion about the Phase1/Phase2 plan – reminder to be really clear about how this is presented within the consultation material.

Agreed that Phase 2 occurring within 5 years of ACP implementation would be appropriate as long as suitable information relating to the decision was made at the time of implementation.

Presentation ended.

[REDACTED] asked to see the proposed controlled airspace extent on a map and there was a discussion about how we should engage with some of the stakeholder groups some distance from Farnborough. Best route may be to do some pre-consultation engagement perhaps in tandem with LAMP. In particular, approach the county councils first, but also consider AONB/National Park representatives.

Discussion about danger areas and requirement to reach agreement with army. Discussion about HIRTA operations.

█████ advised that all ACPs now subject to double AIRAC cycle.

Further discussion ensued around the subject of requiring a balanced approach to all stakeholders.

Discussion about SVFR and the implications of having to separate would lead to bunching of traffic outside the zone waiting to get in. This scenario to be added to the specific SERA consultation response document relating to Farnborough that will be submitted as part of the NATS-wide response to the consultation.

Meeting closed.



Framework Brief Update:  
Farnborough Area  
Airspace Efficiency Proposal

24<sup>th</sup> July 2013, 11am, CAA Kingsway

REDACTED

# Framework Brief: Farnborough Airspace Efficiency

Left side:

Subjects discussed in original FWB

Right side:

Updated info

Linked Farnborough proposals (Heathrow SIDs, Farnborough CAS)  
**combined into a single proposal as per email 28<sup>th</sup> June**

# Framework Brief: Farnborough Airspace Efficiency

## Objective

Enhanced safety, predictability & efficiency  
Minimum possible impact on GA and MoD

## Description

Establish PBN arr/dep routes (not 06 arrs)  
Minimal Class D CTR/CTA

Possible RMZ also

## Impacts

ATC, civil/mil traffic, GA/S&RA traffic  
Environmental (noise, CO<sub>2</sub>)

## Issues

PBN Routes (design criteria)  
Consultation & Engagement  
Local Airspace Geography  
RMZ  
Airshow - CAS(T)

## Objective

No change

## Description: Phased Implementation

Phase 1: CTR/CTA to allow for  
RNAV SIDs 06/24 (current criteria)  
STAR from S (via LAMP), from N no change  
Arrivals vectored to ILS/SRA/Visual no change

## Phase 2 (optional):

No change to Phase 1 CAS, SIDs may go RNP  
RNAV/RNP transitions from STAR to SBAS final  
(transition to ILS in due course)

Possible RMZ near NW Gatwick CTA

## Impacts

SERA (to be discussed)

## Issues

PBN - Phased implementation helps here  
Consultation – Phasing will be explained  
No change  
Could play a supporting role to main CAS  
No change  
CAP778 compliance (to be discussed)  
SERA (to be discussed)

# Framework Brief: Farnborough Airspace Efficiency

## Basics

Min. Class D CAS requirements for vectoring & routes

Disappears when airport closed (ATZ H24)

Priorities for TAG

Transit clearances expected to be routine VFR route(s)  
Non-radio access provision

PBN routes to reflect current traffic pattern

increases predictability & systemisation  
accommodates tactical vectoring if req'd  
is sustainable beyond ground nav aids

## Basics

No change

Change to *radar* opening hours – provision of consistent CAS hours of operations 0700-2200 local (ATZ H24)

Airport itself opens & shuts as per today.

CAS and SIDs are the highest priority for TAG (arrivals vectored for now, transitions later)

**SERA discussion between FWB participants**

May result in partial redesign of Design 24.  
VMC criteria effects on VFR in Class D, Class G.  
Non-radio access would be provided for.

RNAV SIDs concentrate most deps to narrow corridors overflying minimally populated land at lowest levels. Would increase traffic over some villages whilst removing from others.

Rwy 24 in use 80% of the time (2012) would overfly military tank training ground ASAP after takeoff.

