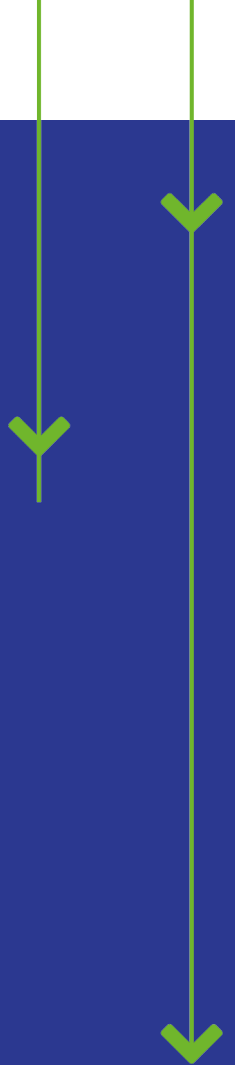


COOL
& LOW NOISE
ASPHALT PROJET
LIFE

—
Acoustic results of the
facade measurements

1

Road traffic 2018 - 2022

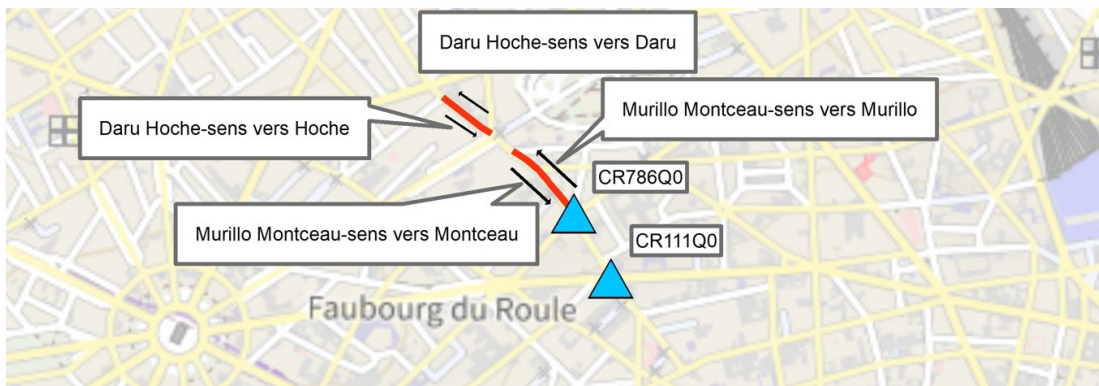


Road traffic: metering stations Flow Q_h and Speed V_h



Rue Lecourbe :
CR179Q0 (one way)

Rue Frémicourt
CR376Q1 (direction 1)
CR490Q0 (direction 2)



Rue de Courcelles
CR111Q0 (direction 1)
CR786Q0 (direction 2)

Road traffic: Hourly traffic flow Q_h

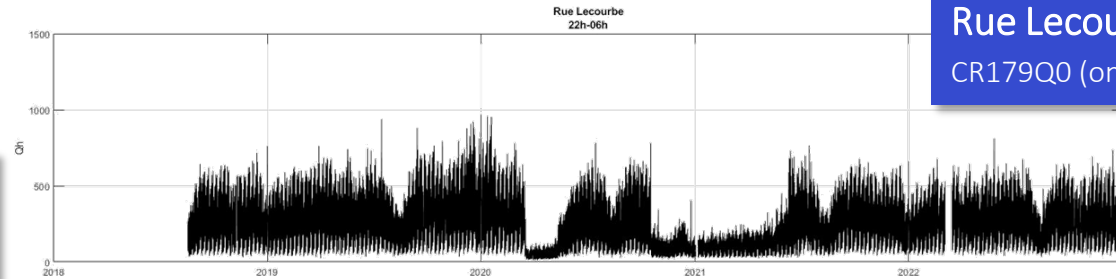
Hourly traffic flow Q_h

(Source : DVD)

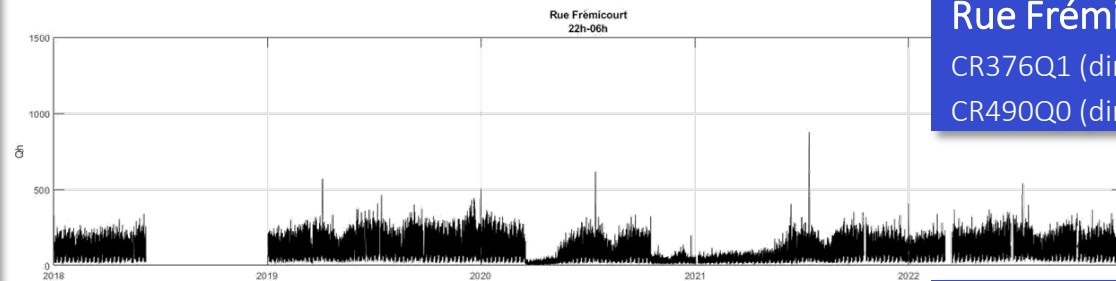
Nb. veh./h

**5 traffic counting
stations**

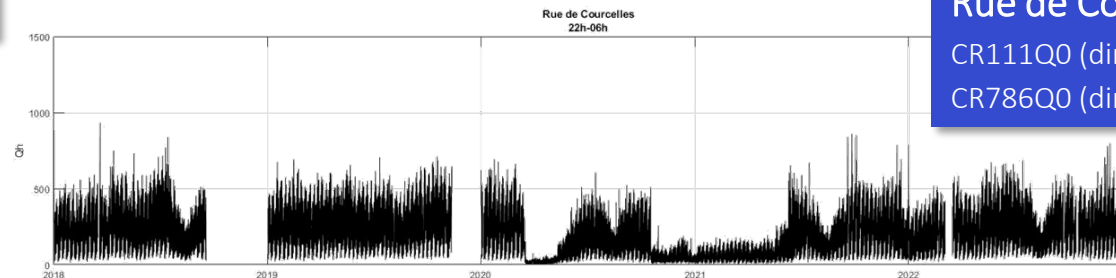
Period 22h-06h



Rue Lecourbe :
CR179Q0 (one way)



Rue Frémicourt
CR376Q1 (direction 1)
CR490Q0 (direction 2)



Rue de Courcelles
CR111Q0 (direction 1)
CR786Q0 (direction 2)

