



CLEVER Cities

Co-Creation Plan and Co-Design of Solutions in CALs

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1. Introduction

CLEVER Cities applies a city centric approach, starting by key urban regeneration challenges and employing strong local partner clusters, to foster sustainable and socially inclusive urban regeneration locally, in Europe and globally. The project will co-create, implement, and manage locally tailored NBS to deliver tangible social, environmental and economic improvements for urban regeneration. This document presents the development and progress of the co-creation plan and co-design of solutions at the level of the CLEVER Action Laboratory (CAL). The objective of the planning of co-creation activities is to improve the overall involvement of citizens in the process in order to achieve successful locally relevant projects, and legacy for the envisioned Nature Based Solutions (NBS).

The description of these activities is collected in the CLEVER Cities Guidance on Co-Creating Nature-Based Solutions in two different steps (D 1.1.6). The first (Step 5. Plan the co-creation activities and analyse the status quo) recalls the scope of the CAL and creates a preliminary check of available material and the road-mapping of the projects, in order to update partners and create a pre-project status quo before the starting of co-design activities. The second (Step 6. Design the CAL space internally) supports the partnership to define in detail the 'CAL space'. i.e. answering who, how, where and what for each project, which includes a co-creation matrix and the Theory of Change workshop descriptions.

2. Plan of Co-Creation Activities

The CLEVER Guidance, a bespoke guide for CLEVER Cities, presents many tools that could be used by the cities in order to develop their co-creation plan, although not all were compulsory for the cities to undertake, the tools have been very useful to help shape and develop the projects. Given the specificities of each Front Runner (FR)-city, the co-creation plans differ and are developed according to their individual perspective, needs and timetable. Some common requisites were aligned so that they follow the same general procedures and comply with the preestablished deadlines.

The next chapters of this document present, for each FR-city, a brief general introduction including an integrated analysis of the three CALs' co-creation process. Afterwards, the three labs are described in more detail, where the proposed activities, part of the co-creation plan, is also presented and detailed in a co-creation roadmap file.

2.1. Milan

The CLEVER Action Labs in the city of Milan are:

- CAL 1: Green Roofs and Walls
- CAL 2: Giambellino 129¹-Lorenteggio Community Green
- CAL 3: Tibaldi Train stop and Noise Barrier

The next table presents the main characteristics of the three Action Labs proposed, indicating the diversity in respect to scale, population, engaged stakeholders and typology of proposed NBS.

Table 1. General characterization of CALs of Milan City

CAL	Green Roofs & Walls	Giambellino	Station & Noise Barriers
Scale	CITY	Neighbourhood	Rail Station
Intervention area (m²)	Milan (181,8 km ² with special target on southern corridor in course of redefinition) 100.000 m ² extensive GR, 6.000 m ² intensive (estimated forecast)	27.000	10.000 (approx.)
Population (inh.)	1.300.000	50.000 (estimation)	6 trains x h (200 users each) x 12 h = 14 400 users/day running on the rail line, 5% of them 700 using this stop (approx. forecast)
Budget & funding source	1 million (Municipality) to be shared between city and target	900.000 (Municipality)	14.000.000 (train stop building and infrastructure)
CLEVER funds	70.000	250.000	550.000+235.000 co-financing by RFI
NBS	Green roofs Green walls	Community garden (samples under check: kitchen garden, urban fruit trees, shaded areas, buffer zone for railways influence mitigation, multifunctional raingardens...)	Green & Calm Rail Station ((1) Reinforced Soil; (2) Vertical green walls (Living Walls); (3) Livable public space ("waiting room"); (4) Run-off areas; (5) Test site for NBS supporting noise barrier.)
ToC process	Workshop (Date: 19/02/2019)		Local cluster WS (Date: 20/02/2019)

¹ Giambellino 129 is the road address of the garden, belonging to Lorenteggio Social Housing Rehab project as community green.

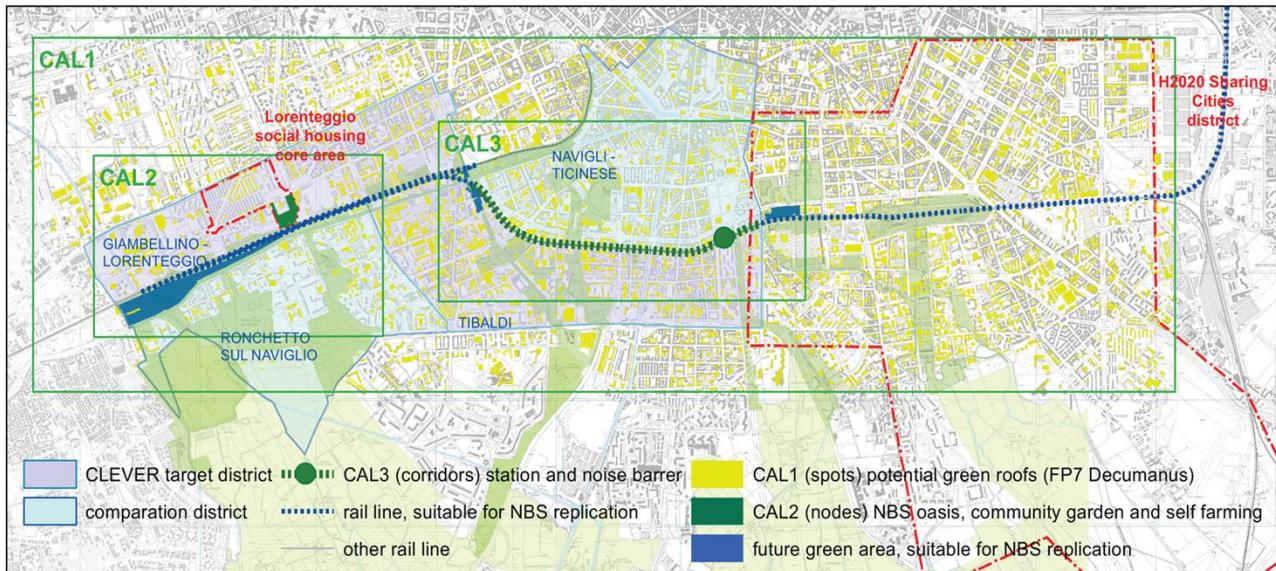


Figure 1. Map of Milan with the location of CLEVER Action Labs of Milan

In respect to the stakeholder's engagement on the co-creation process, Milan has opted by a different organizational scheme for each, according to specific expertise, although professional and environmental NGOs and citizen associations are common.