Arrival routes (vectored) similar to today, generally higher and tighter

# Framework Brief: Farnborough Airspace Efficiency

## Basics

Do nothing is not sustainable for expansion to 50,000 movements

Heathrow CTR SW corner

Gatwick CTA NW corner

Arrivals from N (CPT) – no change

Arrivals from S – STAR

## Basics

No change to requirement

Consultation would cover impacts due to:

Realistic Forecast for 2015 and 2020 based on current projections of traffic

Busiest Forecast for 2015 and 2020 based on planning allowance maxima

“Shark’s Fin” sfc-1500ft or 2000ft TBD

ATS delegated to Farnborough or Fair Oaks, for their tfc via A322 road SE of Bracknell. LTC on board, draft LoA to be written in due course

Corner planned to be cut-off to widen GA “funnel” LTC on board, awaiting GIP negotiation

Outcome is uncertain

RMZ may be appropriate in this area

Similar altitudes to today, possibly remaining within CAS between CPT/Basingstoke area though depends on LTC traffic situation

(CAS is assured after Odiham)

Tactically, could send flights N-S at high levels (e.g. FL100+), to join new STAR from E of IOW (contingency)

**Arns from S to HOLD (was SUSIX)**

**Now part of LAMP Phase 1a scope**





# Framework Brief: Farnborough Airspace Efficiency

## Basics

Implementation May 2014 or after summer 2014

## Basics

Phase 1 planned impl Dec 2014 (current scenario, not including SERA discussion)

Phase 2 depends on TAG's needs over next 5 years, consultation would cover both phases

## Benefits

Farnborough non-Airport traffic:

Balance actual (& perceived) restrictions to GA/S&RA against safety & efficiency

## Benefits

Same

*(GA benefits depend on SERA discussion)*

Farnborough Airport and Clutch Traffic:

Reduced workload due to predictability

50,000 max flights per year could be supported

Future-proofing (FAS compatible)

Clutch airways tfc could remain wholly within CAS except during dep/approach phases of flight

RAF Odiham helis weekday protection enhanced, and weekend RAF gliding club freedom also

Same overall (Phase 2 implementation in time, if TAG decides to proceed)

Change to RAF Odiham missed approach proc would provide mutual benefit in theoretical circumstances where both Odiham and Farnborough have **simultaneous** go-arounds (consultation: no impact due rarity)

LTC:

Reduced workload due to predictability (MVs?)

LAMP team on board

LL CTR classification change team on board

Same. LAMP Additional: STAR/hold to S, inc IOW area CAS lowering, now part of LAMP

Phase 1a network consultation/ACP.

**SERA** is forcibly driving LL CTR change and must be priority over Farnborough, but both teams are communicating



# Framework Brief: Farnborough Airspace Efficiency

## Environment

## Environment

Generally speaking, TAG's priorities are to the local community first, the effect on GA second, and fuel economy for its aircraft third

## Noise

Early L turn from rwy 24 depts (used 80%) would avoid populated areas at low levels (tank training ground)

"Noise canx" depts can be removed (primarily at wkends due gliding)

## Noise

Rwy 24 depts early L as per original FWB, steep climb gradient defined (which is already flown, no noticeable change to engine settings)

Definition of "fewer people overflown" will be clear by reference to OS maps (no popn count), see later slides

Rwy 06 (20% of all depts) to turn R after dep but slightly earlier and would also avoid more population centres. Defn. of "fewer people" by OS map as above, see later slides

57dB Leq contours not reqd as per assumptions and emails between NATS and ERCD.

Agreement in principle exists between DAP and NATS.



57dBLeq



DAP (AG)



Farnborough  
Airport

# Framework Brief: Farnborough Airspace Efficiency

## Environment

### Concentration vs Dispersion: Arrivals

Rwy 24 vectors to join PBN routes at intermediate point, concentrated when on PBN route

Rwy 06 similar to today but higher, no PBN routes

### Concentration vs Dispersion: Deps

Rwy 24 concentrated around PBN procedures (plural, one to NW, one to S), similar to today's typical departure tracks

Rwy 06 concentrated around PBN procedure similar to today's typical dep track

## Environment

### Concentration vs Dispersion: Arrivals

Phase 1 vectors to ILS/SRA/Visual approach as per today, tighter around more predictable tracks, Phase 2 as per left side text

Phase 1 as per left side text

Phase 2 will consider a PBN route

### Concentration vs Dispersion: Deps

Phase 1 deps concentrated within *one* RNAV1 SID corridor to S (see map later), no direct deps to NW due Lasham (LF tfc is compromised)  
Phase 2 further concentrated due RNP RF

Phase 1 as per left side text (see map for differences from today)