Road traffic: Hourly traffic flow Q_h

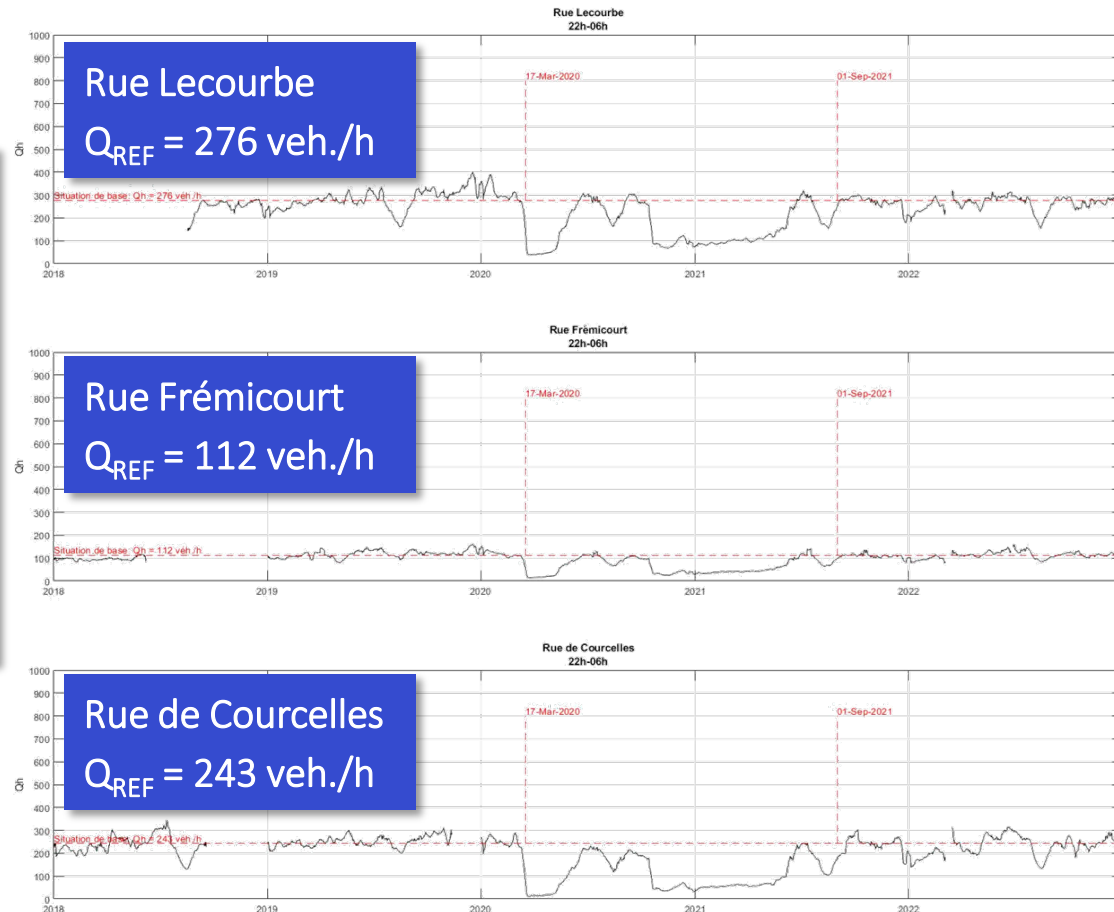
Hourly traffic flow Q_h

(Source : DVD)

Nb. veh./h

running average
7 days

Period 22h-06h



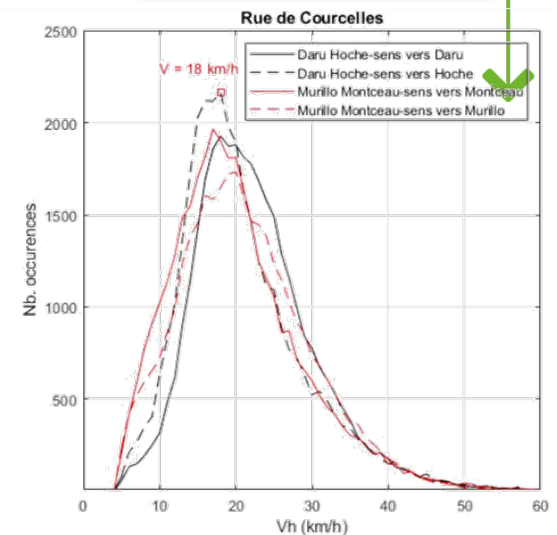
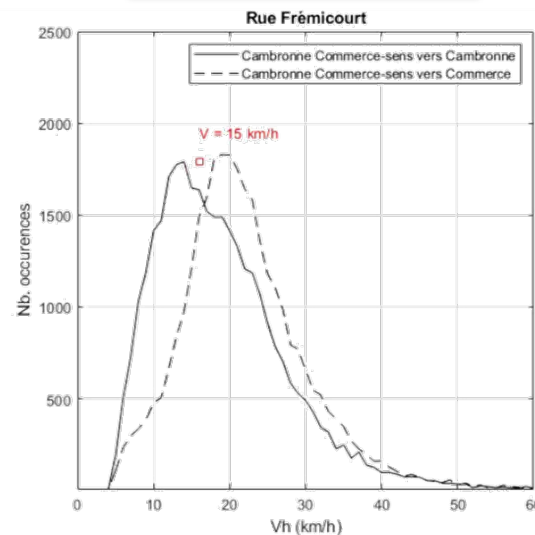
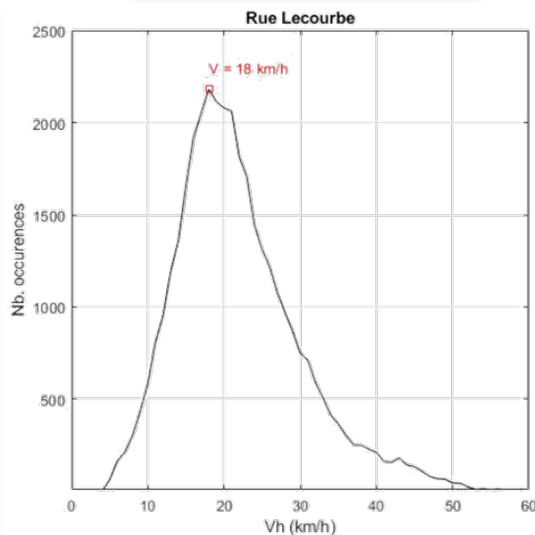
Road traffic: Hourly speed V_h Floating Car Data (FCD)

Distribution Hourly speed (V_h)
7 speed measurement sections

Rue Lecourbe
 $V_h \approx 18$ km/h

Rue Frémicourt
 $V_h \approx 15$ km/h

Rue de Courcelles
 $V_h \approx 18$ km/h



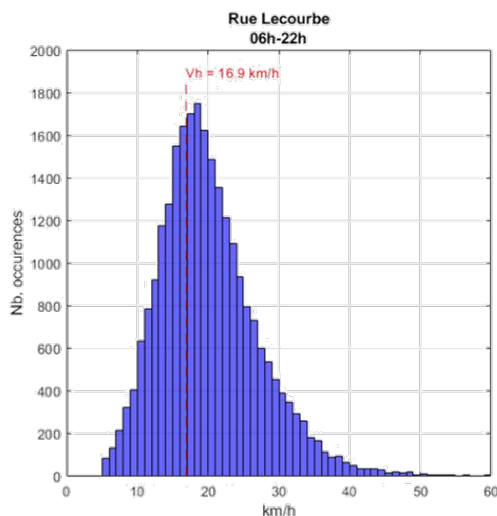
Road traffic: Hourly speed V_h Floating Car Data (FCD)

Distribution Hourly speed (V_h)

All directions - Period 06h-22h

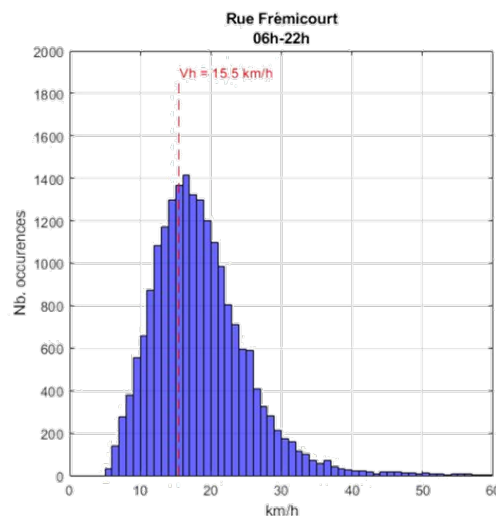
Rue Lecourbe

$V_{REF} = 16,9 \text{ km/h}$



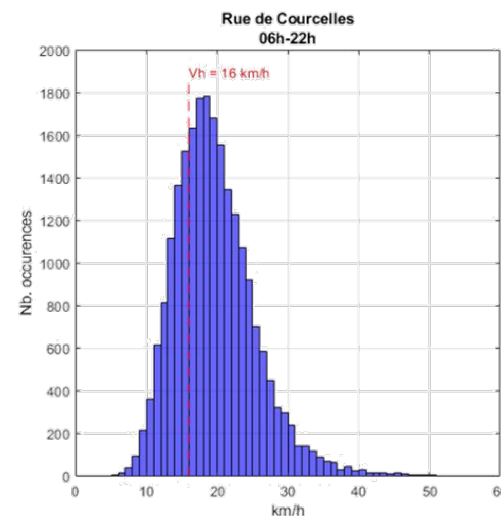
Rue Frémicourt

$V_{REF} = 15,5 \text{ km/h}$



Rue de Courcelles

$V_{REF} = 16,0 \text{ km/h}$



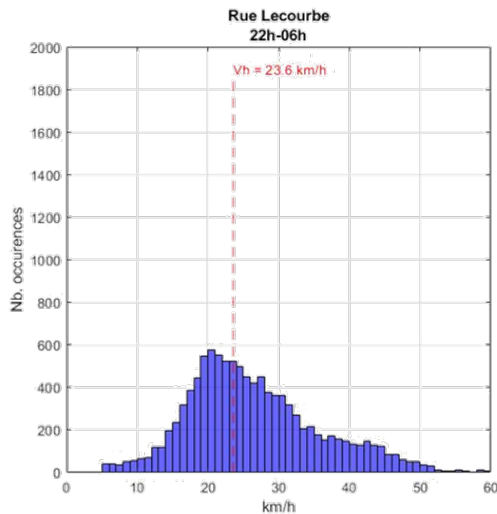
Road traffic: Hourly speed V_h Floating Car Data (FCD)