Table 2. Characterization of stakeholder's engagement on the co-creation process of Milan' CALs

CAL	Green Roofs & Walls	Giambellino 129	Station & Noise Barriers
CAL Leader	Ambiente Italia + CdM	Milan Municipality (CdM)	RFI (Dajelli with Italferr) with support of CdM
LMT Leader	Ambiente Italia + AMAT	Milan Municipality (CdM) + AMAT	Italferr (Dajelli) + AMAT
Database Responsible	Milan Municipality (CdM)	Milan Municipality (CdM)	Italferr (Dajelli)
Communication Manager	Milan Municipality, with WWF		RFI with WWF
Stakeholders	Professional Associations		
	Environmental NGOs and Citizens Associations		
	Business and companies Associations	Professional associations in gardening and NBS	
	Building owners and Building managers Associations		Travellers and residents

The Co-Creation matrix shows the high variability of its CALs in Background, Constraints or Determining factors, Stakeholders involved, Specific budget, Risks, Innovation element, as follow.

Table 3. Characterization of co-creation matrix of Milan' CALs

CAL	Green Roofs & Walls	Giambellino	Station & Noise Barriers
Starting date	Campaign: February 2019; Pilot projects: January 2020	April 2019	April 2019- Nov. 2019 cluster technical working group (until July 2019) and public co-design (Sept.-Nov. 2019)
Finishing date	Campaign: December 2019 ² ; Pilot projects: June 2020	June 2019 (The end of co-design could be postponed until September 2019)	November 2019
Background	Resilience strategy Land use plan Building code	Yes, community gardens experiences in the area Lorenteggio Rehab Social Empowerment Lab Supports Co-Creation	Yes, 2017 public discussion on RailCorp CDM Planning Agreement
Constraints / Determining factors	Effective response of stakeholders and properties to funding tender.	Yes, Land Restoration program (It's independent to the co-design and it limits all the project)	Co-design of railway station NBS is limited by timing of procurement process.
Stakeholders involved	Campaign: Division of the municipality, such as Resilience, Communication, Green and territory; Building associations, green services associations, environmental associations, professional order; Associations of the apartment block administrators; Training institutions; Media networks Pilot projects: University; Research centers; Building owners; Building users	Local UIP cluster, technical offices of municipality involved in Lorenteggio rehabilitation plan and Social Empowerment Lab subcontractors.	Local cluster for the whole design, local residents for noise barriers' test, + commuting community for train stop design.
Specific budget	Staff of the Municipality of Milan Expertise supplied by CLEVER Cities Partners: Ambiente Italia, Eliante, WWF, Politecnico of Milan.	Resources of the Commune of Milan involved in Lorenteggio public space design Expertise supplied by CLEVER Cities Partners.	Clever RFI and Italferr personnel cost + consultancy and expertise from Clever partners.
Risks	Missing involvement of key-stakeholders.	Limits: Predict a public return facing conflicts on general Rehab Plan	Lack of inclusion of the local community because of legislative and construction standards.
Innovation element	New way of communicating benefits of green roofs based on their multi-functionality	Advanced greening solution with community management	Innovative NBS design on infrastructure of railways.

² Goes on during tender period to support it.

In the CAL 3 about Train Station and Noise Barrier, it is necessary indicate that for some legislative and construction standards not all possible NBS interventions could be co-designed locally with residents and/or local community; specifically, in merit of technical specification of reinforced soil, vertical green walls and water run-off management interventions.

General conclusions:

- The three CALs in Milan are operating on different scales (urban and operational) and they have different timing and different roadmaps for implementation.
- The Theory of Change Workshop was held on February 19 and 20, 2019: The process, conducted by Milan Municipality, involved local government, municipal technical offices, will be updated with local UIP cluster (local community, civil society expressions, committees, associations).
- The main challenge on co-creation is, beside timing, to keep stakeholders continuously engaged.

2.1.1. Milan: CAL 1. Green Roofs and Walls (GRW)

The focus of CAL 1 lies on the **design and promotion of innovative solutions for experimental and multifunctional green roofs and walls**, which have multiple benefits (environmental, social, and economic) for people living, working and/or using the buildings and the surrounding areas.

In support of the promotion of NBS, the CAL will develop and run an awareness-raising campaign. Its goal will not be solely to increase knowledge about the importance of greenery into our buildings, but also to adopt a more strategic approach to public interest communication. It implies the translation of this awareness into action, such as, triggering a legislative change/supplementation, and driving the professional body to employ green roofs and green walls into their building practices. Through an interactive web platform, also citizens will be engaged in the knowledge-sharing process.

Indeed, the dedicated activities will support the bottom-up model, thus, facilitating the pilot projects to give technical advice, to enhance best practices exchange, to test new directives (green bonus, public bids) and legislative incentives (building code).

The monitoring of the implemented pilot projects and the communication of the bottom-up initiatives will be an essential input for the second phase of the communication campaign. The focus of the latter will be on the exploitation and possible replication of the results.



Figure 2. Map of Milan with localizations of possible green roofs and walls.



Figure 3. Site visit: existing green roofs and walls in Milan. Source: Ambiente Italia & Roofmatters

Co-Creation activities

In this CAL the co-creation process is focused two main tasks: campaign and pilot projects.

Campaign: The design of the campaign will involve sector associations and professional orders, environmental associations, training institutions and local media in order to:

- identify existing events that could support and re-launch the campaign;
- identify existing training courses and expertise that could set up a local training network on green roofs and walls;

- identify database and mailing list to be shared;
- identify the main communication channels that could support and re-launch the municipality institutional communication channel.

The main activities foreseen are face to face meetings and two workshops (the first for the setting up of the general co-implementation framework of the campaign and the second one for the detailed definition of activities and responsibilities with respect to co-designing of solutions).

Pilot projects: The involvement of stakeholders such as the university, research centres and professional orders, could guarantee a support in the design of the pilot projects suggesting good practices and giving professional advice.

