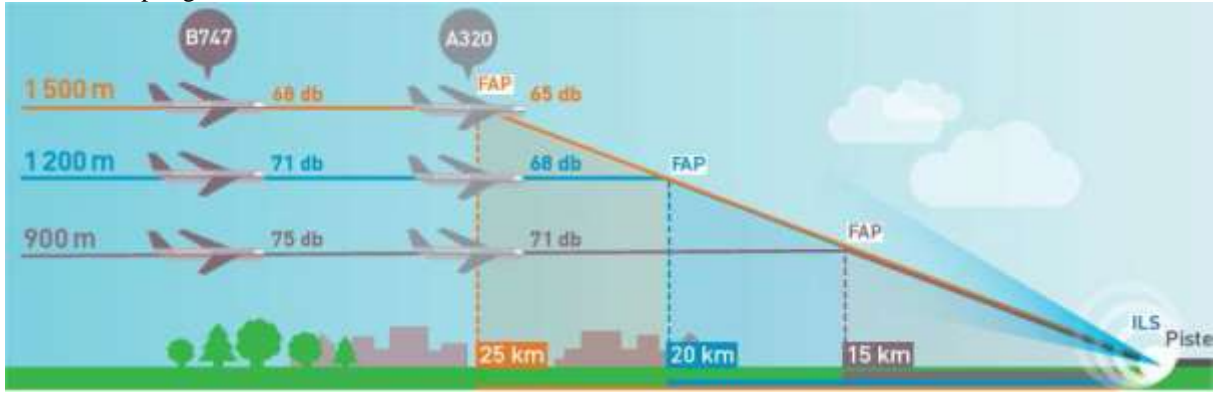


France Example 1

ICAO	
Template for good practice examples of environmental assessment (Draft V1.0)	
<p><i>Note: The italicized text is for guidance only and merely indicates the kind of information that is likely to be of value for users of the ICAO assessment guidance. You do not need to cover all points if some are not applicable to your case study.</i></p>	
<p>Organisation/Company: <i>(The name of the body that undertook or sponsored this assessment)</i> Direction des Services de la Navigation Aérienne (French Air Navigation Service Provider)</p>	
<p>Project Title: <i>(The title of the project being assessed)</i> ILS interception altitude Increase in Paris Area</p>	<p>Date of Assessment: 2008-2011</p>
<p>ASBU Module Code(s)¹: APTA – Airport Accessibility</p>	<p>State's Action Plan²:</p>
<p>Project Description: <i>(Briefly describe the project or proposed operational change to be assessed for its environmental implications; Please when possible, use schematics for illustration.)</i></p> <p>For environmental reasons, the aim of this project was to increase the ILS interception altitude in order for aircrafts arriving at one of the three main airports in the Paris area (Charles-de-Gaulle, Orly and Le Bourget) to be higher when intercepting the ILS</p>  <p>Therefore, some interception altitudes were to be changed:</p> <ul style="list-style-type: none"> ➤ From 2000 ft to 3000 ft at Le Bourget airport, 	

¹ **APTA**-Approach procedures including vertical guidance; **WAKE**-Wake vortex; **RSEQ**-AMAN / DMAN; **SURF**-A-SMGCS, ASDE-X; **ACDM**-Airport CDM; **FICE**-Increased efficiency through ground - ground integration; **DAIM**-Digital AIM; **AMET**-Meteorological information supporting enhanced operational efficiency; **FRTO**-En route Flexible Use of Airspace and Flexible routes; **NOPS**-Air Traffic Flow Management; **ASUR**-ADS-B satellite based and ground based surveillance; **ASEP**-Air Traffic Situational awareness; **OPFL**-In-Trail procedures (ADS-B); **ACAS**-ACAS improvements; **SNET**-Ground based safety nets; **CDO**-Continuous Descent Operations, PBN STARs; **TBO**-Data link en-route; **CCO**-Continuous Climb Operations

² <http://www.icao.int/environmental-protection/Pages/action-plan.aspx>

- From 3000 ft to 4000 ft at Orly airport in East configuration and for some runways of Charles-de-Gaulle,
- From 4000 ft to 5000 ft for other runways of Charles-de-Gaulle

Reason for the environmental assessment: *(Explain why the environmental assessment was undertaken and, if applicable, include any specific regulation, policy, or rule that requires the assessment to be undertaken)*

The French regulation asks the ANSP to undertake an environmental assessment prior to modifying any AIS publication to any ATC departure or arrival procedure (*Arrêté du 16 mars 2012 relatif à la conception et à l'établissement des procédures de vol aux instruments*).

The French ANSP (DSNA) has defined an internal process in order to make such environmental assessments, from a single basic assessment to a complete study with different noise charts and analysis.

It was expected that, due to these operational changes, noise pollution would be reduced for some population but aircraft trajectories would impact new population. The aim of the assessment was to demonstrate the global improvement in terms of noise pollution.

Client or competent Authority: *(Explain which body the assessment will be submitted to for their approval or decision making. Was the assessment internal or public? What audiences is it intended to inform?)*

DSNA produces the assessment which is presented to local communities and representatives prior to its finalisation. The assessment is then proposed to the National Supervisory Authorities (DSAC) for approval.

Assessment Approach: *(This section asks for a brief description of your application of the ICAO guidance for each main assessment step. If a step was not undertaken, give a brief explanation of why the step was omitted or is not applicable to this assessment example. Please complete each section individually. In this box you can explain why the ICAO approach to assessment was chosen. If you did not apply the ICAO methodology, please explain how your methodology differed from the ICAO approach.)*

This change being undertaken below 2000 meters, it was decided, in accordance with the ANSP policy on environmental matters, to focus only on noise impact and the density of population flown over. The assessment didn't take into account the impact in terms of gaseous emissions.

