

ALAN 2016 – 4th International Conference on Artificial Light at Night
Cluj-Napoca, Romania, September 26-28, 2016

URBAN PLANNING CHALLENGES

TOWARDS INTEGRATED APPROACHES IN SUSTAINABLE LIGHTSCAPE AND SOUNDSCAPE PLANNING

SESSION 8A: THE NIGHTTIME ENVIRONMENT
SEPTEMBER 27, 2016



Marie Curie
Actions



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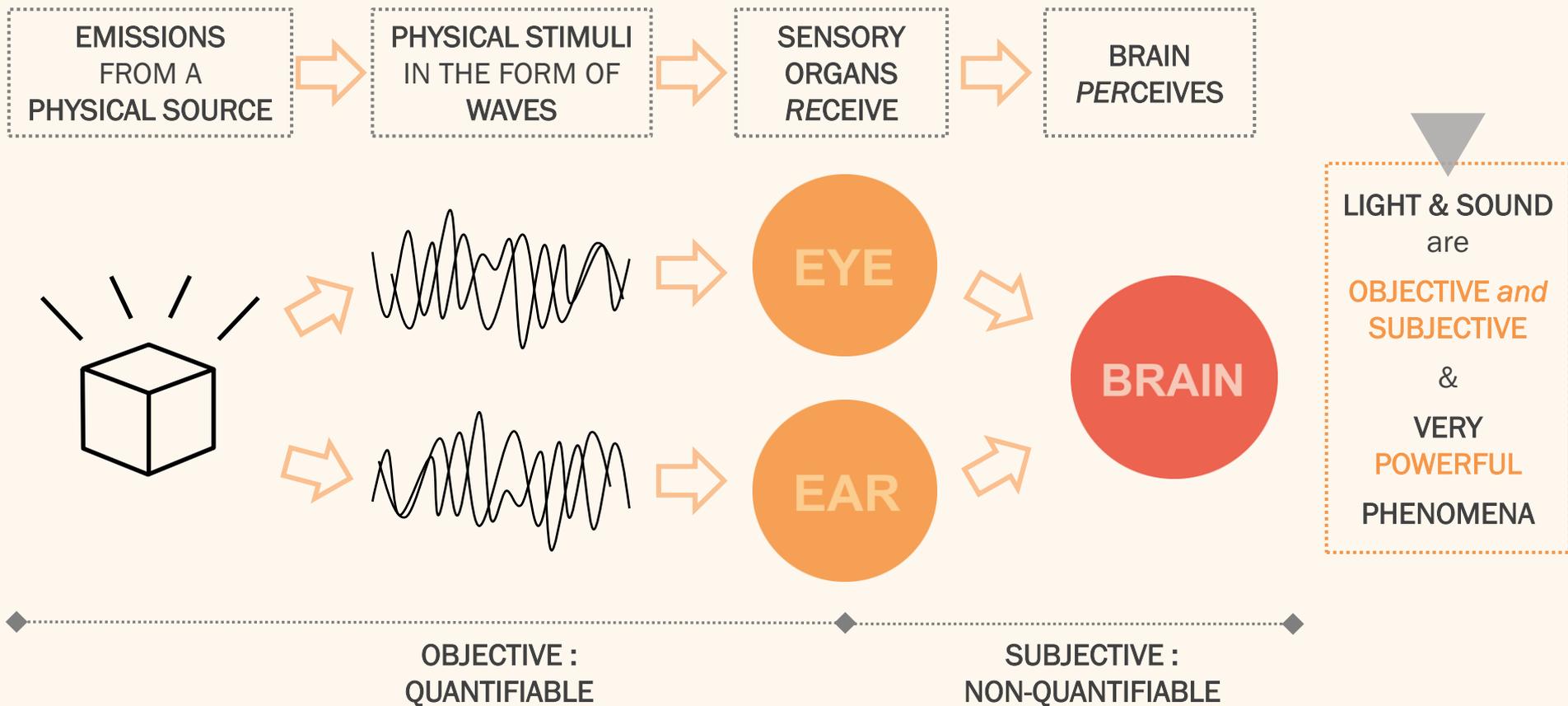
AIMS & OUTLINE