- Building owners and users will be involved, since the starting phase of the projects' design.
- Activities foreseen: 1-2 workshops

The start-up activity of the campaign of co-creation process was a workshop based on Theory of Change (ToC) held on February 19, 2019 together with the CAL 2 and CAL 3. The general conclusions of this process are: 1) Multifunctional spaces can enhance community's sense of belonging; 2) Multifunctional targets: improve economic challenges, social inclusion, environmental sustainability; and 3) Multitarget Campaign to overcome main barriers: lack of awareness about GRW multiple benefits; lack of a consolidated / visible economic chain able to provide GRW services.

Partnership working in CAL

Both the organizational scheme and UIP involved are aligned with this CAL focus on implemented Green Roofs and Walls in Milan city.

In the organizational scheme, the stakeholders in charge are **Ambiente Italia**, like CAL and LMT leader, **Milan Municipality**, like Database Responsible and Communication Manager. CAL Leader have the support of **CdM**, Communication Manager is supported by **WWF**.

In relation to LMT, the main stakeholders involved are **Professional, Business and Companies, Environmental NGOs and Citizens, and Building Owners and Building Managers Associations**. For UIP engagement in CAL-1, relevant stakeholders have been contacted, interviewed, and met. Besides, potential spaces for cooperation have been individuated, and a Promotional Campaign Plan (as a preliminary draft) has been co-designed.

Highlights, Challenges & Innovation

Highlights: a) Climate change effects are raising (water floods - summer heat peaks); b) Milan is characterized by buildings high density and green areas area not easily available everywhere; and c) High potential for Green Roofs/Walls (GRW): about 12 million m², more than a third of the city buildings, shows a flat-covering, potentially usable for green roofs (but only 3% are green, at the moment).

Constraints: Not identified at the moment.

Risk: Missing involvement of key-stakeholders.

Challenges: a) Multiply green roofs and walls to improve the city climate change adaptation's ability; b) Increase people and local economy awareness about their benefits; c) Develop realisations that integrates environmental, social and economic opportunities related to green roofs and walls.

Innovation aspects: a) Multi-stakeholders co-designed and participated campaign; b) Experimental solutions for green walls; c) Citizen engagement on adaptation actions and measures.

CAL Road Mapping

Month	CO-CREATION					DESIGN PHASES			Risks
	Establishing UIP	Co-design	Co-implementation	Co-monitoring	Co-development	Preliminary design	construction	operation	
M1 June 2018									
M2 July 2018									
M3 August 2018									
M4 September 2018									
M5 October 2018									
M6 November 2018	M								
M7 December 2018									
M8 January 2019		Campaign							
M9 February 2019		Step 5-6 KPIs							
M10 March 2019		Step 7-8				Campaign: ex ante			
M11 April 2019									
M12 May 2019	D 2.1	D 2.2							
M13 June 2019		Step 9							
M14 July 2019		Step 10							
M15 August 2019		Campaign							
M16 September 2019		Green week				Campaign: phase 1 start			
M17 October 2019									
M18 November 2019									
M19 December 2019									
M20 January 2020		Pilot projects							
M21 February 2020									
M22 March 2020						pilot projects - ex ante situation			
M23 April 2020									
M24 May 2020									
M25 June 2020						Campaign: phase 1 closing			
M26 July 2020		Pilot projects				Campaign: phase 1			
M27 August 2020									
M28 September 2020						Campaign: phase 2 start			
M29 October 2020									
M30 November 2020									
M31 December 2020									
M32 January 2021									
M33 February 2021									
M34 March 2021									
M35 April 2021									
M36 May 2021	End								
M37 June 2021						Pilot projects: building sites closing			
M38 July 2021						Campaign: phase 2 closing			
M39 August 2021									
M40 September 2021		D 2.3				Campaign: phase 2			
M41 October 2021						pilot projects - first ex post			
M42 November 2021									
M43 December 2021									
M44 January 2022									
M45 February 2022									
M46 March 2022									
M47 April 2022									
M48 May 2022									
M49 June 2022									
M50 July 2022									
M51 August 2022									
M52 September 2022						pilot projects - second ex post			
M53 October 2022									
M54 November 2022		D 2.4							
M55 December 2022									
M56 January 2023									
M57 February 2023									
M58 March 2023									
M59 April 2023									
M60 May 2023		D 2.5							

Figure 4. Road mapping of Co-Creation Plan of CAL 1 of Milan

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2.1.2. Milan: CAL 2. Giambellino 129

Presentation

CAL 2 “Giambellino 129” is an abandoned and polluted green lot located in the area of Lorenteggio-Giambellino regeneration Programme. A restoration programme has been foreseen by the Municipality of Milan on 27.000 m², in order to create a community garden and a public green area. This CAL is based in the integration of NBS for social cohesion and better life in periphery.

Giambellino 129 will experiment co-creation process in order to insert innovative NBS in a community garden which can be replicated in other public spaces: different NBS will be used for the definition of different functions in the CAL, such as kitchen garden, urban fruit trees, shaded areas provided by vegetation, buffer zone for railways influence mitigation, and multifunctional raingardens. The Codesign outcome, a multifunctional green area, will be managed and maintained by citizens.



Figure 5. Imagen of community garden

The CAL 2 will include different functions within the area:

- Autochthonous biodiversity conservation, offering a systemic stepping stones for the municipal ecologic network,
- Production of food in a shared kitchen garden and urban fruit trees lot,
- Shaded areas and mitigation of heat peaks during hot seasons,
- Buffer zones towards railways influence, separating the kitchen gardens and the public garden from the trains' noise and pollution,
- Rainwater harvesting and reuse for the garden's autonomy during the warmer seasons,
- Rainwater drainage system (mainly in a parking lot that will be created inside the lot),
- Opportunity to involve a different aged public and to disseminate a best practice.

Co-benefits to be measured: better run-off management in the area, creation of a resilient and self-sustainable autochthonous garden, biodiversity improvement, ecological connectivity enhancement, resilience improvement at micro scale against climate change, CO₂ absorption, aesthetic improvement and social cohesion improvement. This area gives the opportunity to diffuse among citizens a clear value for NBS solutions' impacts and benefits at community level, supporting community's social cohesion and common goods shared management.