Phase 2 further concentrated due RNP RF

# Framework Brief: Farnborough Airspace Efficiency

Environment Fuel/CO<sub>2</sub>

From previous FWB

Reduced track mileage

Arrivals kept higher for longer

Deps climb higher earlier

Difficulty of measuring effect of avoiding action

Overall reduction in fuel/CO<sub>2</sub>

Environment Fuel/CO<sub>2</sub>

Arrivals

Track mileage from S likely to be similar to today, unless contingency HOLD in use

More predictable track mileage

Arrivals kept higher for longer than today

Deps

Likely increase in track mileage for most deps to N (40% of all deps), due revised routes that all go S before turning N (see maps later)

Partially mitigated by:

- All deps climbing higher earlier
- No avoiding action (known traffic environment)
- Ground delays with engines running: reduced

Effect of Unknown/Uncooperative Traffic

Baseline figures will include a range, based on assumptions of effect of avoiding action (typical mileage increase on any given track at a typical altitude, typical frequency of occurrence, typical aircraft type)

Effect of combination of all these is uncertain, range could be broadly neutral to slightly worse than today

Awaiting fast-time sim then "KERMIT"



# Framework Brief: Farnborough Airspace Efficiency

## GA Impacts

Class D allows GA transits  
Longstanding record of cooperation & supporting GA (LARS would be retained, more capacity due predictability and reduced coordination workload)

Pre-engagement planned with national representative GA/S&RA bodies  
Most GA groups generally against changes (BGA, LAA, others)  
Compromises already happen daily to Farnborough IFR traffic due unknown/uncooperative blips  
Design team are extremely aware of these users  
Farnborough is seen as the last “CAS gap” in the LTMA. No intent to close “gap” to transiting GA and will work to mitigate the effect as far as practicable

Consideration of VFR changes to concentration (people on ground)

## GA Impacts

**SERA discussion between FWB participants**

Local airfield engagement going well (Fairoaks, Blackbushe)  
BGA (Lasham) still hostile, LAA and similar organisations resistant, but on speaking terms.  
We need to state in the consultation doc:  
“This is the approach we must take due to number and speed/size of movements. We will try to minimise impact on GA, but GA should also compromise to assist Farnborough IFR traffic” (or similar text, without being bombastic)  
Aviation-specific section of consultation document will ask relevant questions

Difficult to specify these effects to people on the ground, due to the essential randomness of GA.  
Section will describe *potential* effects of GA *generically* around Farnborough, without detail except for Fairoaks VFR lane towards Bracknell (see map later)



**Farnborough Traffic:**  
40% to/from N  
60% to/from S

Turn N on passing FL70

RMZ below CAS in pale area (sketch)

KK CTA corner cut-off and/or RMZ to mitigate GA funnelling & infringement risk (sketch)

Climb below KK deps

**HOLD is offscreen to S**

**Blue lines** are SIDs based on current design criteria.

**CAP778 mitigation for SID CAS containment** – at 4,000ft, they technically leave new CAS (blue dashed lines) - **discuss**. CAS required to enclose the entire SID to 4,000ft would be excessive, and would never be used by anyone - Mitigation is that all deps would outclimb the SID, and LTC or Solent would take them as early as possible to fit them around other flows