4 SECTIONS

- | | | |
|----|------------------------------------|---|
| 1_ | COMPARING LIGHT & NOISE POLLUTION | ▪ Key similarities |
| 2_ | STATE OF THE ART IN URBAN PLANNING | ▪ Critical review of 2 defining policies |
| 3_ | TACKLING THE CHALLENGES | ▪ Experimental methodology |
| 4_ | SUMMING IT UP | ▪ Potentials for mutual learning and common challenges |

A STRUCTURED COMPARISON

LIGHT & SOUND: CONSTITUTIVE SIMILARITIES



A STRUCTURED COMPARISON

LIGHT & NOISE POLLUTION: SIMILAR EFFECTS

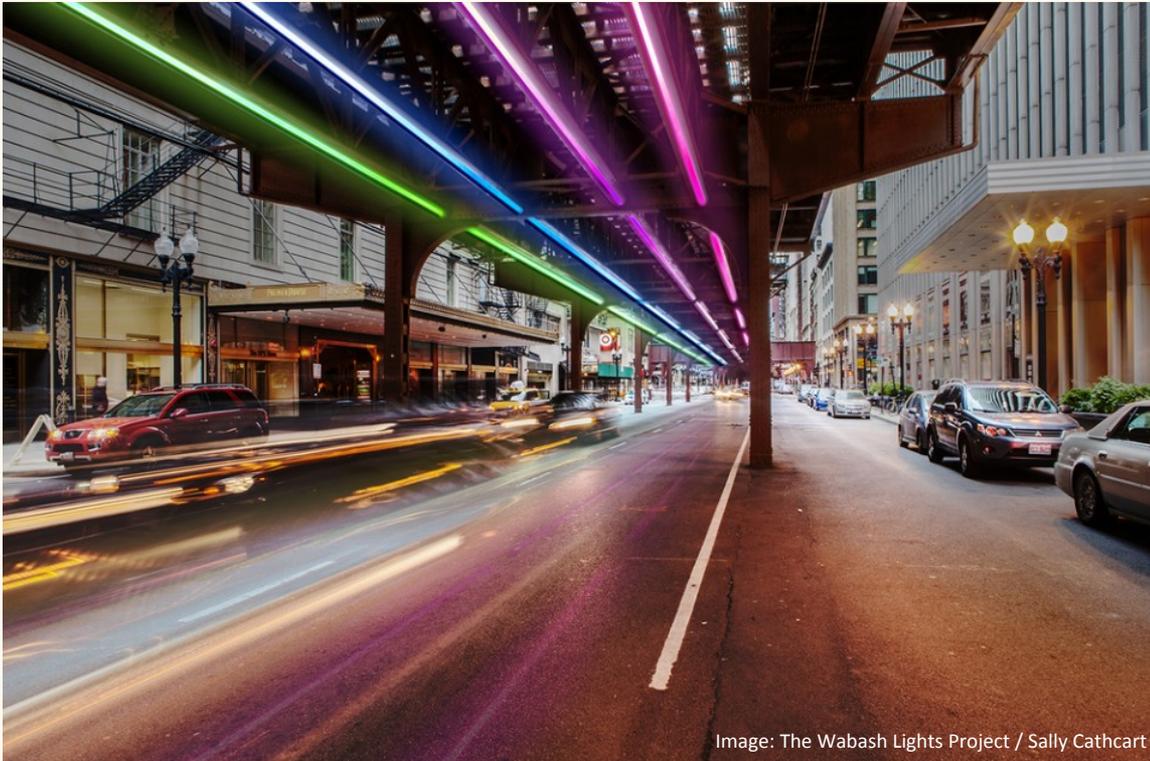
	ISSUE	EFFECTS OF LIGHT POLLUTION & EFFECTS OF NOISE POLLUTION		
HUMANS	HEALTH & WELLBEING	<ul style="list-style-type: none">▪ Nuisance▪ Stress	<ul style="list-style-type: none">▪ Loss of sleep▪ Damage to sensory organs	<ul style="list-style-type: none">▪ Circadian disruption (likely / confirmed)
	SAFETY	<ul style="list-style-type: none">▪ Distraction	<ul style="list-style-type: none">▪ Disorientation	<ul style="list-style-type: none">▪ Reduced acuity
	AESTHETICS	<ul style="list-style-type: none">▪ Perceived “ugliness”	<ul style="list-style-type: none">▪ Overpowering of “beautiful” natural phenomena	<ul style="list-style-type: none">▪ Clutter
	RESOURCES	<ul style="list-style-type: none">▪ Loss of absence: darkness / quietness		
LIVING ENVIRONMENT	SPECIES	<ul style="list-style-type: none">▪ Disorientation	<ul style="list-style-type: none">▪ Overpowering of communication signals	<ul style="list-style-type: none">▪ Alteration of predator-prey relationships
	ECOSYSTEMS	<ul style="list-style-type: none">▪ Shifts in ecosystems		