Figure 6 Preliminary study by CDM Greening dept. on-site visit images, authors Trentin, Morello. Date: January 29th, 2019.

Co-Creation activities

The co-design board will organise some workshops, the number of these workshops has to be defined together with the participation coordinator of the Lorenteggio periphery action. Workshops should be distributed along two months, but a three-more month's hypothesis is under evaluation for a better community involvement. During workshops, CAL contents definition and shared users' rules, space planning of the area, definition of different functions and uses.

The start-up activity of the co-creation process was a workshop based on Theory of Change (ToC) held on February 19, 2019 together with the CAL 1 and CAL 3. The general conclusions of this process are:

- Multifunctional spaces can enhance community's sense of belonging.
- Multifunctional targets: improve economic challenges, social inclusion, environmental sustainability.
- Multitarget Co-Creation process to overcome main barriers: lack of awareness about Co-Design NBS multiple benefits; lack of a consolidated / visible economic chain able to provide Co-Implementation and Co-Management NBS ecological services.

The UIP engagement process will be mainly conducted by Milan Municipality Department for Periphery development and Department for Green and Agriculture. In the co-creation process will involve local government, municipal technical offices, local UIP cluster (local community, civil society, committees, associations).

Partnership working in CAL

Both the organizational scheme and UIP involved in the CAL 2 are aligned with this CAL focus on implementing Community Garden in the area of Lorenteggio-Giambellino in Milan.

In the organizational scheme, the stakeholders in charge is **Milan Municipality** in all of activities. In LMT leader have the support of **AMAT**, and the **WWF** in Communication Manager.

In relation to LMT, the main stakeholders involved in CAL 2 are Local UIP cluster (Professional and Environmental NGOs Associations, besides Professional associations in gardening and NBS) and technical offices of municipality involved in Lorenteggio rehabilitation plan, with Lorenteggio Rehab plan subcontractors for Social Empowerment Lab. For UIP engagement in CAL 2, relevant stakeholders have been contacted, interviewed, and met. The participation process will be mainly conducted by Milan Municipality Area Politiche per l'Affitto e Valorizzazione Sociale Spazi, supported by the CLEVER team. The process will involve local government, municipal technical offices, local UIP cluster (local community, civil society expressions, committees, associations).

Highlights, Challenges & Innovation

Highlights: 1) Abandoned and polluted green lot; 2) Lack of security and safety perception; and 3) Lack of green areas.

Constrain: Land Restoration program (It's independent to the co-design and it limits all the project).

Risk: Limits: Predict a public return facing conflicts on general Rehab Plan.

Challenges: 1) Citizens involvement in a common green space creation; 2) NBS exhibition for citizens use; and 3) Co-management structure and co-creation model to be exported in surrounding.

Innovation aspects: Put active citizen in the centre of co-design and co-monitoring activities to define the public space in a sense that it corresponds to health and well-being challenges, increase sociability, visibility and connection of the space and enhance safety and security perceptions.

CAL Road Mapping

X	UIP	CO-CREATION				DESIGN PHASES			RISKS
		CODESIGN (participatory design)	COIMPLEMENTATION	COMONITORING	CODEVELOPMENT	PRELIMINARY DESIGN	CONSTRUCTION	OPERATON	
M1									
M2									
M3									
M4									
M5									
M6	nov-18								
M7	11, 12, dic-18 13, 14 dic								
M8	step 5, ene-19 step 6								
M9	feb-19								
M10	mar-19	Co-Design bot should last 2 rl could last 3 months more: STEP 08- Codeesign (the time length and contents should be defined well. It is crucial to define the indicators for CAL STEP 07-CAL's launch		1 Baseline definition: STEP 05 - data and information collection. STEP 06 - Lab programming, definition of citizens involvement methodology, fine tuning of programme		Technical board (Retake and Municipio 6)			
M11	apr-19	step 7,							
M12	may-19 step 8					Land Restoration is independent from the participatory design and constrains all the realization			3 Constraint: All realization steps depend on the Land restoration and its results
M13	jun-19					4 PREPARATION EXECUTIVE PROJECT PUBLIC RESTITUTION (?)- STEP 9-STEP 10			
M14	step 9, jul-19 step 10, TBD		STEP 11 needs extensive work that could cover the time interval from the project ending (Sept. 2020) to the realization ending (April 2021)			5 Between assignment and implementation, participatory meetings must be foreseen to introduce and train in the use of NBS			
M15	ago-19					Tender awarding (about 6 months)- STEP 11			
M16	sep-19								
M17	oct-19								
M18	nov-19								
M19	dic-19								
M20	ene-20								
M21	feb-20 step 11								
M22	mar-20								
M23	abi-20								
M24	may-20								
M25	jun-20								
M26	jul-20								
M27	ago-20								
M28	sep-20								
M29	oct-20								
M30	nov-20								
M31	dic-20								
M32	ene-21								
M33	feb-21								
M34	mar-21								
M35	abi-21	step 12, step 13, step 14, step 15, step 16				6 Realization or use Garden			7 Activity and fruition of the Garden phase
M36	may-21		STEP 13 - STEP 14	STEP 12- "participatory inauguration"/ taking charge-STEP 15-STEP 16					
M37	jun-21								
M38	jul-21								
M39	ago-21								
M40	sep-21								
M41	oct-21								
M42	nov-21								
M43	dic-21								
M44	ene-22								
M45	feb-22								
M46	mar-22								
M47	abi-22								
M48	may-22								
M49	jun-22								
M50	jul-22								
M51	ago-22								
M52	sep-22								
M53	oct-22								
M54	nov-22								
M55	dic-22								
M56	ene-23								
M57	feb-23								
M58	mar-23								
M59	abi-23								
M60	may-23								

File: [D2.2 MILAN CAL2 G129 Tool1.5 timeline.xlsx](#)