Distribution Hourly speed (V_h)

All directions - Period 22h-06h

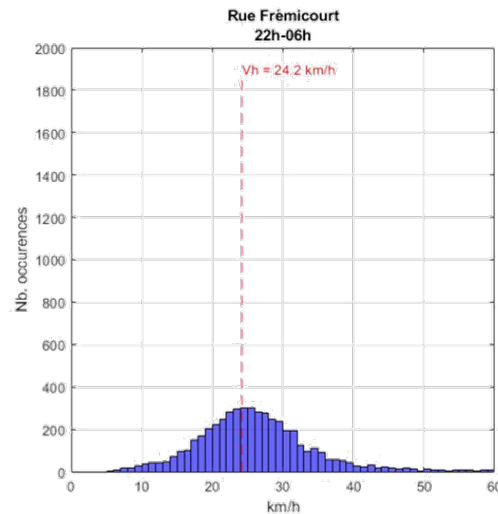
Rue Lecourbe

$V_{REF} = 23,6$ km/h



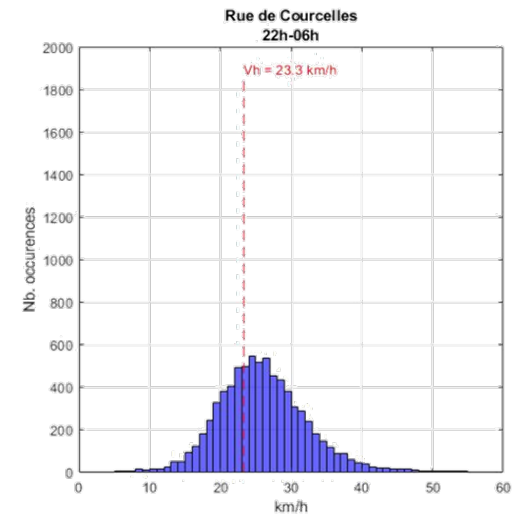
Rue Frémicourt

$V_{REF} = 24,2$ km/h

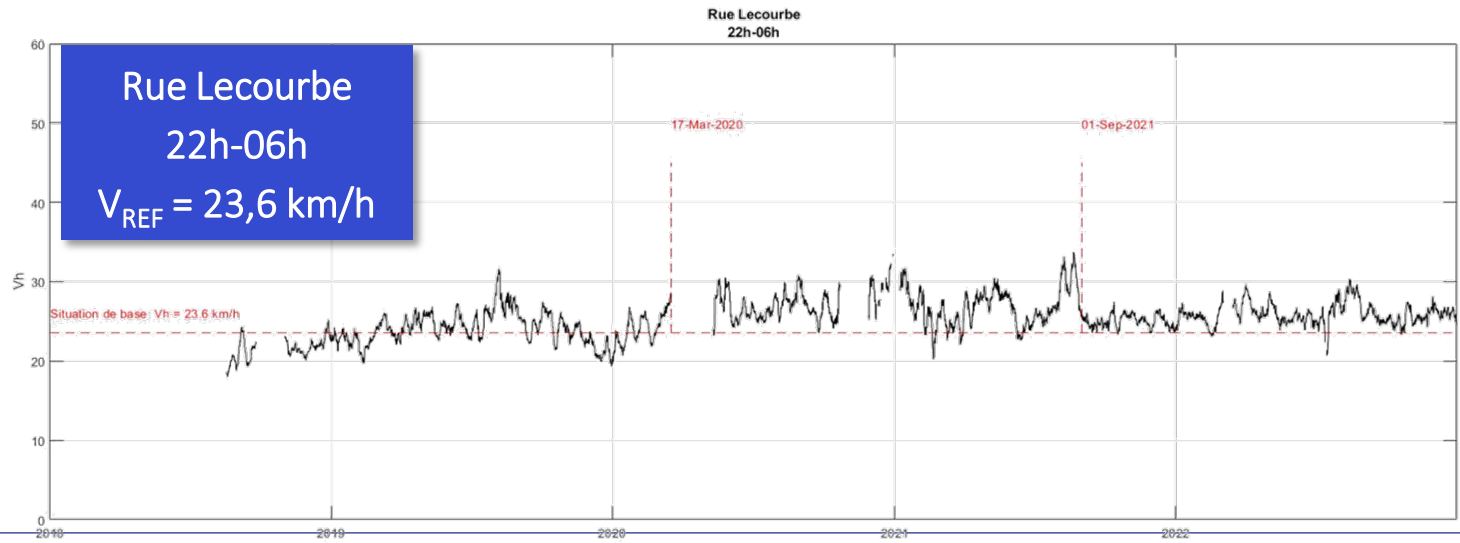
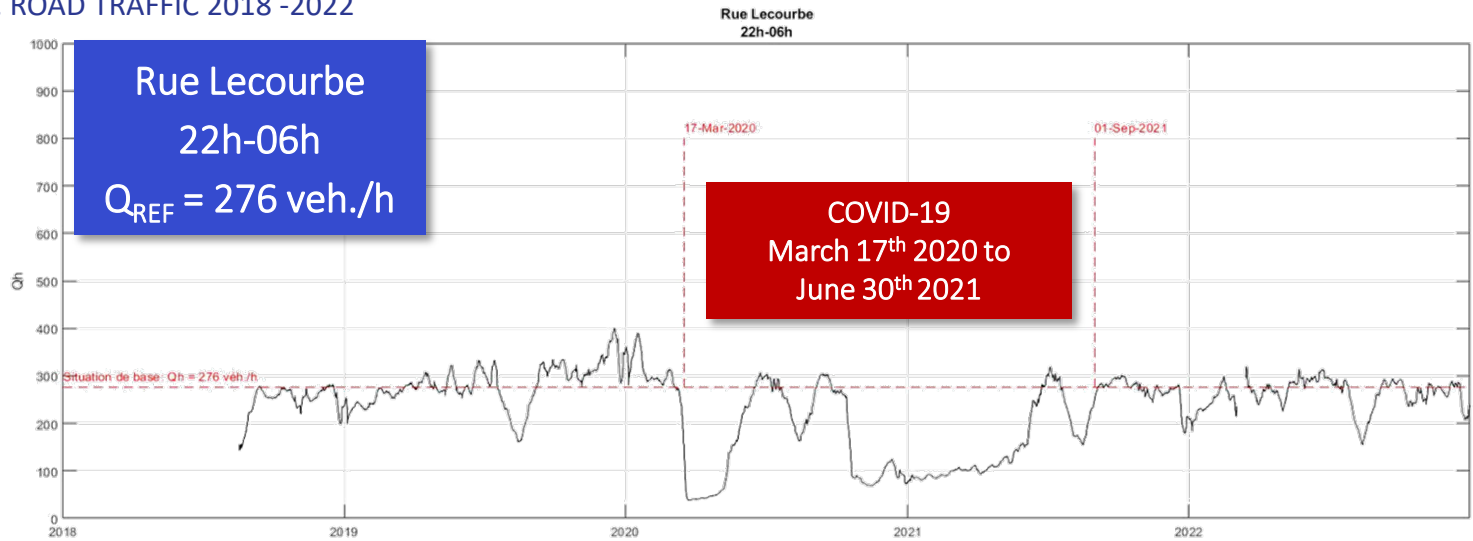