LIGHT & NOISE POLLUTION are **MATTERS OF PUBLIC CONCERN**

A STRUCTURED COMPARISON

LIGHT & NOISE POLLUTION : SIMILAR CHALLENGES FOR PLANNING



- TRANSVERSAL CHARACTER
- LIMITED KNOWLEDGE REGARDING EFFECTS
- AMBIVALENCE OF VALUATION
- COMBINED EFFECTS OF MANY DIFFERENT SOURCES: LIGHTSCAPES, SOUNDSCAPES



PLANNING FOR LIGHT & NOISE
demands

INTEGRATED APPROACHES

STATE OF THE ART IN URBAN PLANNING

LIGHTING POLICIES

EUROPEAN STANDARDS FOR STREET LIGHTING

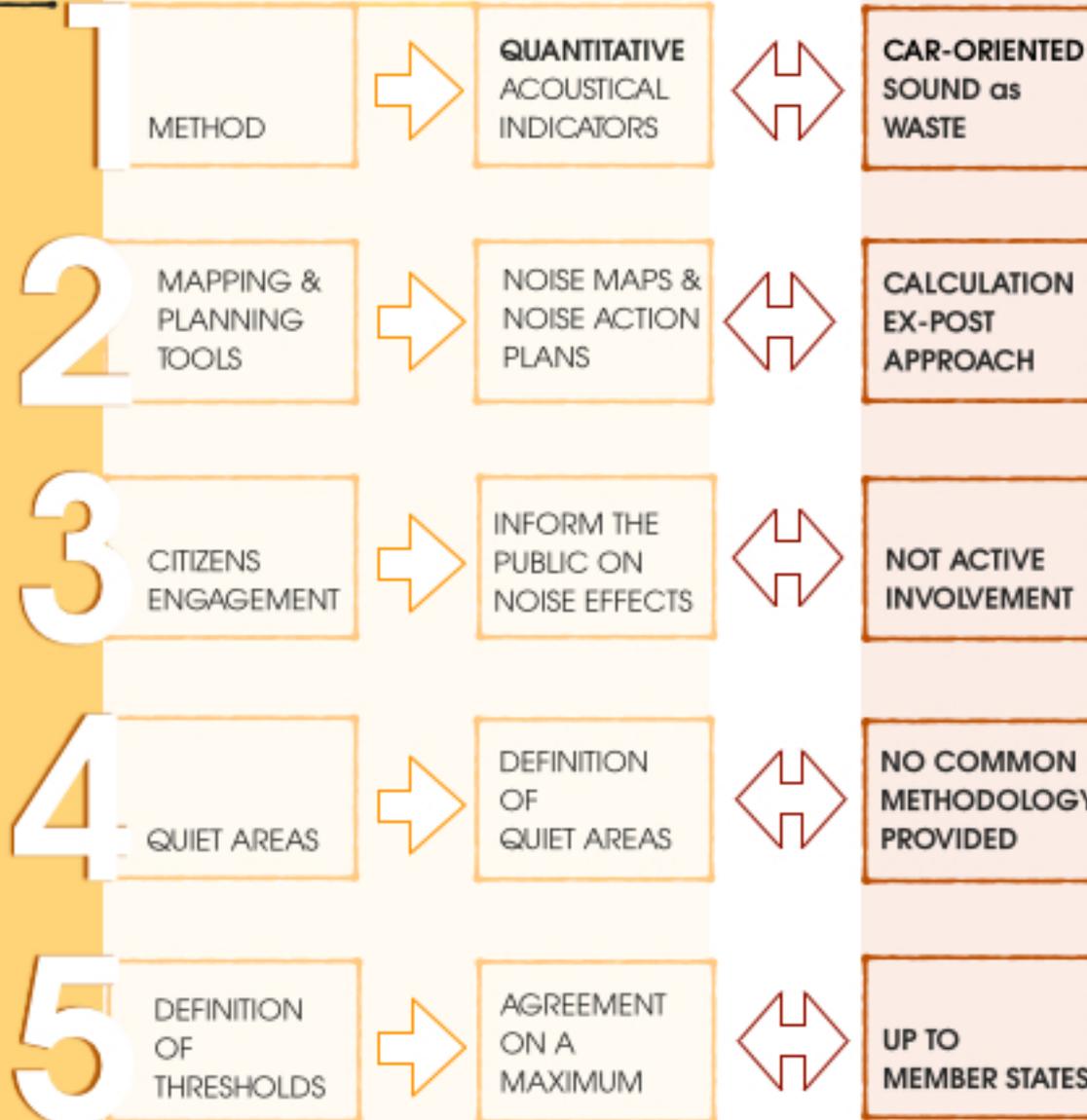
EN 13201

ISSUES	CRITICAL REVIEW
STATUS ▪ Non-binding <i>industry</i> standards	▪ Highly influential: <i>quasi-legal</i> status
TRANSPARENCY ▪ Closed-shop process	▪ Limited possibilities of engagement & accessibility
METHOD ▪ Quantitative criteria	▪ Technical, calculation-based approach
FOCUS ▪ Traffic safety	▪ Limited planning perspective
THRESHOLDS ▪ Minimum levels of illumination	▪ No definition of maximum levels
DARK AREAS ▪ Not addressed	▪ Not addressed