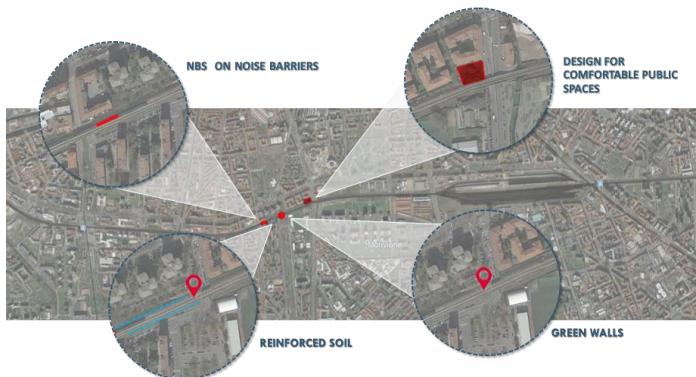
Figure 7. Road mapping of Co-Creation Plan of CAL 2 of Milan

2.1.3. Milan: CAL 3. Tibaldi Train Stop and Noise Barrier

Presentation

CAL 3 Tibaldi Train Stop interventions are aimed to integrate NBS in Tibaldi station, located in the area of Municipio 5 of the south of Milan, and its close open spaces, and also to test on a short length tract of the railroad, mitigation of noise barrier with NBS integrated on their surfaces and along the rail banks aside of them. Such an unusual location for greening implies some constraints for co-creation - co-implementation

and co-monitoring activities, due to the complexity of building design, safety concerns during construction period and after during railroad service. Despite of these constraints, CDM, RFI and Local Cluster partner appreciated how integration of NBS in infrastructure as a central element of design rather than collateral mitigation was strongly innovative and deserved attention.



← Figure 8. Map of Milan with the location of actions in CAL 3 of Milan

The Local Cluster Partners have discussed the co-creation plan, in order to find a common language between infrastructure design experts and natural design specialists. Limits and opportunities for co-creation activities were defined, and a rack of possible NBS solution was studied for variations of the ongoing rail stop design, application of NBS was extended to an external abandoned area aside of the access to transform it an opens space green waiting room. A contractual clause was introduced in procurement tender, to admit variation for NBS design after contractor selection.



Figure 9. Site visit: existing green roofs and walls in Milan. Source: Ambiente Italia & Roofmatters

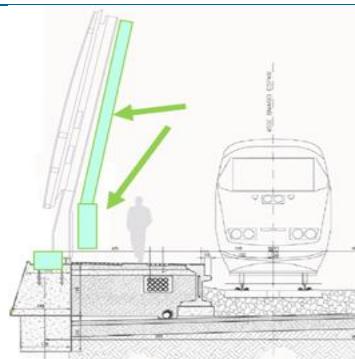


Figure 10. Cross section with standard noise barrier, to be implemented with NBS through Clever Co-Design (source RFI)

The project envisions four types of NBS interventions: 1) A liveable public space that works as a “waiting room”; 2) Reinforced Soil that will be planted with greens balancing ecosystem and reinforcing biodiversity; 3) Vertical green walls (Living Walls); and 4) Run-off areas to mitigate water management and heat islands on the aisles of the station, and all exposed superficial areas.

A noteworthy aspect in that the Co-design of railway station NBS is limited by timing of procurement process, what constitutes an important constraints or determining factor.

Co-Creation activities

Two types of Co-design activities are expected to take place in premise to the implementation phase:

1. **Technical workshops:** to collect indications and consult with the technical experts on the possibilities of planned interventions. For integration of NBS with executive project; specifically, on vertical green walls, reinforced soil and run-off water management.
 - April 2019- November 2019 (until July 2019)
2. **Open Co-design participatory workshops** to share with wide public the CAL focus and scope, together with activities of brainstorming, designing of co-benefits, and verification of NBS in place. For open participation on the co-design of two NBS interventions; Green Noise barriers and liveable Public space.
 - September - November 2019

The participation process will be mainly conducted with RFI, Italferr, local UIP Cluster (CDM, ELI, AMB, FPM). The UIP engagement activities held, commitment is now in progress.

Partnership working in CAL

Both the organizational scheme and UIP involved in the CAL-3 are aligned with this CAL focus on implemented NBS and Noise Barrier in Tibaldi Train Station in Milan city.

In the organizational scheme, the stakeholders in charge are **RFI**, like CAL leader and Communication Manager, and **Italferr** (Dajelli) like LMT Leader and Database Responsible. CAL Leader have the support of **CdM**, Communication Manager is supported by **WWF**.

In relation to LMT, the main stakeholders involved are Environmental NGOs and Citizens, Professional (and in gardening and NBS specifically) Associations, and Travellers and residents. Local cluster will be involved for the whole design, and specifically local residents for noise barriers' test, and commuting community for train stop design.

Highlights, Challenges & Innovation

Highlights: The area consists on a train stop of 250 meters long and 40 meters width in the public space. At west end of train stop, north side of the tract, a test will be performed for NBS installation on noise barriers.

Constraints: Co-design of railway station NBS is limited by timing of procurement process.

Risk: Lack of inclusion of the local community because of legislative and construction standards.

Challenges: 1) human health and wellbeing: noise pollution, compromised human well being in areas surrounding the railroad; 2) sustainable economic prosperity: 1) railway infrastructure cutting through the city leads to economic segregation between districts; 2) housing depreciation along the rail line, particularly in Tibaldi; 3) social cohesion and environmental justice: poor sense of place, lack of community cohesion and connections; 4) citizen security: unsafe space and potentially crime risk in abandoned rail yards and along poorly maintained rail banks.

Innovation aspects: A new path compared to standard railway infrastructure construction in Milan, and Italy, NBS are applied as an essential component of the project, and not just as a mitigation requested by environmental assessment.