Rue de Courcelles

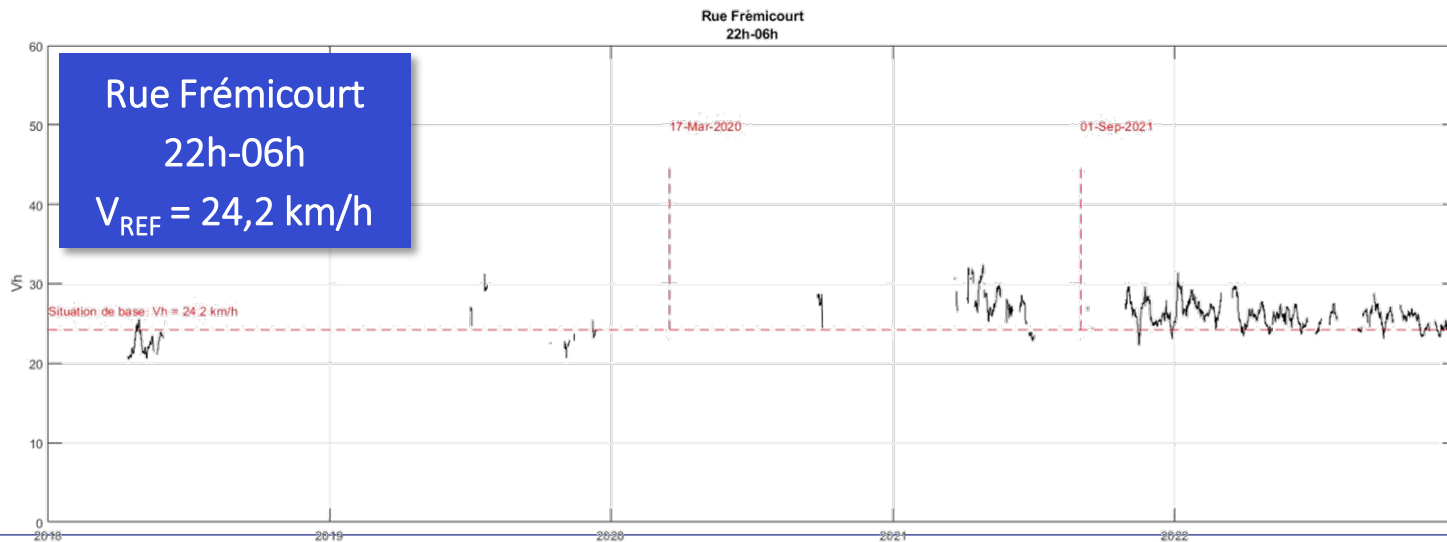
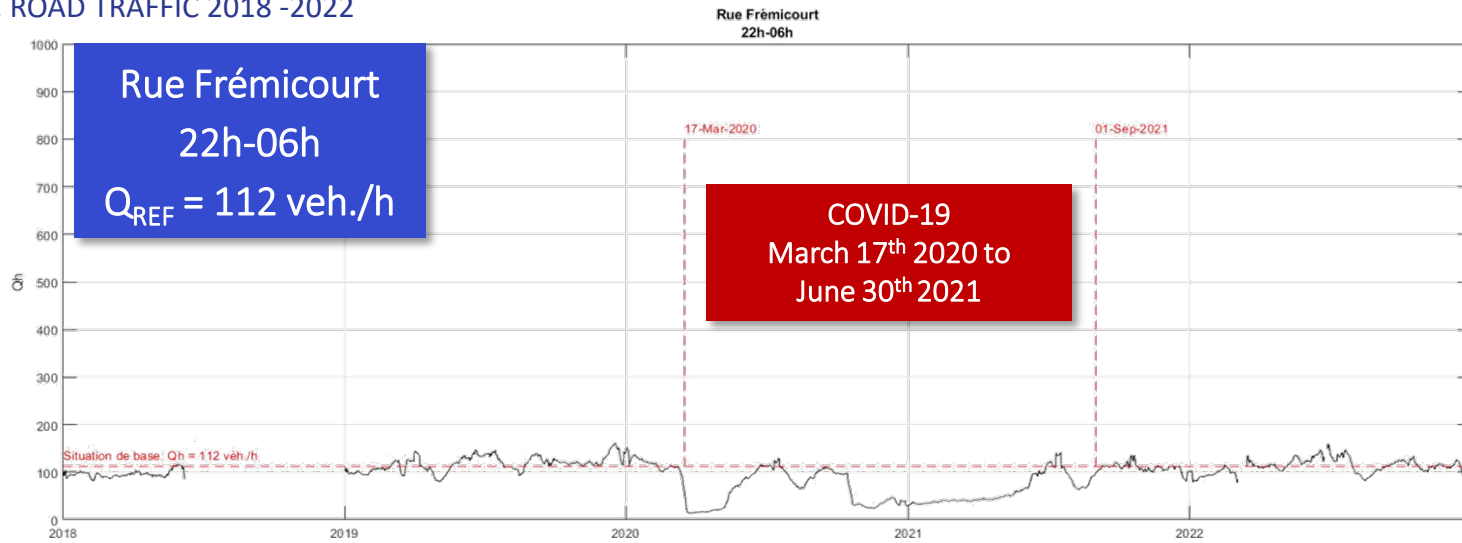
$V_{REF} = 23,3$ km/h