ENVIRONMENTAL NOISE POLICIES
END 2002/49/EC

CRITICAL REVIEW

MAIN ISSUES



ACOUSTIC PLANNING APPROACH

- END 2002/49/EC -

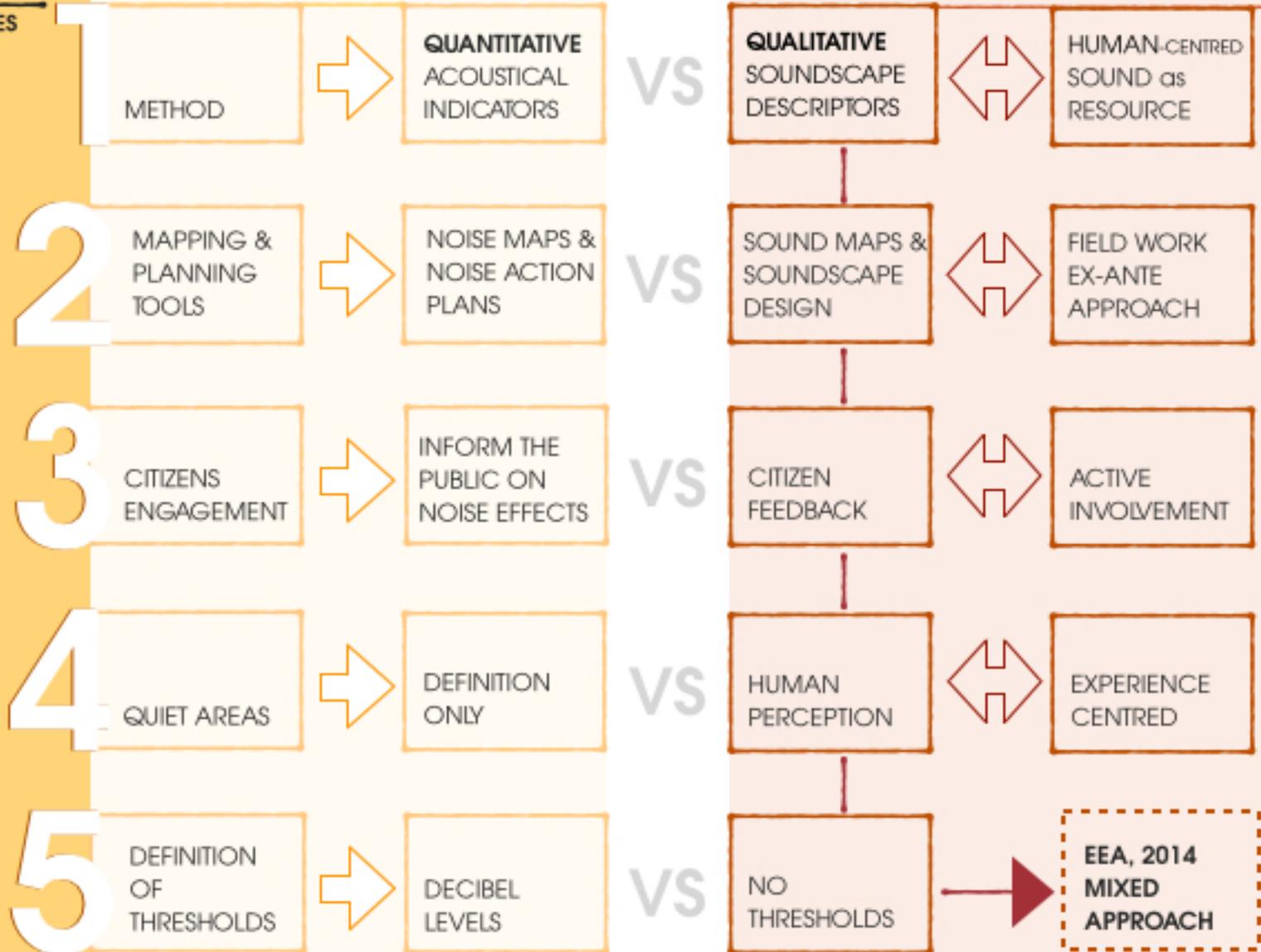
VS

SOUNDSCAPE RESEARCH APPROACH