Once the change had been defined (as explained in the "Project description" part of this form), the assessment was mainly focusing on the following:

➤ **Density of population flown over by at least 30 airplanes per day:**

The comparison is done between the situation before the implementation of the change (based on real traffic) and after the implementation (based on simulations).

➤ **"NA 65dB/25 events" Area:**

The assessment aimed at identifying the areas where at least 25 events above 65 dB are encountered per day.

The comparison is done between the situation before the implementation of the change (based on real traffic) and after the implementation (based on simulations).

Considering these two indicators and based on the statistic population distribution, the aim was to identify the environmental benefit of implementing these changes.

Preparatory Work: *(Briefly explain the relevant background activities that have been undertaken to prepare for the assessment. This may include decisions or processes such as, deciding that an environmental assessment is required, identifying the assessment client, gathering base data, deciding on years to be assessed, deciding on assessment methods or standards to be applied. There is no need to cover all possible information, simply provide a sufficient explanation of the reasons why the assessment steps and approach were selected. How did you establish which rules, regulations, or standards applied to the assessment?)*

The assessment was made in compliance with the applicable regulation, which requires an environmental assessment to be made by the ANSP prior to any change on arrival and/or departure air navigation procedures.

The indicators to be used by the ANSP are yet to be decided on a case-by-case basis. For the changes described in this form, it was considered as appropriate to use the two indicators previously described: By considering the area with a high density of flights over and the area where the noise is often above a pre-defined level, the ANSP considered the two aspects of the environmental consequences of air traffic.

Describe the proposed [operational] change, its purpose and alternatives: *(Explain what will change as a result of the proposal to be assessed – this may repeat the information in the earlier project description. Explain why this project is required and what purpose it serves, and what alternatives have been considered. Information on why these alternatives were rejected is useful but not essential)*

These changes were decided at a political level to improve the global situation in terms of noise impact of aircrafts approaching the three main airports in France, despite possible negative impact on fuel burning. As the changes require the flight paths to be longer, new population would be flown over, but the global impact was supposed to be reduced. The aim of the environmental assessments was to predict these impacts.

Describe the scope and extent of the assessment: *(How was it decided that this assessment was needed – “screening”. Describe the impacts to be assessed, for example, aircraft noise, CO₂ or NO_x emissions, climate impacts or air quality impacts. Explain the decision making process that determined this scope and the level of detail to be used in the assessment – “scoping”. Also describe any formal processes to consult upon or agree on the scope, for example, via a nominated competent authority if applicable. Explain, for example, if the scope was set using expert judgement or a pre-assessment checks or information gathering. Also describe how the decision to undertake a more detailed assessment, or not, was taken. How were the base-case and proposed case(s) determined, why were particular years chosen?)*

The changes were planned on approaching procedures under 2000 meters: In conformity with the ANSP environmental policy, only aircraft noise was considered in the environmental assessments.

Describe the assessment itself: *(Describe any standards or mandatory requirements for the assessment to be undertaken together with the methodology, monitoring or model used to determine the extent of the environmental impacts for the proposal. Give an indication of the extent or time-horizons that were chosen (if not already described earlier). Was quality management applied? For example, was there a process to ensure that the input data for the environmental assessment was consistent with other parallel assessments? Were interdependencies encountered and how did you address any trade-off issues? Was the expertise for this assessment available from internal resources or procured externally?)*

For each of the following wind configuration, an assessment in terms of “density of flights over” and “NA65dB/25 events” has been made between the situation observed in 2008 (for Paris-Orly) or 2010 (for Paris-Le Bourget and Paris-Charles de Gaulle) and the planned post-implementation of the change situation:

- Paris-Orly East configuration
- Paris-Le Bourget East and West configurations
- Paris-Charles de Gaulle East and West configurations

Describe the results and how they were communicated: *(Explain in general terms what the results of the assessment were, how this was used, for example to what extent it informed decision making or approval for the project. Was it produced as a draft for consultation or simply as a final report? Were the results validated or verified in any way – for example were the assessment processes or quality management processes independently audited? Did the results feed into a wider process, for example, a business case assessment?)*

The results are described in annexes to this form:

- Annex 1 – Assessment on the population density at Orly Airport (East configuration)
- Annex 2 – Assessment on NA65dB/25 events at Orly Airport (East configuration)
- Annex 3 – Assessments on the population density at Le Bourget Airport (both configurations)
- Annex 4 – Assessments on NA65dB/25 events at Le Bourget Airport (both configurations)
- Annex 5 – Assessments on the population density at Charles de Gaulle Airport (both configurations)
- Annex 6 – Assessments on NA65dB/25 events at Charles de Gaulle Airport (both configurations)

In each map, the observed pre-implementation situation is represented in **pink and blue** and the planned post-implementation situation is represented in **green**.

For each indicator, the fluctuation in terms of population affected is established:

- **Paris-Orly:**
 - Density: -6099 persons
 - NA65dB/25: -9341 persons
- **Paris-Le Bourget:**
 - Density: +1452 persons (West configuration) and -31056 persons (East configuration)
 - NA65dB/25: -2951 persons (West configuration) and -31826 persons (East configuration)
- **Paris-Charles de Gaulle:**
 - Density: -4671 persons (West configuration) and +16539 persons (East configuration)
 - NA65dB/25: -7667 persons (West configuration) and -76786 persons (East configuration)

These results were publicly distributed in 2009 and 2011 and, based on the results of the public enquiries, the changes were implemented on 11th November 2011.