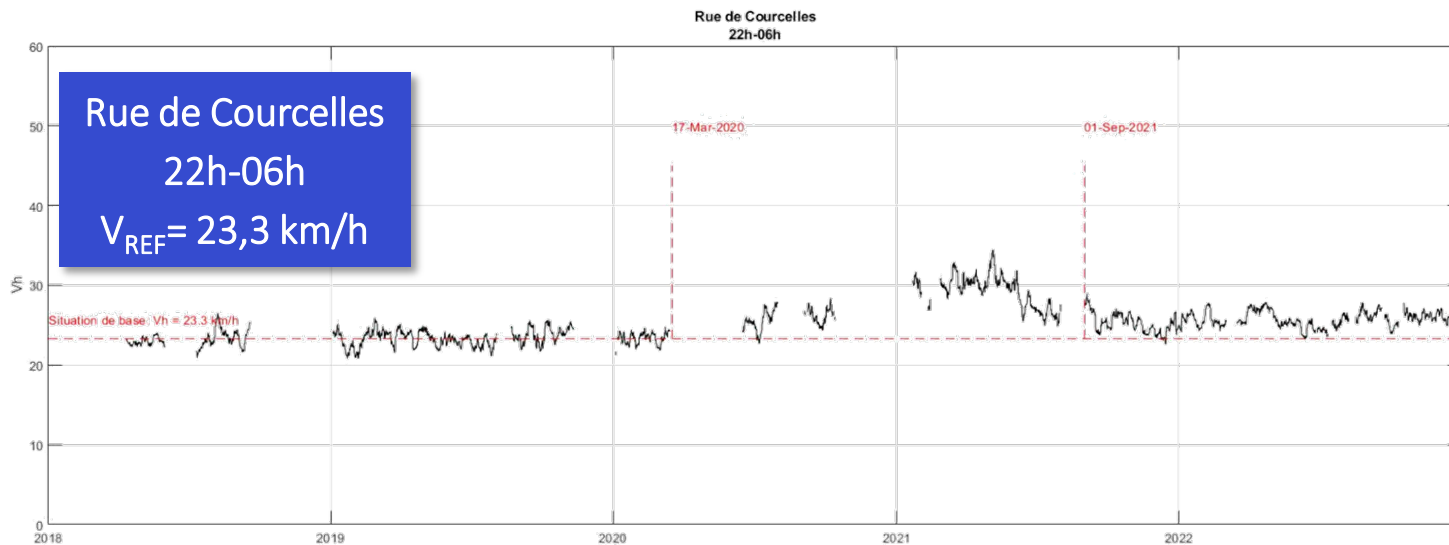
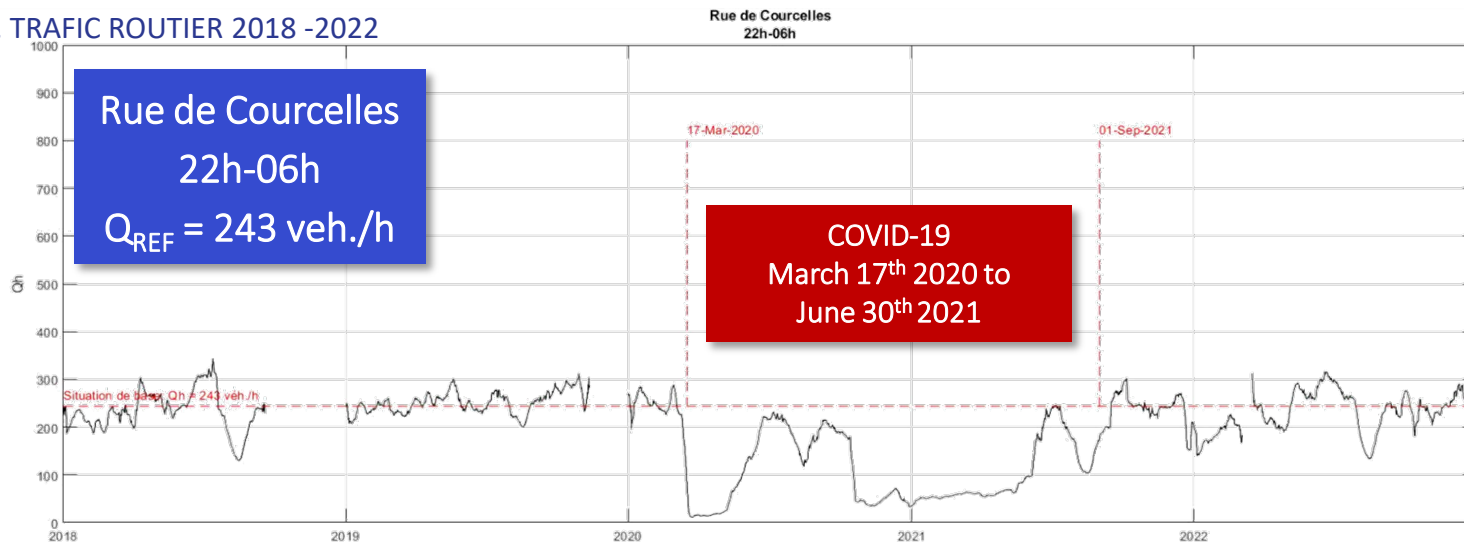
1. ROAD TRAFFIC 2018 -2022



1. ROAD TRAFFIC 2018 -2022



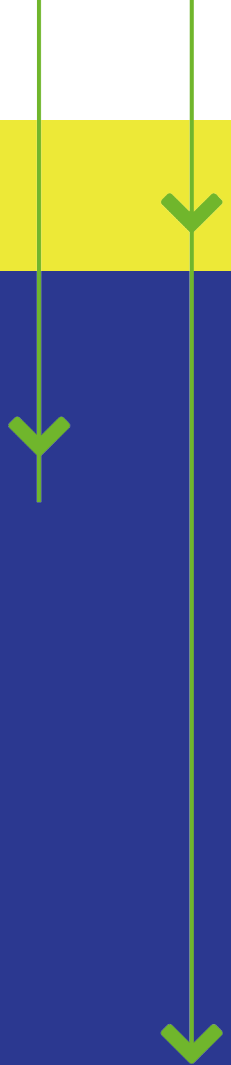
1. TRAFIC ROUTIER 2018 -2022



RESULTS

2

Monitoring of acoustic performance in facades



Monitoring of performance 2018 - 2022

COVID-19 sanitary crisis

- Period 2020 analysed: January 1st to March 16th
- Period 2021 analysed: September 1st to December 31st
- Period 2022 analysed: January 1st to December 31st

Reminder : Perception surveys

- Rue Frémicourt (October 2019)
- **63% of residents perceived a reduction in road noise**

- 3 pilot sites (September / October 2021 and October 2022)
- **85% of participants are in favour of extending innovative pavements to other sites in Paris**

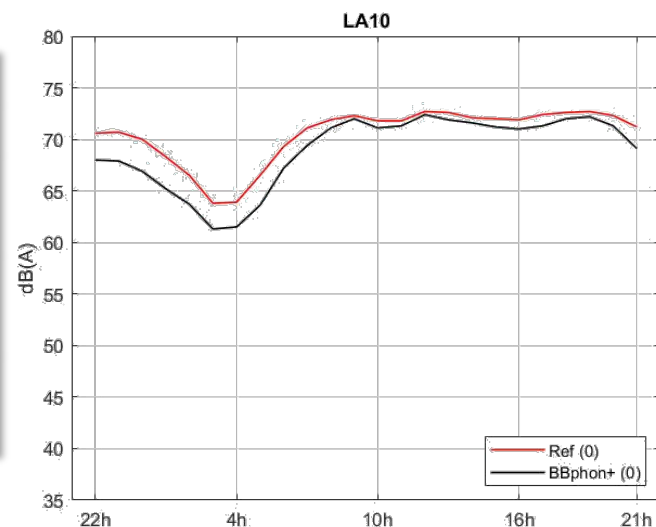


Monitoring of performance 2018 - 2022

| Rolling noise Δ LA10 22h-6h | Compared to the existing | | | | | Compared to the reference | | | | |
|---|--------------------------|-------|-------|-------|-------|---------------------------|------|------|------|------|
| | 2018 | 2019 | 2020 | 2021 | 2022 | 2018 | 2019 | 2020 | 2021 | 2022 |
| LIFE objectives after installation in dB(A) | -3 | -2 | | | | -2 | -1 | | | |
| rue Frémicourt (SMaphon) | -4,3* | -3,9* | -2,9* | -3,3* | -3,0* | -2,3 | -1,8 | -1,2 | -0,9 | -0,4 |
| rue de Courcelles (BBphon+) | -3,5* | -2,7* | -2,1* | -2,0* | -1,8* | -2,8 | -2,6 | -2,4 | -1,4 | -1,3 |
| rue Lecourbe (PUMA) | -1,2* | -1,1* | -1,1* | -1,4* | -1,5* | - | - | - | - | - |