**Red dashed line** is a possible departure tactical shortcut route direct to SW (occasional use)

**Purple dashed line** is a contingency tactical route CPT-SAM-HOLD (not FPL-able).

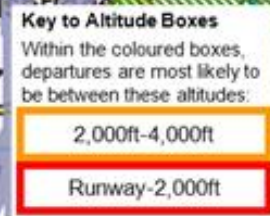
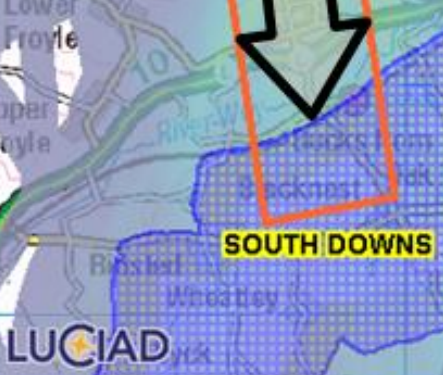
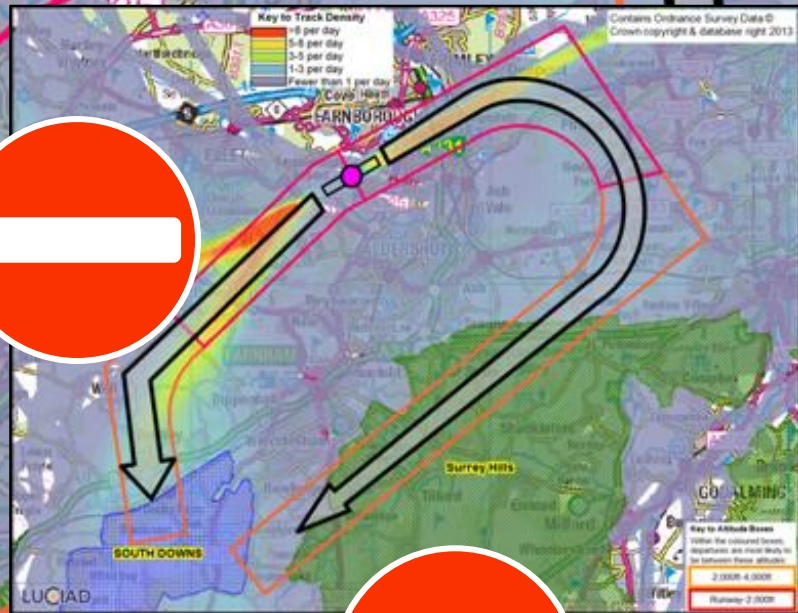
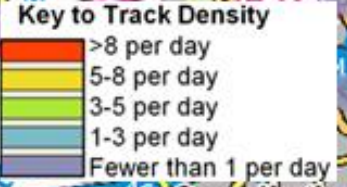
**Amber solid lines** are standard arrival vectoring paths. (future RNP RF-SBAS and/or RF-ILS arrivals for Phase 2)

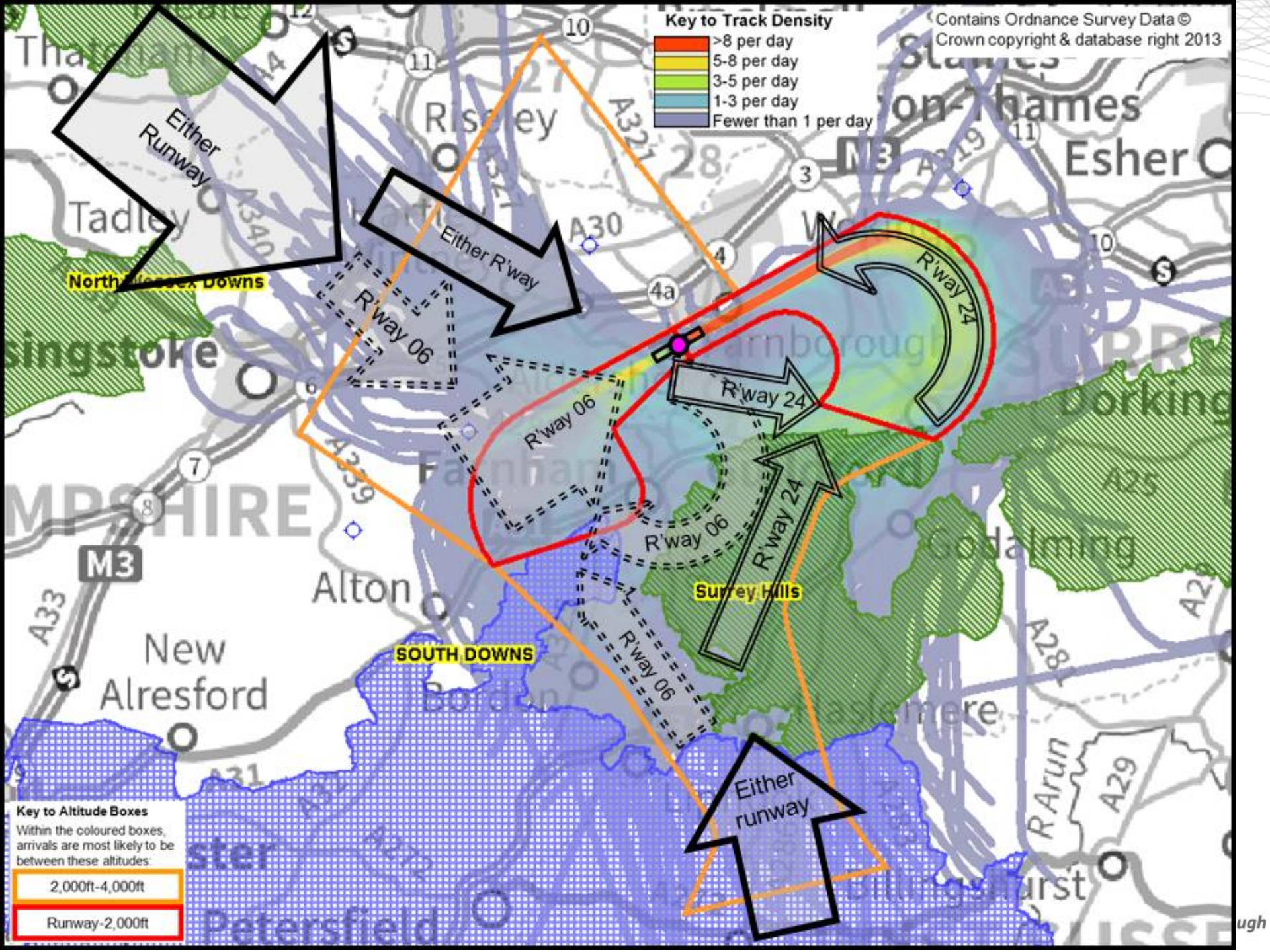
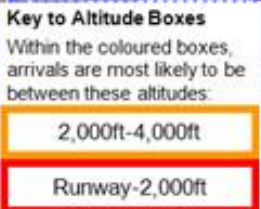
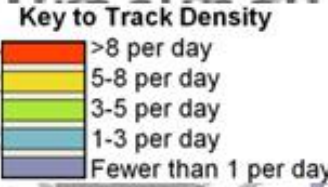
From south, majority are from SE  
**Northern Black line** is new Fair Oaks VFR route to/from Bracknell area within the “Shark’s Fin” delegated from LL CTR