Lessons learned: *(Explain here what worked well, what could be improved, what you would do differently next time –If applicable please explain if you think the ICAO assessment guidance could be improved and in what way. If you did not use the ICAO methodology can you identify aspects of your methodology that could provide benefits to future iterations of the ICAO guidance? What aspects of the ICAO guidance would you apply to your own methodology for future assessments?)*

Indicator “95% of the trajectories area”

As there is a regulation in France requiring public enquiries based on the area where you have 95% of the trajectories under 2000 meters, this indicator was also used at first in the environmental assessments. This indicator appeared not to be appropriate when presenting the assessments to the population. It was therefore decided not to continue using this indicator for further assessments and to use the two remaining indicators density” and “NA65dB/25 events” instead.

Limitations of the simulations

The predicted trajectories are based on simulations made prior to the implementation of the change. These simulations give a correct prediction of the future situation but still have some limitations such as:

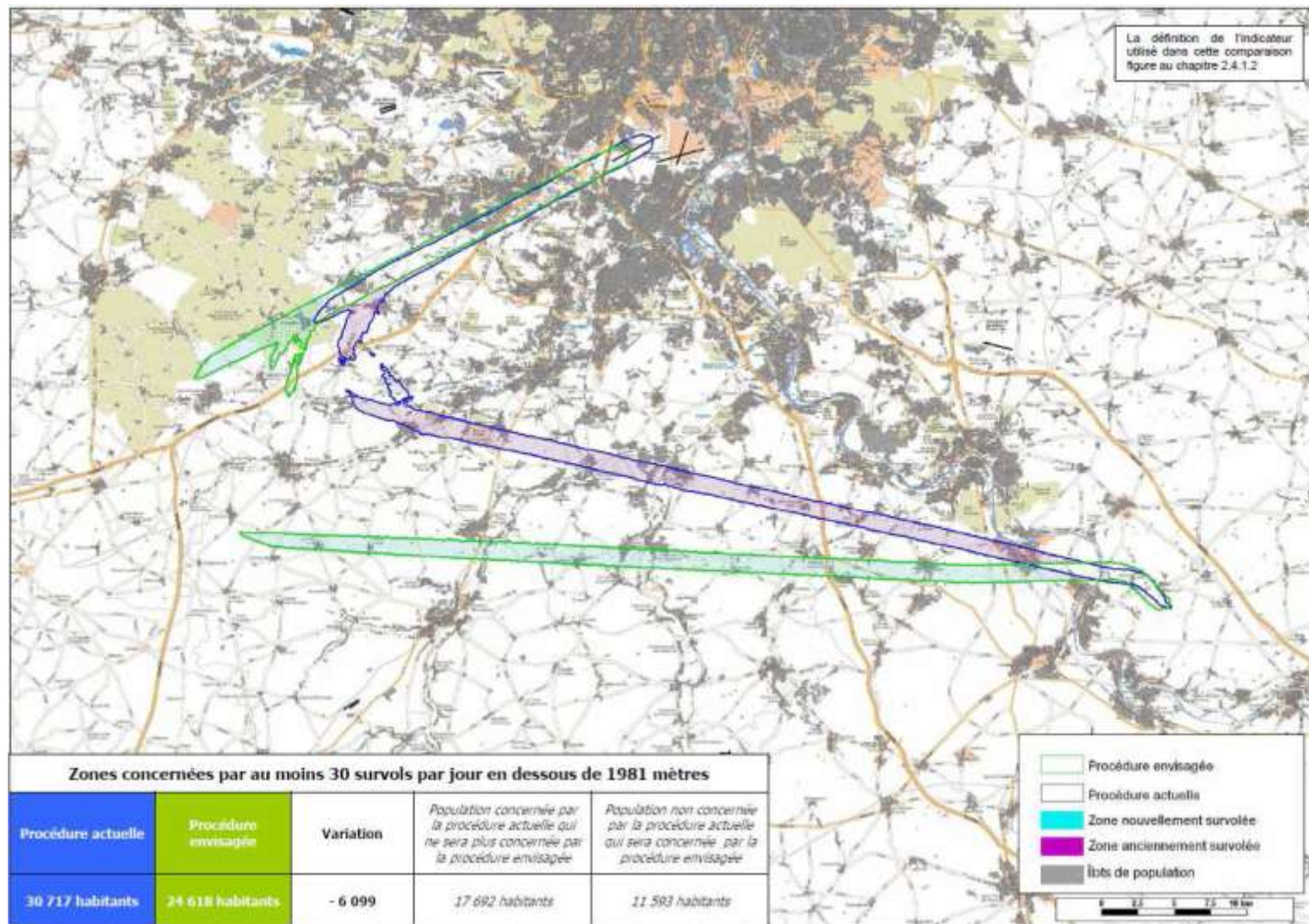
- The simulations are only realised on traffic "peak hours", not on a complete day of traffic. The results are nevertheless compared to a complete day of pre-implementation of the change traffic
- The simulations are realised by controllers who are, by definition, not familiar with the new procedure.

Because of these limitations, DSNA is now trying to predict the future trajectories by using computer tools to "twist" the current trajectories into predicted ones.