CAL Road Mapping

Month	CO-CREATION					DESIGN PHASES			Risks
	Establishing UIP	Co-design	Co-implementation	Co-monitoring	Co-development	preliminary design	construction	operation	
M1 June 2018									
M2 July 2018									
M3 August 2018									
M4 September 2018									
M5 October 2018									
M6 November 2018	D 2.1								
M7 December 2018									
M8 January 2019		(step 5-6)							
M9 February 2019		CAL Limits defined				Design Validation			
M10 March 2019		Cluster Codesign							
M11 April 2019									
M12 May 2019		D 2.2							
M13 June 2019									
M14 July 2019		start of public info				Procurement			
M15 August 2019			D 2.3			Tender			
M16 September 2019		Open Co-design							
M17 October 2019		step 7-8							
M18 November 2019	+ codesign cluster					Design variation			
M19 December 2019									
M20 January 2020									
M21 February 2020									
M22 March 2020									
M23 April 2020									
M24 May 2020									
M25 June 2020									
M26 July 2020									
M27 August 2020									
M28 September 2020						Infrastructure			
M29 October 2020						building			
M30 November 2020									
M31 December 2020									
M32 January 2021	fine exec var 222								
M33 February 2021									
M34 March 2021									
M35 April 2021									
M36 May 2021									
M37 June 2021									
M38 July 2021									
M39 August 2021									
M40 September 2021									
M41 October 2021									
M42 November 2021									
M43 December 2021									
M44 January 2022						NBS			
M45 February 2022		11 Constr. Site				Works			
M46 March 2022		visits							
M47 April 2022									
M48 May 2022									
M49 June 2022									
M50 July 2022			12 Opening	15 public					
M51 August 2022					discussion				
M52 September 2022				13-14	on types/results				
M53 October 2022					for replication				
M54 November 2022			D 2.4	16					
M55 December 2022			Monitoring			Environmental			
M56 January 2023			cobenefits	Design of		Monitoring			
M57 February 2023				replication		RFI			
M58 March 2023				projects					
M59 April 2023									
M60 May 2023			D 2.5						

File: [D2.2 MILAN CAL3 TSNB_Tool1.5_timeline.xlsx](#)

Figure 11. Road mapping of Co-Creation Plan of CAL 3 of Milan

2.2. Hamburg

The three CLEVER Action Labs of Hamburg City are:

- CAL 1: CLEVER Corridor is a binding element
- CAL 2: Green Roofs and Facades are not yet (fully) located and known
- CAL 3: Schools are specific places

The next table presents the main characteristics of the three CALs proposed by Hamburg, indicating the diversity in respect to scale, population, stakeholders engaged and typology of NBS proposed.

Table 4. General characterization of CALs of Hamburg City

CAL	CLEVER Corridor	Green Roofs & Facades	Schools
City components	corridor	spot	node, spot
Scale	City	Buildings	Schools
Intervention area (km2)	22.5	N.N.	N.N.
Population covered (inh.)	29.877	N.N.	N.N.
CLEVER funds	315.000	205.000	215.000
Budget & funding source	RISA, Hamburg Climate Plan, Hamburg Wasser, Foundations, private Stakeholders	green roof funding programme, Hamburg sewage Act, Real estate owners, Hamburg Wasser	schools, foundations, green roof funding for schools, maybe Hamburg Wasser
NBS	Pilot project on one part of the East-West walking/cycling path Urban gardening and redesign of green spaces along the corridor Temporary use of green spaces Green roofs and facades along the corridor (CAL 2) School projects (CAL 3) Development of a CLEVER Cities Logo for Neugraben Fischbek and creating CLEVER Cities identity		
ToC process	Large UIP event in October 2018		
Other meetings	Project meetings with citizen; Project meetings with other stakeholders relevant	Real estate owners and developers have been contacted and bilateral meetings	CLEVER Cities meetings with all 3 school directors

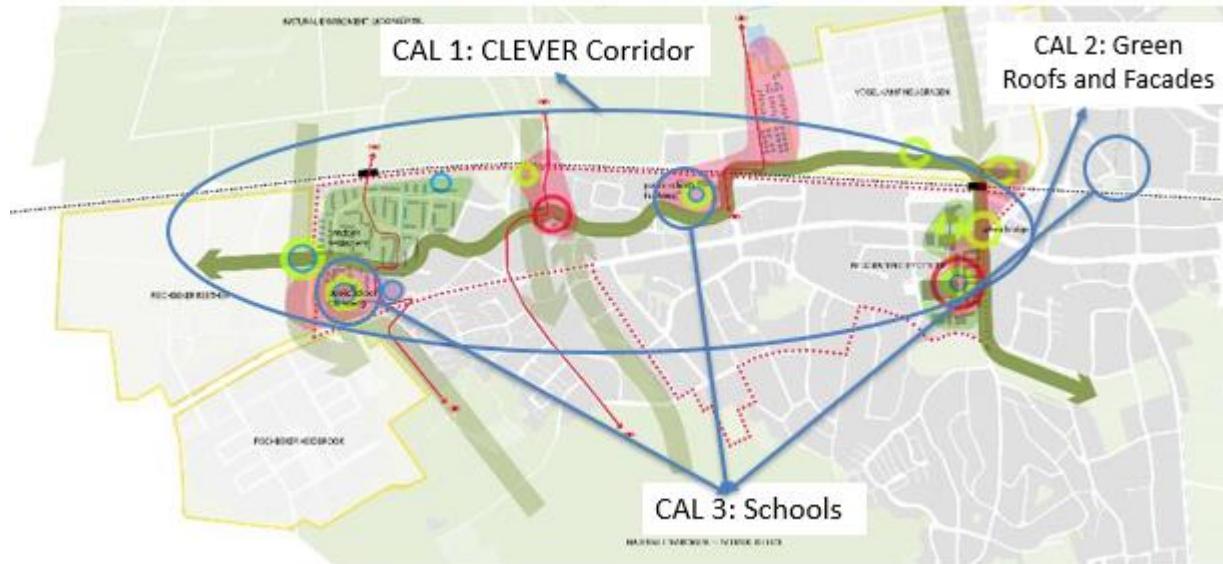


Figure 12. Map of Hamburg with the location of CLEVER Action Labs of Hamburg

In respect to the stakeholder engaged in the co-creation process, each of the three CALs in Hamburg has a different leader according their expertise, although the other organizational roles are shared. Specific groups of stakeholders are differentiated for each CAL.

Table 5. Characterization of stakeholder's engagement on the co-creation process of Hamburg' CALs

CAL	CLEVER Corridor	Green Roofs & Facades	Schools
CAL Leader	Project Lead	Bezirksamt Harburg	CLEVER Cities project lead
	Coordinator Bezirksamt Harburg	CLEVER Cities project lead / coordinator; BUE	
LMT Leader	TUHH		
Database Responsible	FHH		
Communication Manager	Project Lead		
	Coordinator Bezirksamt Harburg		Coordinator Bezirksamt Harburg and STEG
Stakeholders	Residents, property owners, state officials	Landscaping company, real estate owner (SAGA), thematic experts, neighbours, youth centre, pupils, home for elderly	Pupils, teachers, parents, landscape architects, facility management Hamburg

In every CAL you will find distinct approaches of co-designing solutions. Hamburg City has tried to point out these aspects in the CAL ID. An overall instrument of co-creation and participation of stakeholders will be the **CLEVERmobil**, which will be used for “**Pop-Up-Participation**” on the spot in a dynamic way, which is re-designed with the help of students from HCU and young people from the neighbourhood.