- born in the Sixties

STRENGTHS

MAIN ISSUES



OPEN
QUESTIONS

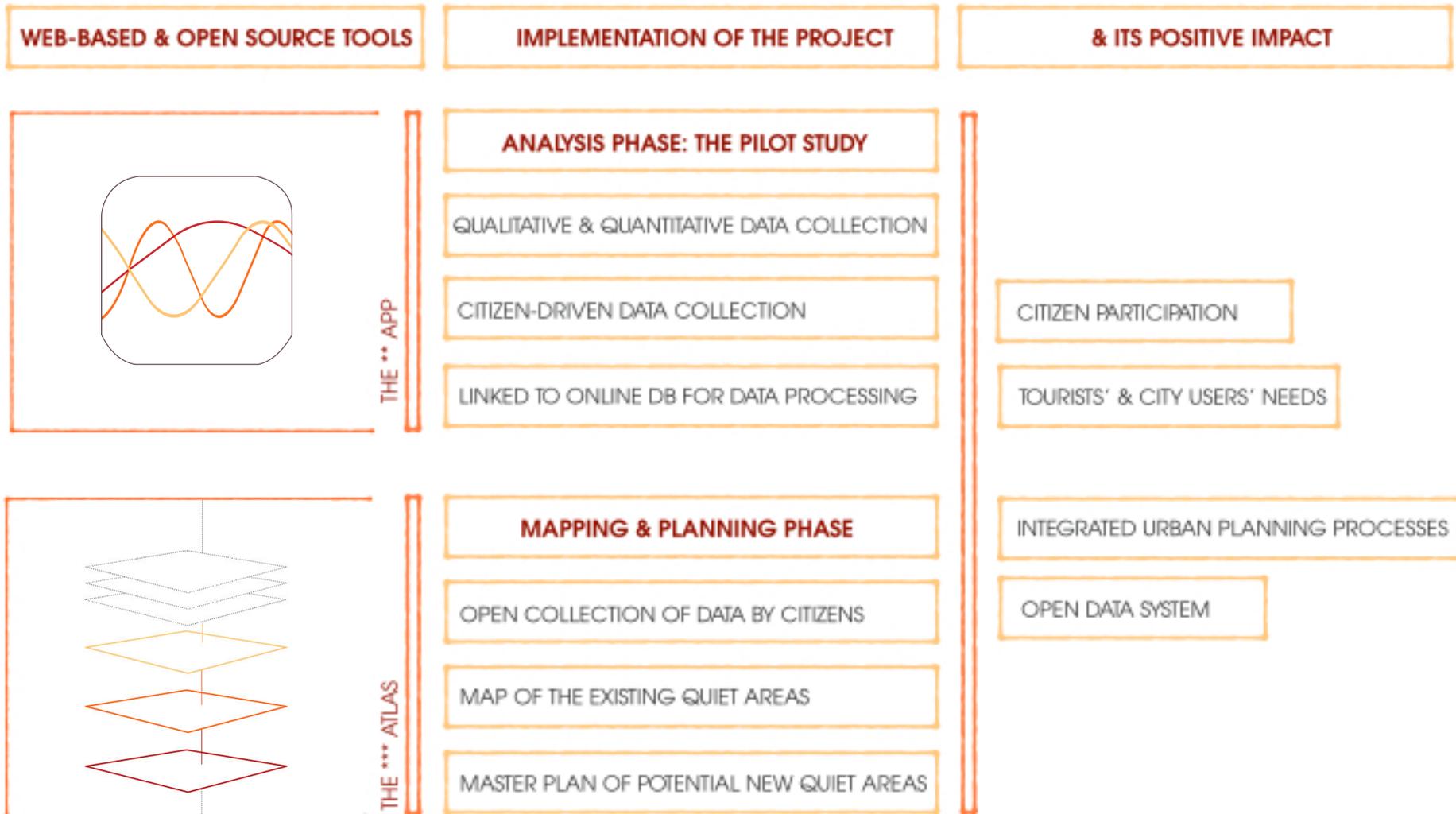


HOW
TO

TOWARDS THE HUMAN (VOICE) SCALE CITY

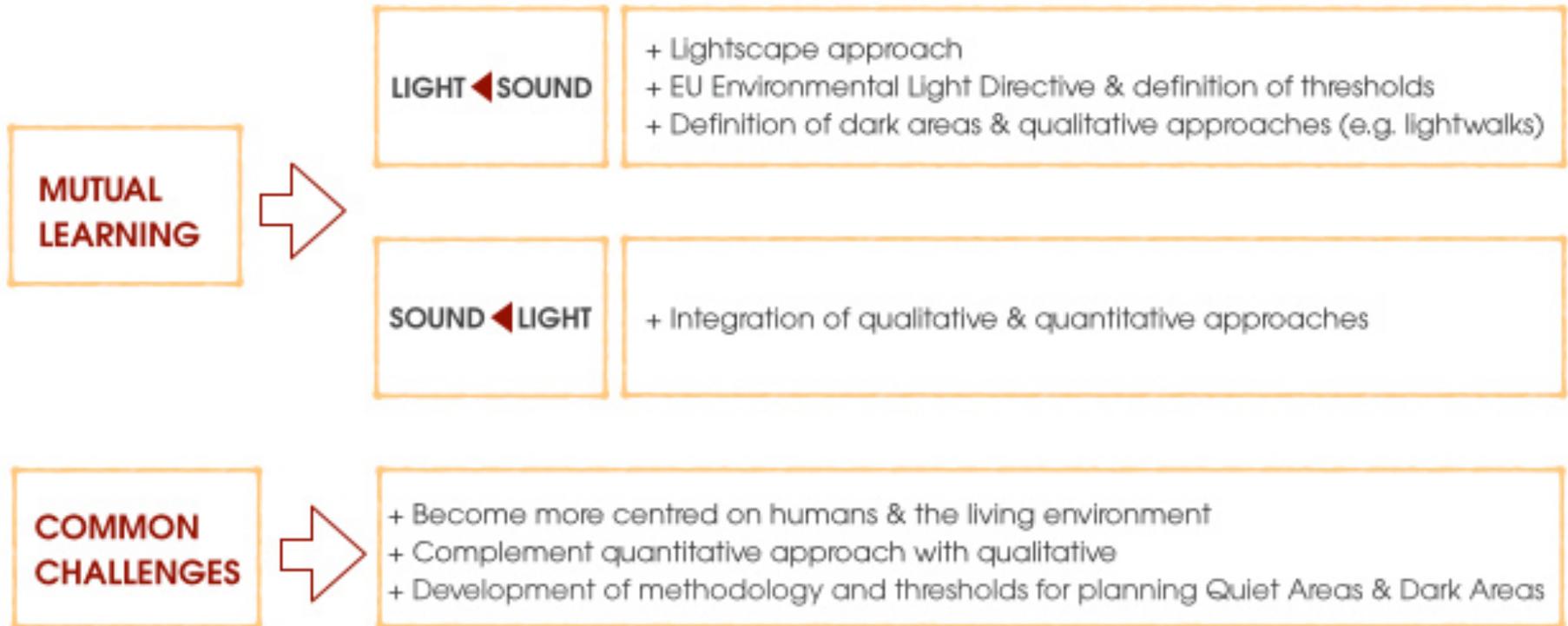