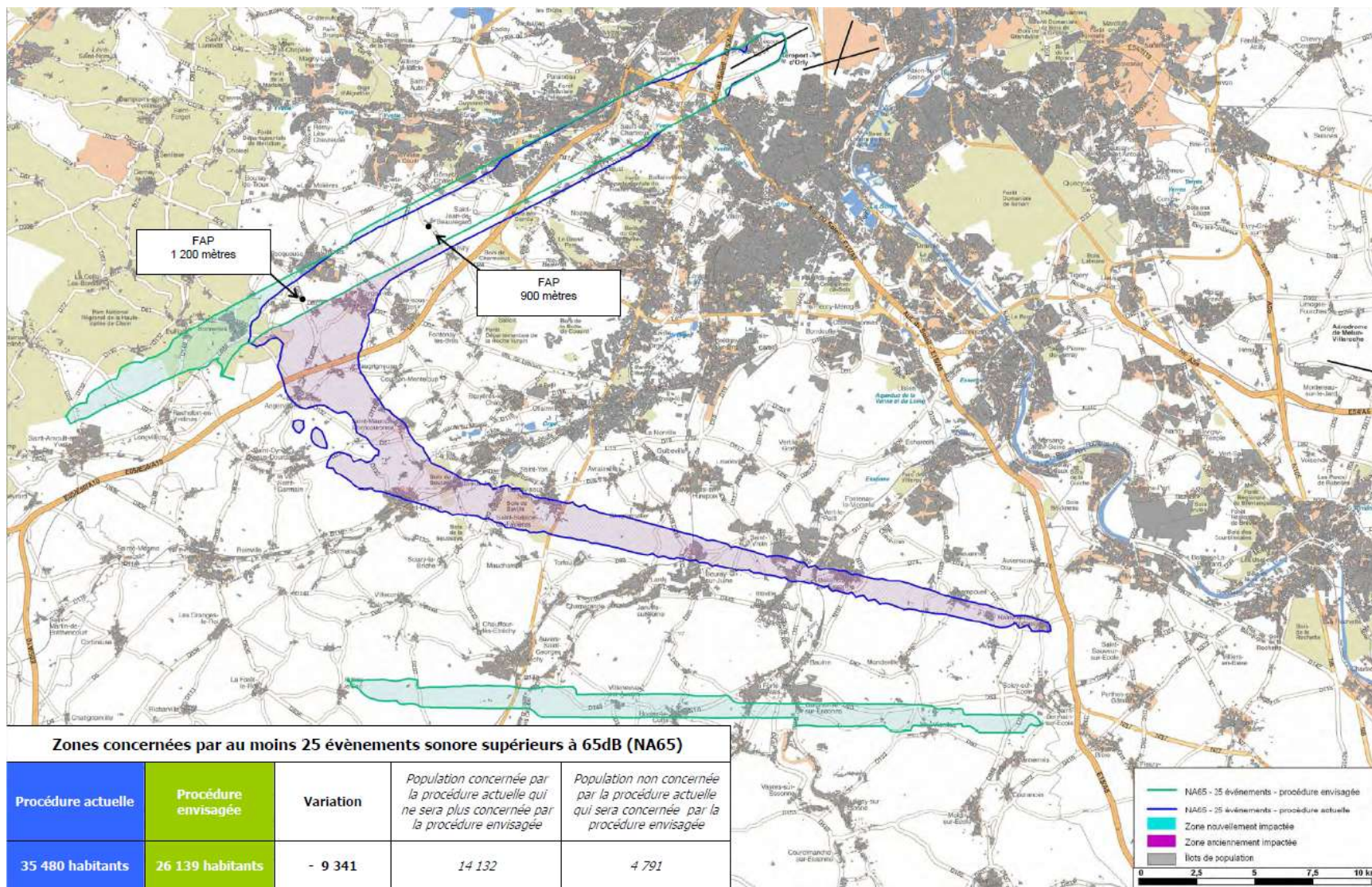
Comments: *(Optional - Offer here any other advice or hints that may be of value to others using ICAO environmental assessment guidance.)*