The matrix of the co-creation plan and co-design of solutions in Hamburg's CALs refers to single projects and events.

Beside the kick-off UIP as a starting point for the process, many bilateral meetings took place with different stakeholder and players of the local area as well as representatives of the authorities.

Because of the nature of the projects which differ from small interventions up to cost-intensive bigger scale projects the co-creation process differs from project to project. The co-creation process has to be adapted towards the different participants and target groups.

Table 6. Characterization of co-creation matrix of Hamburg' CALs

CAL	CLEVER Corridor	Green Roofs & Facades	Schools
Starting date	October 2018	October 2018	Has already started
Finishing date	2020/21	2021/2022	2021/22
Background	Project partner STEG has experience with participation processes especially with young people/pupils, across generations, integration of vulnerable people, multilingual		
Constraints / Determining factors	Too little financial resources, different ownership conditions	Housing industry and local owners of buildings do not have it in focus, too little financial resources, short time horizon	Area potentials are limited, little human resources; too little financial resources; time restrictions of the students/pupils/teachers
Stakeholders involved	Local residents and organisations, local businesses	Experts, housing industry and local housing owners	Schools, neighbourhood
Specific budget	Total budget for Co-Design 100.000 EUR		
Risks	"over-participation" / lack of motivation for involvement of certain (e.g. vulnerable) groups	Maybe lack of interest of housing owners to implement a green roof	Legal requirements, structural specifications
Innovation element	Digital participation (DIPAS), different innovative participation tools, explorative and experimental	Digital participation (DIPAS)	Will be developed together with pupils/teachers/local stakeholders/universities and more during the co-creation process
General comments			

2.2.1. Hamburg: CAL 1. CLEVER Corridor

Presentation

The CLEVER corridor will connect the different NBS interventions implemented as part of CLEVER Cities in Hamburg city. It also connects the city to nature and puts an emphasis on the concept of *nature within the city*.

The ambition is to have a pilot project on one part of the East-West walking/cycling path. Along the corridor, nature-based solutions will be implemented to increase biodiversity and connect nature with the city. A guiding tool will be developed telling the story of local history and identity through creative ways along the path. As such, the CLEVER Corridor will include a variety of NBS interventions:

- Pilot project on one part of the East-West walking/cycling path □ probably rain water management and lighting
- Urban gardening and redesign of green spaces along the corridor
- Temporary use of green spaces
- Green roofs and facades along the corridor (□ CAL 2)
- School projects (CAL 3)
- Development of a CLEVER Cities Logo for Neugraben-Fischbek and creating CLEV
- ER Cities identity



Figure 13. Map of Hamburg with the location of CLEVER Corridor (CAL1)

A CLEVER logo/identity will be developed to make the corridor visible.



Figure 14. Photos taken along the corridor (taken by the CLEVER Cities team)

Co-Creation activities

The corridor will be defined by a variety of different activities. Garden projects along the corridor will be initiated with different stakeholders, depending on the place. For example, the first area will be co-designed with refugees and neighbours of the refugee accommodations. The co-design of a concept for a cultural workshop “made in süderelbe” will involve residents of Neugraben-Fischbek. The design of furniture as meeting points for the public space will also be co-designed in workshops and, the use of the CLEVERmobil to define and design the corridor is essential.

Starting date: October 2018 with a kick-off UIP event (ca. 130 participants). Besides numerous meetings focussing on certain CAL's or stimuli two types of participation events were organized using the method of *theory of change*: The internal workshop was consisting of only Hamburg CLEVER partners in order to have a test drive and get familiar with the method (22.02.2019) Another external workshop was held with handpicked stakeholders, who are indispensable for the success of certain CAL's / stimuli or are able to contribute significant elements to the project's design and process (01.04.2019). The general conclusions of the process are: 1) Concentrated, creative and productive sessions, 2) Lively discussion, and 3) Method was understood.

Figure 15. Imagen of workshop of CAL 1 of Hamburg ➔



The external workshop has formed CAL-specific UIP with selected participants. The different stakeholders have reacted positively to CLEVER goals and strategies. Motivation comes especially from residence side.

Beside the kick-off UIP as a starting point for the process, many bilateral meetings took place with different stakeholder and players of the local area as well as representatives of the authorities.

As of now, there is no particular venue for this CAL as the CAL spreads all over the project area. Different co-creation activities are planned that will take place at different venues along the corridor. In the future, the CLEVER-Mobil might be used for participation purposes. Also, the Produktionsstätte (local project concept: local production facility) might serve as a venue for future participation events.

Partnership working in CAL

Both the organizational scheme and UIP involved in the CAL-1 are aligned with this CAL focus on connecting the different NBS interventions implemented (corridor) as part of CLEVER Cities in Hamburg.

There are different responsibilities for the corridor with regard to the different kinds of NBS interventions. For the overall coordination of corridor interventions, the CLEVER Cities project lead-coordinator in Harburg will be responsible and STEG is responsible for any co-creation processes. The different interventions will be led in cooperation with several local district administrators or other colleagues if their expertise is needed. The CLEVER Cities partners BUE, HCU, TUHH will contribute with their expertise. LGV will contribute with monitoring and Urban Data Platform expertise.

Local residents and organisations, and local businesses also participate in co-creation activities.

Highlights, Challenges & Innovation

Highlights: 1) Corridor connects NBS interventions implemented; 2) Corridor connects nature and the city; and 3) Development of a guiding system.

Constrain: 1) Too little financial resources, different ownership conditions.

Risk: "over-participation" / lack of motivation for involvement of certain (e.g. vulnerable) groups.

Challenges: 1) The corridor is currently existing only on the map; and 2) Existing barriers along the route.