* Temperature correction

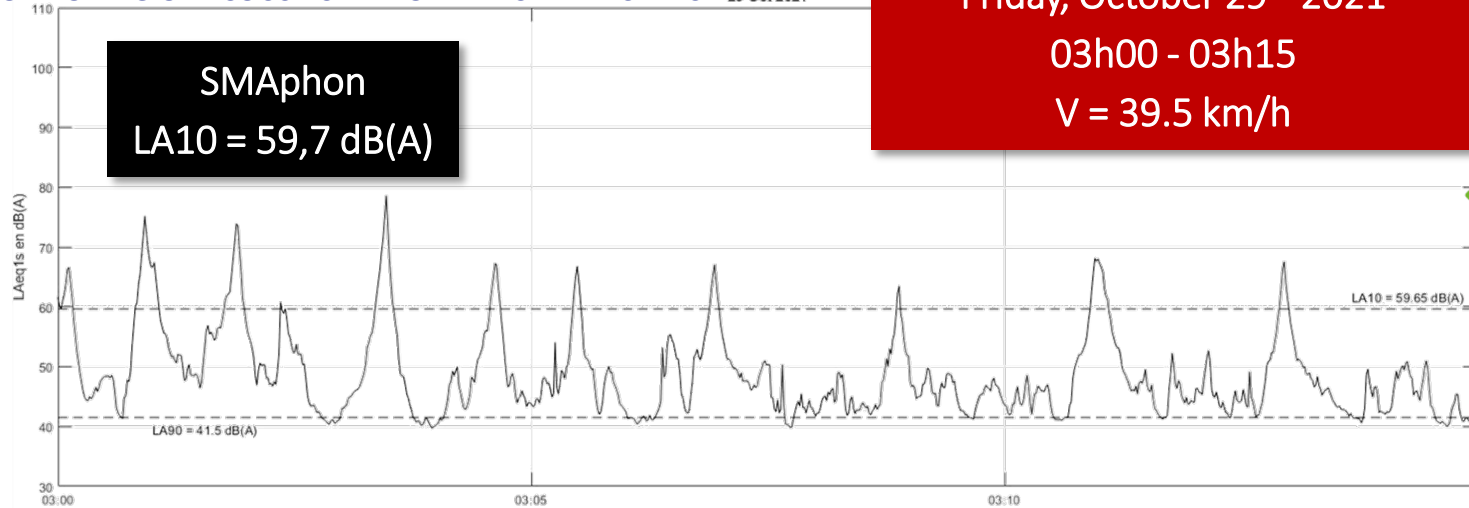
| Δ LAeq 22h-6h All sources taken together | Compared to the reference | | | | |
|--|---------------------------|------|------|------|------|
| | 2018 | 2019 | 2020 | 2021 | 2022 |
| rue Frémicourt (SMaphon) | -1,3 | -1,1 | -0,7 | -0,6 | +0,2 |
| rue de Courcelles (BBphon+) | -1,4 | -1,1 | -1,1 | -0,6 | -0,3 |
| rue Lecourbe (PUMA) | - | - | - | - | - |



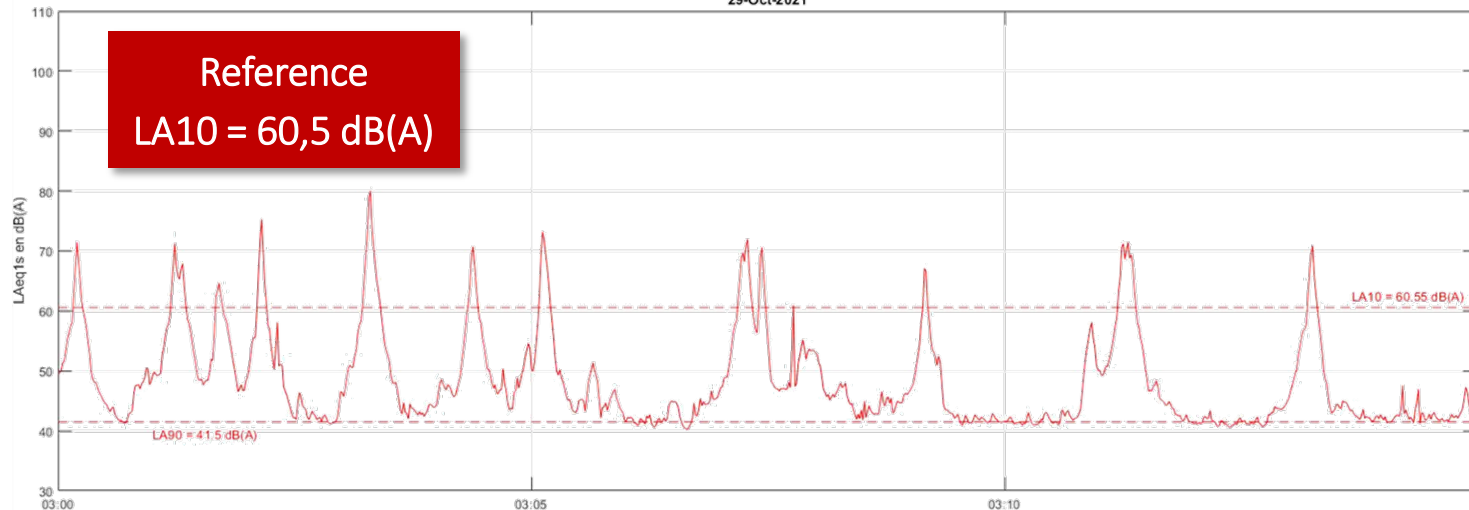
2. MONITORING OF ACOUSTIC PERFORMANCE IN FACADES

SMaphon
29-Oct-2021

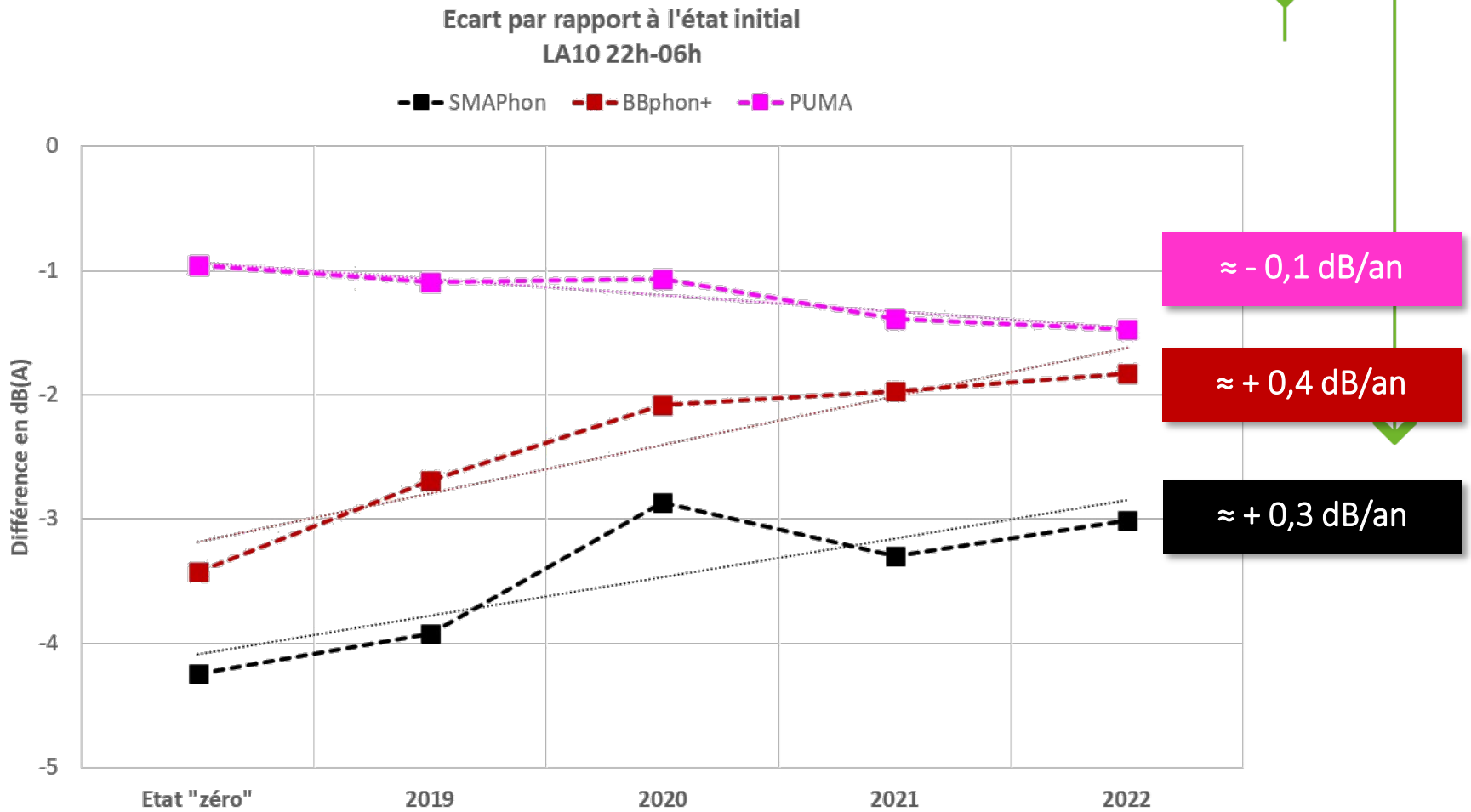
Rue Frémicourt
Friday, October 29th 2021
03h00 - 03h15
V = 39.5 km/h