None

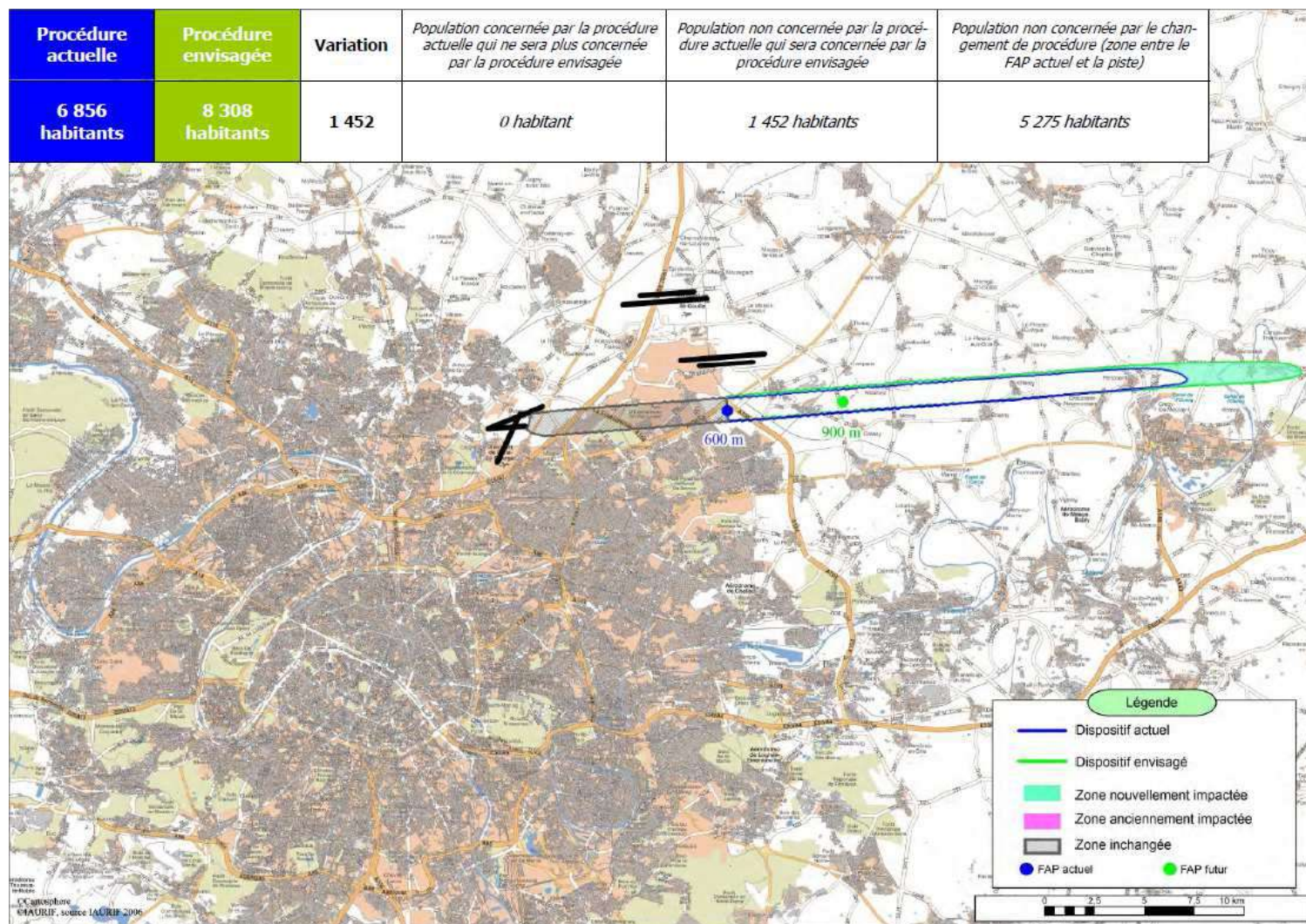
France Example 1: Annex 1 – Assessment on the population density at Orly Airport (East configuration)

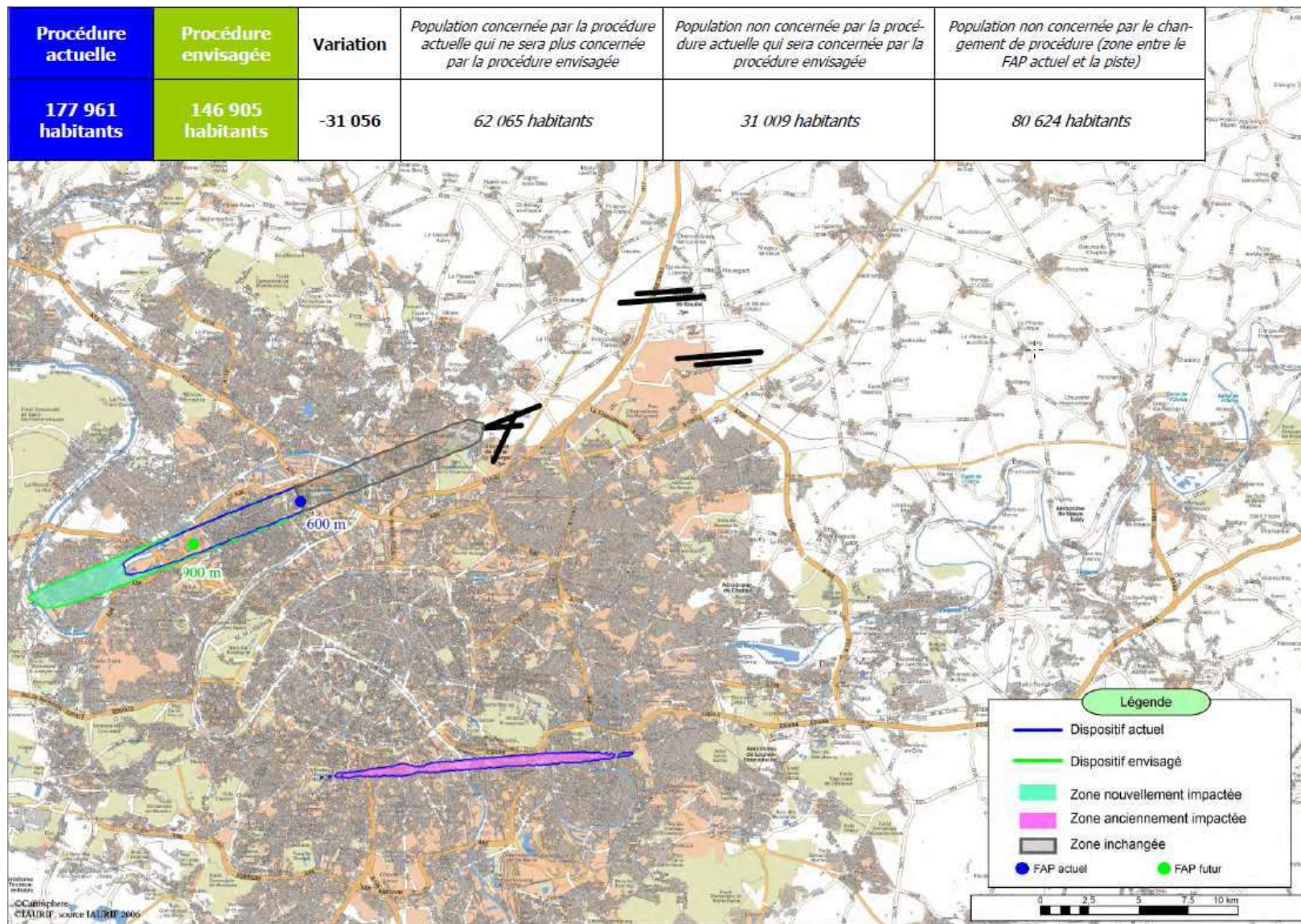


France Example 1: Annex 2 – Assessment on NA65dB/25 events at Orly Airport (East configuration)