**Southern Black Line** is the “lane” to/from Guildford (essentially no change from today)

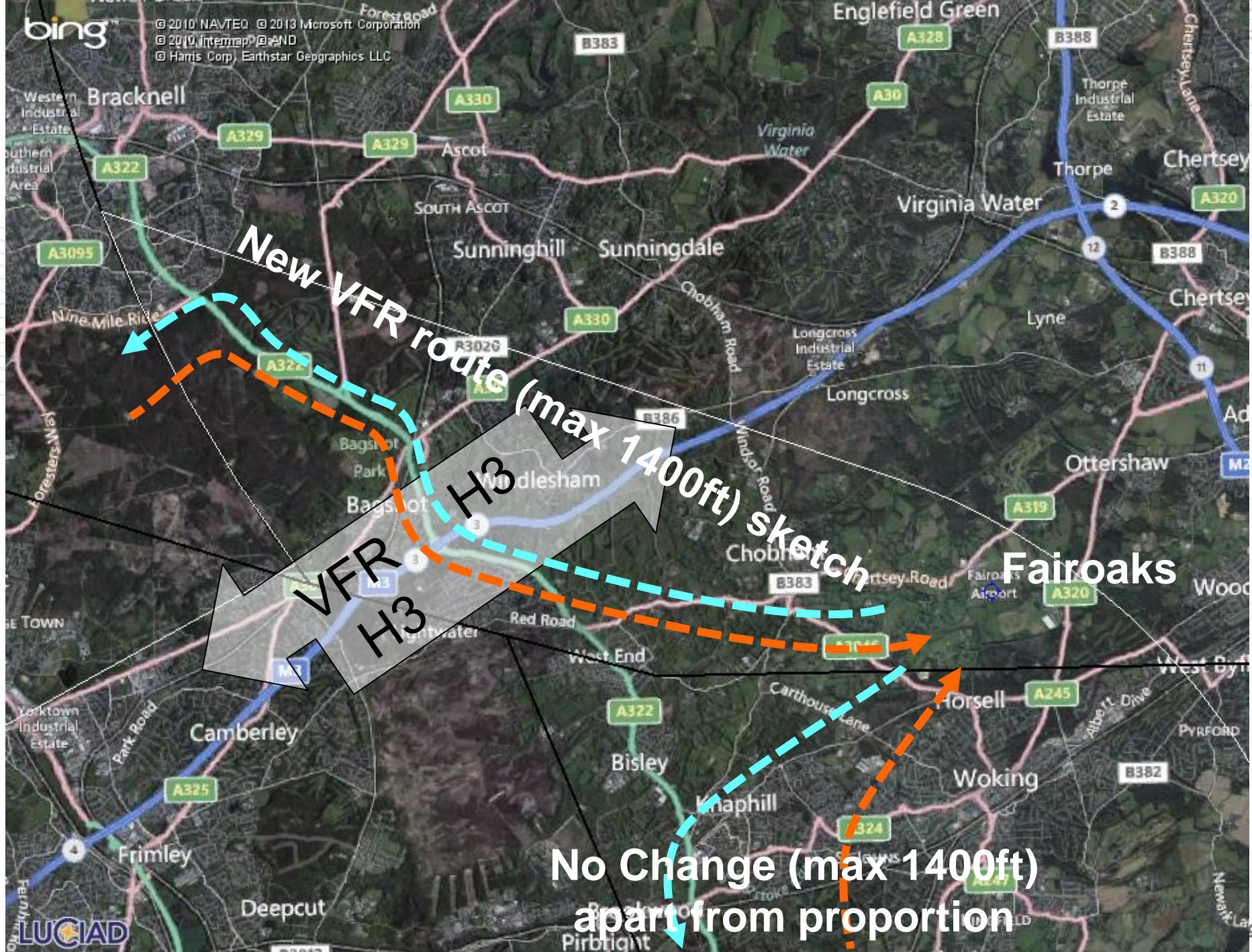
**RMZ discussion**  
STARs into HOLD from S, SE – east of IOW over the sea, FL70-FL100, all done by LAMP for LF/Solent network (was SUSIX)