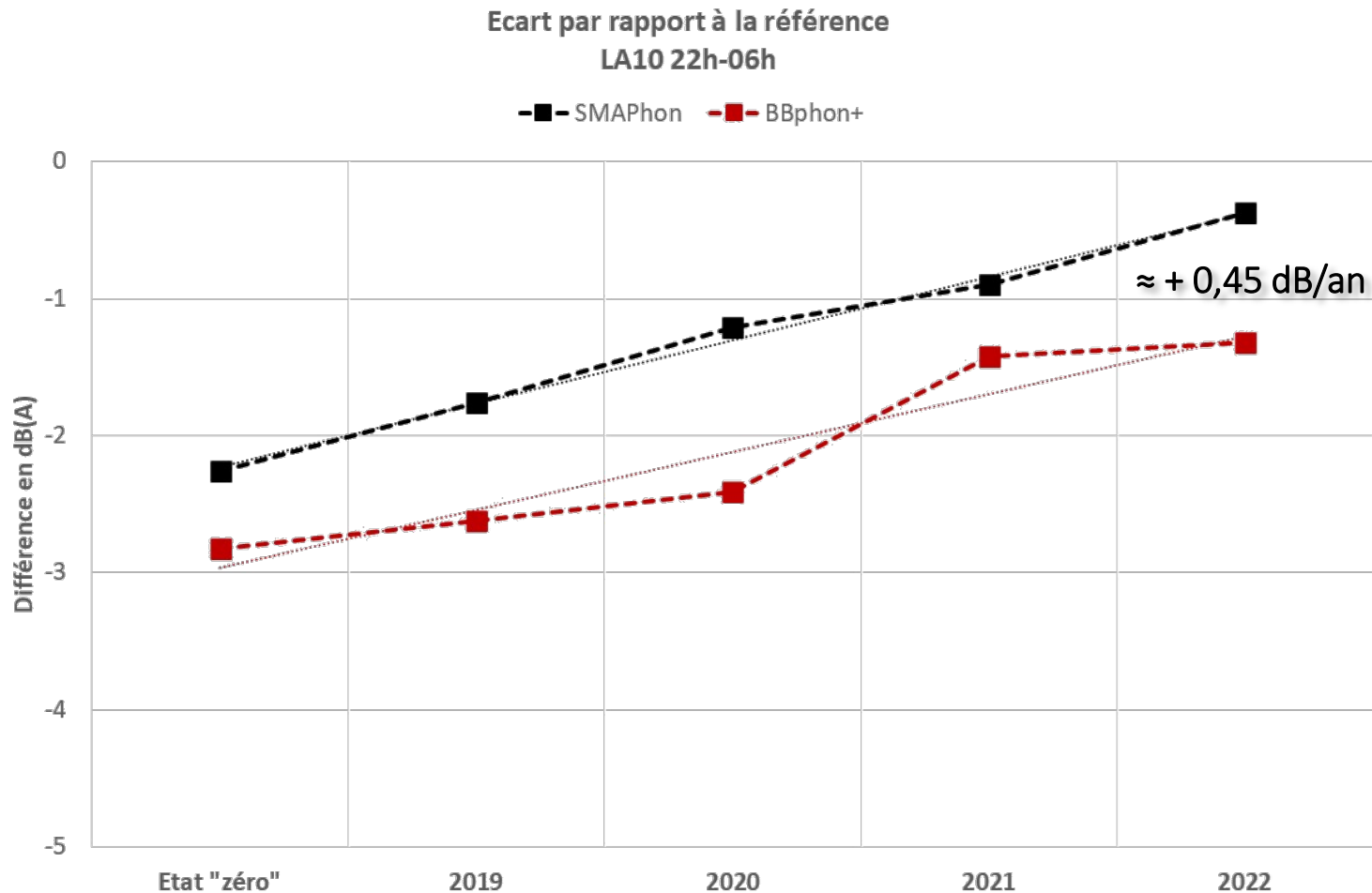
REFERENCE
29-Oct-2021



Monitoring of performance 2018 - 2022

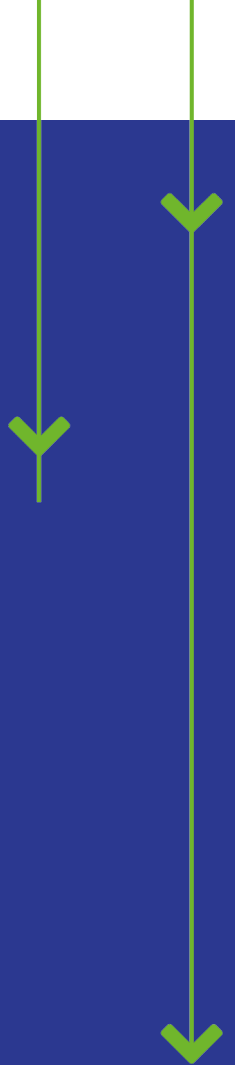


Monitoring of performance 2018 - 2022

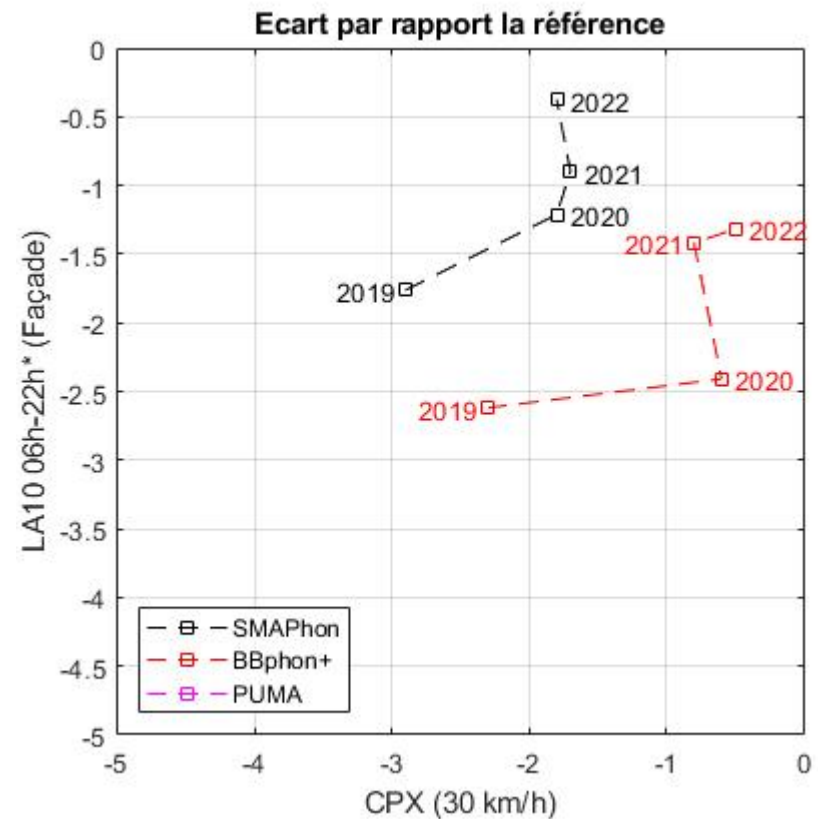
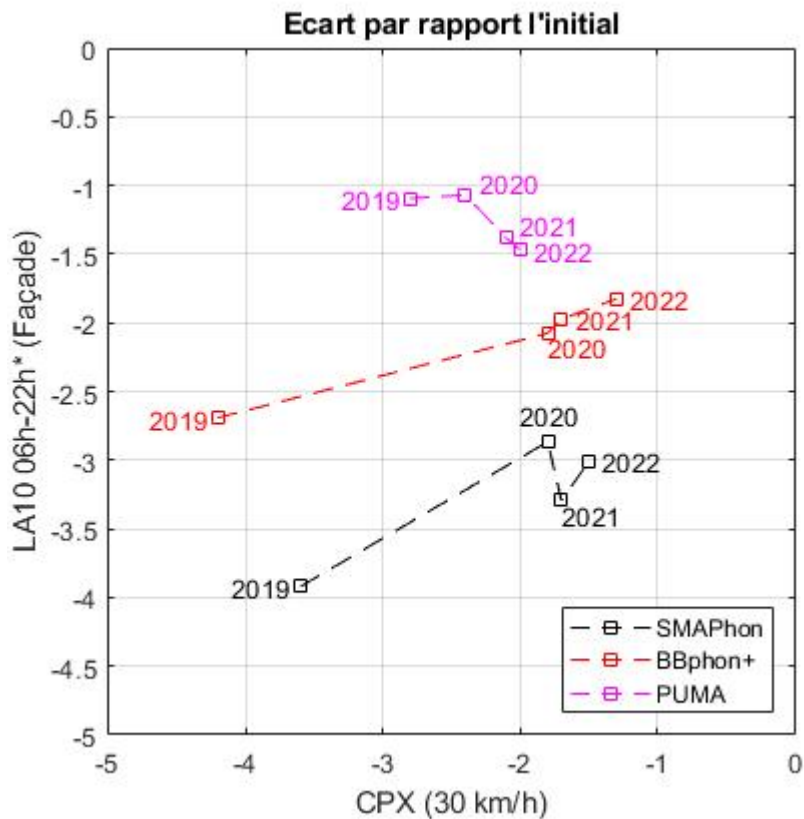
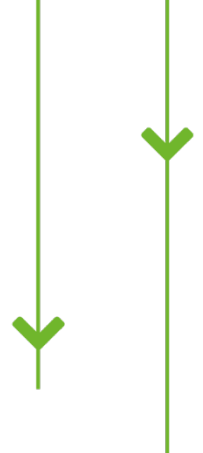