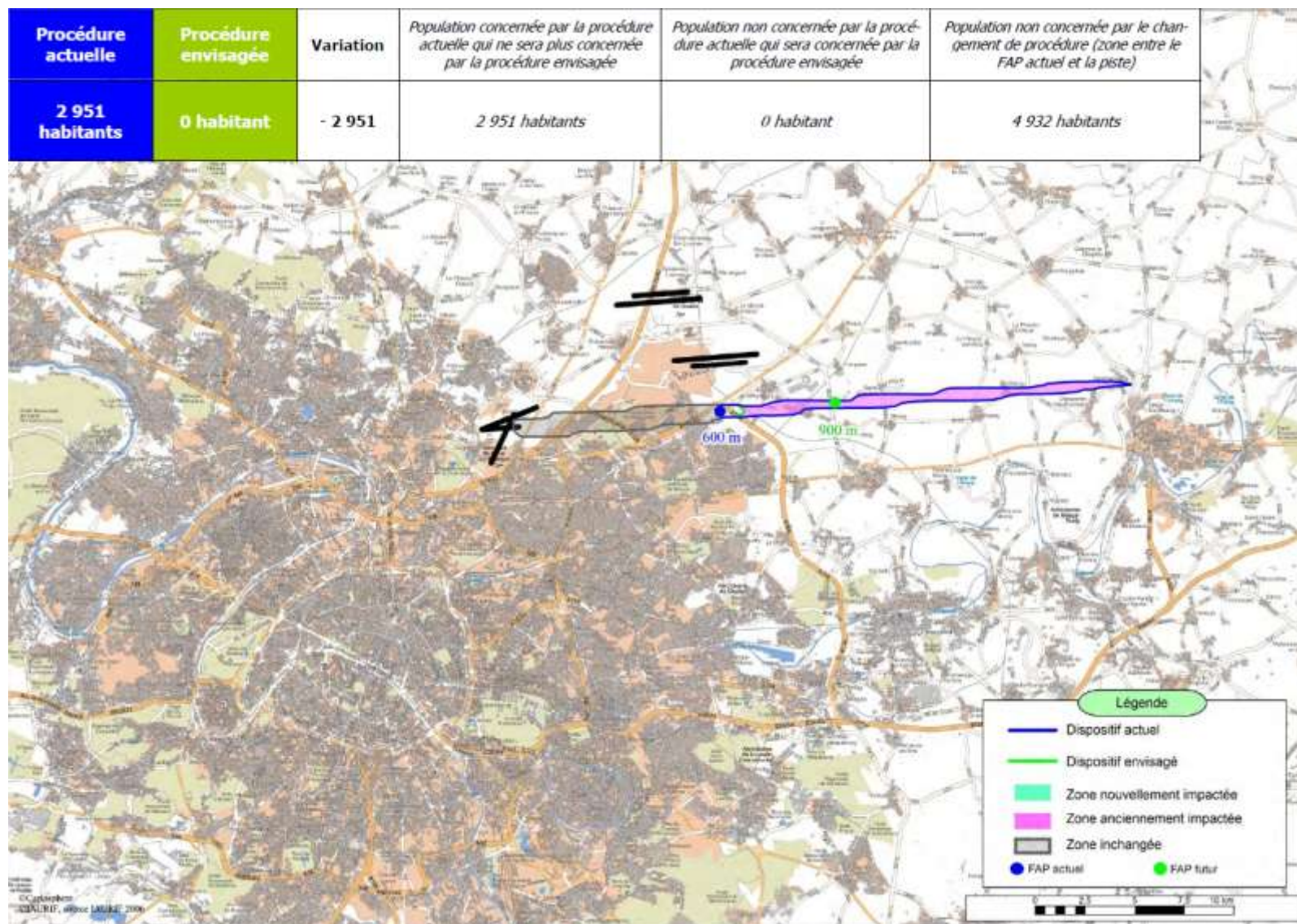


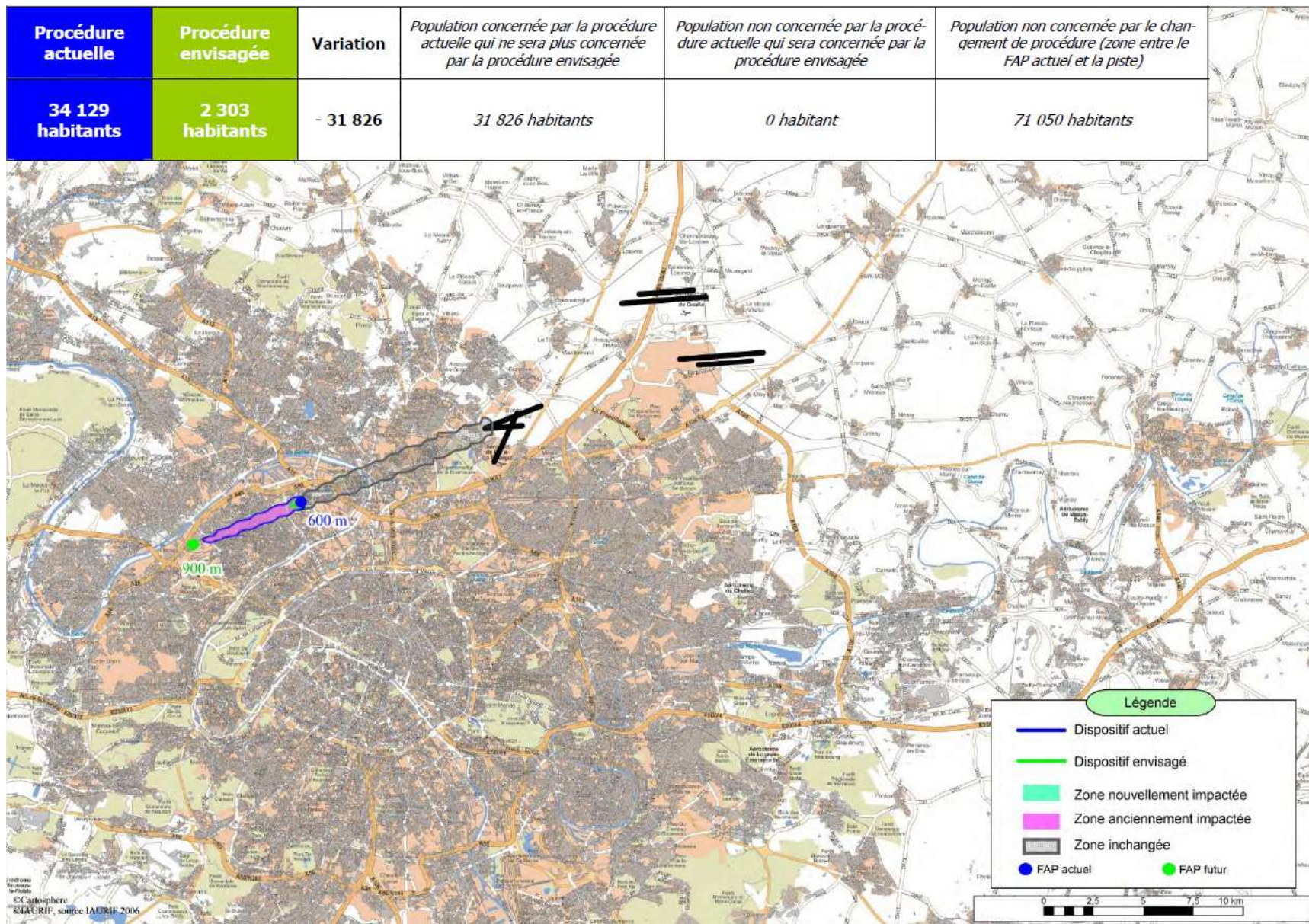
France Example 1: Annex 3 – Assessments on the population density at Le Bourget Airport (both configurations)