BEYOND THE NOISE: OPEN SOURCE SOUNDSCAPES

THE “OPEN SOURCE SOUNDSCAPE” APPROACH: IMPLEMENTATION AND IMPACT



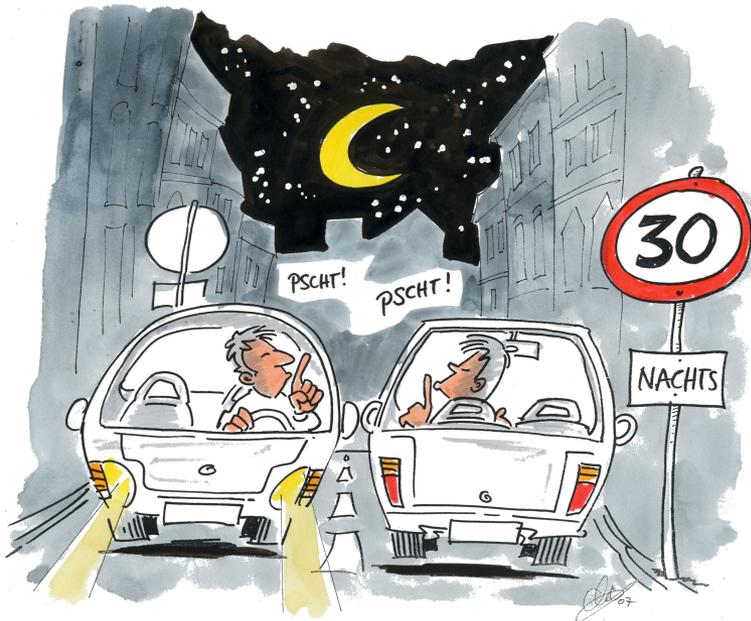
WHAT'S NEXT?

SUGGESTIONS TO BRING HOME



THANKS FOR YOUR ATTENTION 😊

&... STAY IN TOUCH!



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LIGHT



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LIGHT



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