3

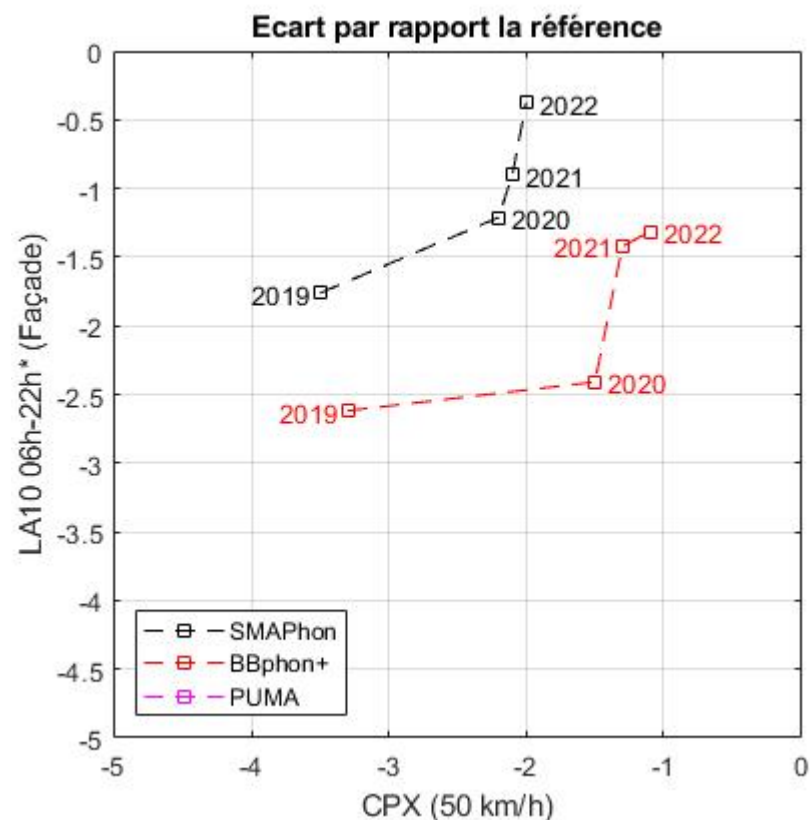
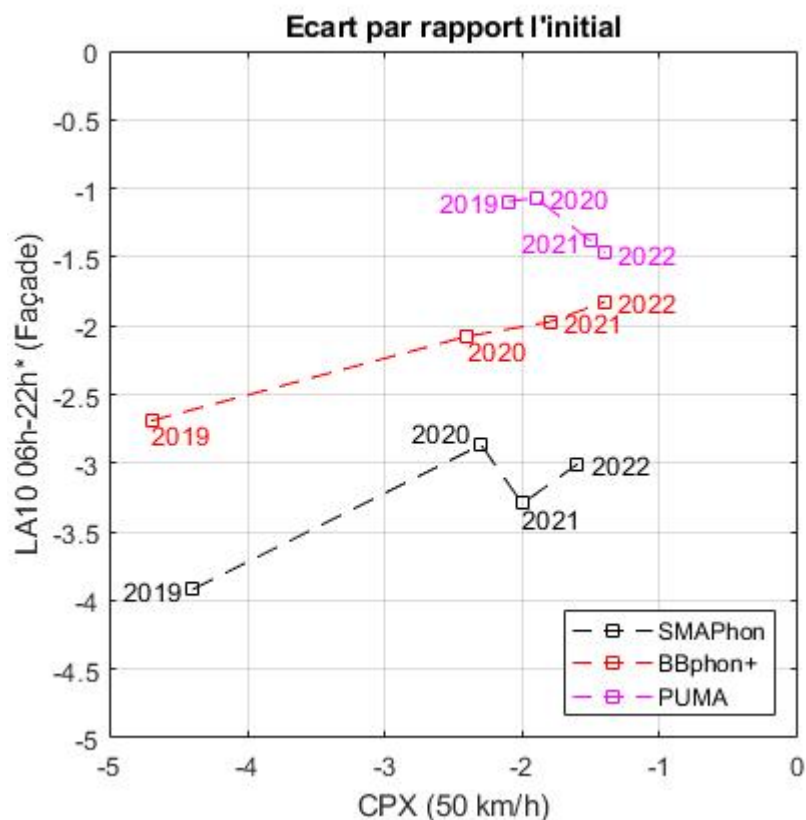
Acoustic performance monitoring CPX / Facade



Comparison CPX (30 km/h) / Facade

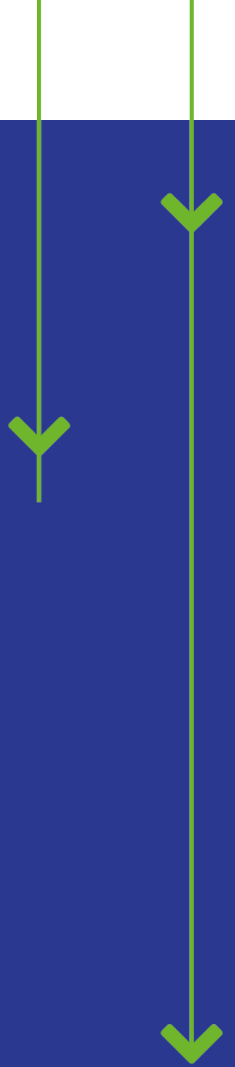


Comparison CPX (50 km/h) / Facade



4

Perspectives



Continued monitoring of façade acoustic performance after June 2023

- AFTER LIFE 5 years
- Quantification of socio-economic impacts ongoing
- First results available



COOL
& LOW NOISE
ASPHALT PROJET
LIFE

Thank you for your attention



Ce projet est financé
par le fond européen Life
LIFE16/ENV/FR/000384