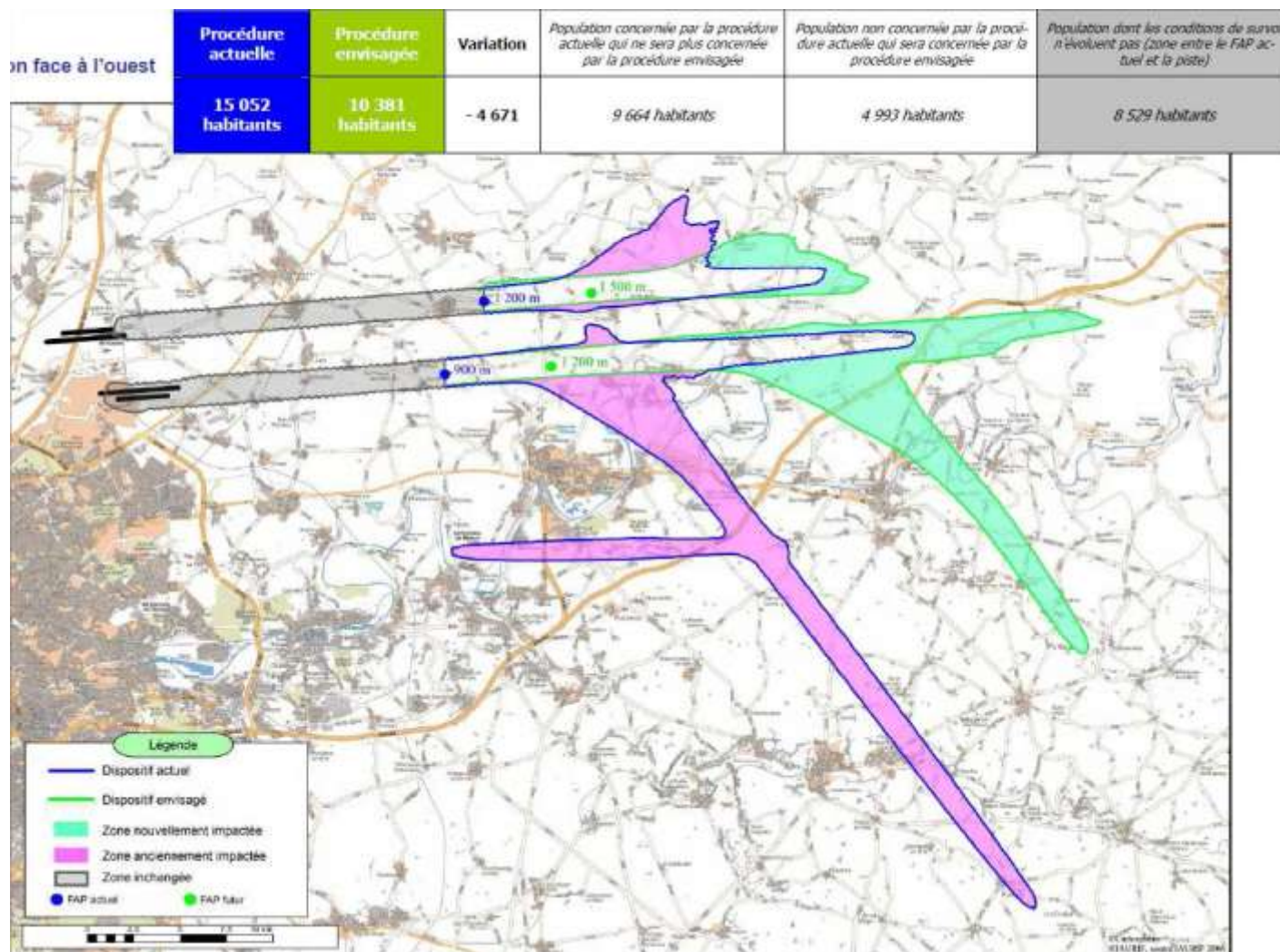


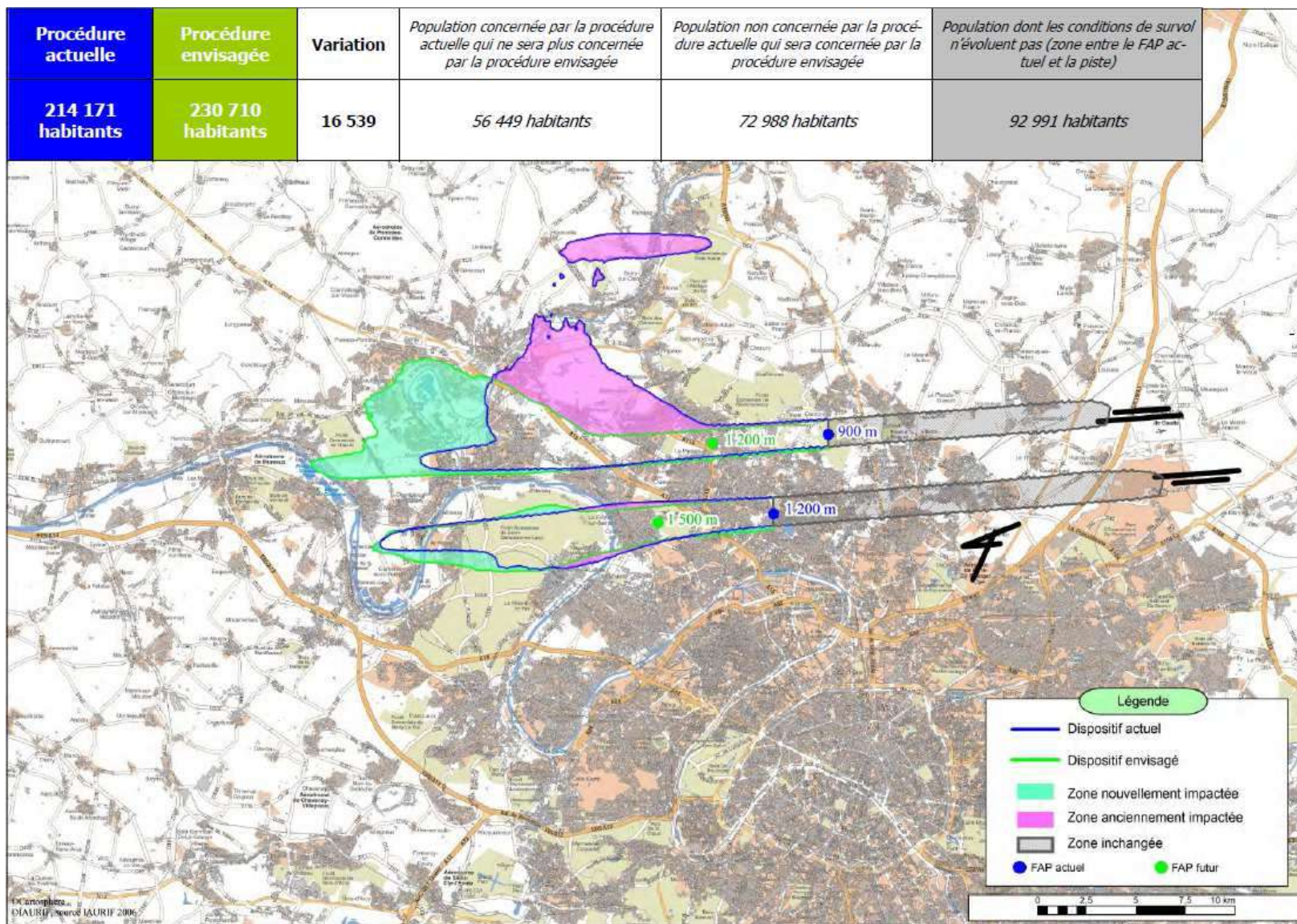
France Example 1: Annex 4 – Assessments on NA65dB/25 events at Le Bourget Airport (both configurations)





France Example 1: Annex 5 – Assessments on the population density at Charles de Gaulle Airport (both configurations)





France Example 1: Annex 6 – Assessments on NA65dB/25 events at Charles de Gaulle Airport (both configurations)