New VFR route

VFR H3 (max 1400ft) sketch

No Change (max 1400ft) apart from proportion

Fairoaks

# Framework Brief: Farnborough Airspace Efficiency

## Consultation Plan



Draft Stakeholder  
List

Comprehensive list in progress (current draft attached)  
12 weeks minimum (current plan is 26 Sep to 20 Dec 2013, however this is likely to be delayed by between 1-3 months for *SERA advice & guidance*)

Engagement is ongoing including GA groups and local airfields

Public meetings planned for the opening weeks of the consultation

Meetings with Council stakeholders will be planned if requested (FACC primarily)

English only

Web based (paper submissions accepted & processed equitably, **not** via freepost address)

TAG website designers are engaged

Population count not needed (OS maps clearly show changes in population centres overflow)

Single option presented, with brief explanations as to why other main option was rejected

Single consultation to cover two potential phases of implementation – the predicted impacts of the main Phase 1 implementation, and subsequent Phase 2 impacts, will be explained

Phase 1 “ring-fences” CAS for vectoring as the **primary requirement** for the ACP.

RNAV1 SIDs are expected to be implemented simultaneously unless a showstopper appears

Included: Heathrow and Gatwick SID gradients raised (as discussed)

Phase 2 (RNP inc RF legs) is optional, if desired by TAG within 5 years of Phase 1 implementation  
(Request DAP agreement that consultation validity and relevance is for 5 years)

# Framework Brief: Farnborough Airspace Efficiency

Consultation Material: [On Website](#)

Postcode entry will bring up recommended maps & document sections  
(also a link to the entire collection)

FAQs document or equivalent web page (layman audience)  
Login/account creation to make a response (preferred method)  
Printable response form (alternate method)

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Document will most likely be PDFs:

Part 1 Introduction, Summary, Useful Info (layman audience)

Part 2 Changes below 4,000ft (layman audience, largest section, including very generic impacts due GA changes & randomness of GA tracks)

Part 3 Changes 4,000ft-7,000ft (layman audience, minimum ref to GA)

Part 4 Changes above 7,000ft (layman audience, minimum ref to GA)

Part 5 Aviation Technical (technical audience, aviation knowledge assumed e.g. GA pilots, air operators, aerodrome management)

Part 6 (Appendices) including Fuel/CO<sub>2</sub> and traffic type mix forecasts, other relevant data (layman audience with technical explanations where appropriate and relevant)

# Framework Brief: Farnborough Airspace Efficiency

DAP

Agreements, comments, issues, points to note?

END of presentation

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