Innovation aspect: Connecting people through NBS, CLEVERmobil, mobile Urban Gardening, innovative rainwater management (?), innovative participation (e.g. exploring the corridor through a video project)

CAL Road Mapping

Month	CO-CREATION					DESIGN PHASES			Risks
	Establishing UIP	Co-design	Co-implementa-tion	Co-monitoring	Co-development	preliminary design	construction	operation	
M1 June 2018									
M2 July 2018									
M3 August 2018									
M4 September 2018									
M5 October 2018	Kick off UIP								
M6 November 2018	D 2.1								
M7 December 2018									
M8 January 2019	monthly meetings UIP / cultural workshop								
M9 February 2019									
M10 March 2019	stakeholder meeting DRK-gardens								
M11 April 2019		ToC Workshop							
M12 May 2019		D 2.2							
M13 June 2019	ng group meetings HH partners / co-creation workshops DRK-gardens								
M14 July 2019									
M15 August 2019			D 2.3						
M16 September 2019	concept design cultural workshop								
M17 October 2019		inauguration DRK-gardens							
M18 November 2019									
M19 December 2019									
M20 January 2020									
M21 February 2020									
M22 March 2020									
M23 April 2020									
M24 May 2020									
M25 June 2020									
M26 July 2020									
M27 August 2020									
M28 September 2020	concept design cultural workshop finished								
M29 October 2020									
M30 November 2020									
M31 December 2020									
M32 January 2021									
M33 February 2021									
M34 March 2021									
M35 April 2021									
M36 May 2021									
M37 June 2021									
M38 July 2021									
M39 August 2021									
M40 September 2021			D 2.4						
M41 October 2021									
M42 November 2021									
M43 December 2021									
M44 January 2022									
M45 February 2022									
M46 March 2022									
M47 April 2022									
M48 May 2022									
M49 June 2022									
M50 July 2022									
M51 August 2022									
M52 September 2022									
M53 October 2022									
M54 November 2022				D 2.5					
M55 December 2022									
M56 January 2023									
M57 February 2023									
M58 March 2023									
M59 April 2023									
M60 May 2023									

Figure 16. Road mapping of Co-Creation Plan of CAL 1 of Hamburg

File: [D2.2 HAMBURG CAL1 Corridor Tool1.5 timeline.xlsx](#)

2.2.2. Hamburg: CAL 2. Green Roofs and Facades

Presentation

Along the CLEVER corridor and within the project area, it is planned to develop and implement green roofs as well as green facades in cooperation with public and private stakeholders. Examples of these are:

- SAGA (building society) green facades: four facades of existing buildings will probably be greened with different innovative concepts (e.g. an eatable façade).
- Polizeikommissariat 47: Projected new police station;
- Quartiereingang Vogelkamp: Projected new design of the entry into the new residential quarter; and
- Marktpassage: Pedestrian zone in the centre of Neugraben.

Green roofs and facades create green spaces that can not only enhance recreation activities and the attractiveness of the neighbourhoods, but also create a living environment for animals, insects and plants. Furthermore, the urban climate can be improved and the local rain retention capacity increased.

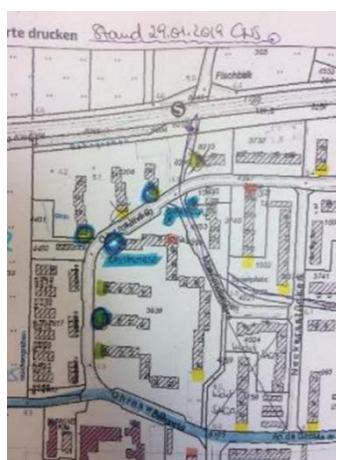


Figure 17. Map of the planned SAGA interventions



*Figure 18. Example Façade SAGA
(photo: Cornelia Stolze)*

Co-Creation activities

Co-design of construction of green façade (professionals) selection of and education about plants (citizens).

For UIP engagement a large-scale kick-off UIP event in October 2018 was held: one theme table was committed to the topic of green roofs and facades. The digital participation tool (DIPAS) was used to identify potential roofs/buildings. Real estate owners and developers have been contacted and bilateral meetings have been held. Project ideas have been discussed together.

Figure 19. Imagen of workshop of CAL 2 of Hamburg ➔



Two types of participation events were organized: one internal (22.02.2019) and another external (01.04.2019). [You can see additional information above these Co-Creation activities in previous chapter focus con CAL 2: Corridor]

The general conclusions of the process are: 1) Fruitful discussions, 2) It was good to have the social housing company at the table, and 3) CLEVER Cities (too?) team strongly represented.

The external workshop has formed CAL-specific UIP with selected participants. The different stakeholders have reacted positively to CLEVER goals and strategies. Motivation comes especially from residence side.

Beside the kick-off UIP as a starting point for the process, many bilateral meetings took place with different stakeholder and players of the local area as well as representatives of the authorities.

There is no particular venue for this CAL as the CAL spreads all over the project area. Project meetings with real estate owners or planners are held either at their offices or at the local administration office in Harburg. Some interventions include co-creation activities with residents or other stakeholders. These will probably be held at the particular locations.

Partnership working in CAL

Both the organizational scheme and UIP involved in the CAL-2 are aligned with this CAL focus on Greening Roofs and Facades as part of CLEVER Cities corridor in Hamburg.

Bezirksamt Harburg and the CLEVER Cities project lead-coordinator in Harburg coordinate the activities in this CAL. STEG is responsible for any co-creation processes, and LGV of Monitoring and Urban Data Platform. The real estate owners will be responsible for the sub-contracting of the implementation. They will get financial as well as thematic support from the CLEVER Cities Hamburg team. Especially, the BUE, HCU and TUHH will contribute with their expertise. Planners, residents and users of the buildings, thematic experts also participate in co-creation activities.

Real estate owner is highly motivated and has proposed an ambitious time frame for the project. In the case of delays an implementation in autumn 2019 still seems realistic.

Highlights, Challenges & Innovation

Highlights: 1) Create places for recreation; 2) Increase attractiveness of the neighbourhoods; 3) create a living environment for animals, insects and plants; and 4) Green roofs as “stepping stones”.

Constrain: Housing industry and local owners of buildings do not have it in focus, too little financial resources, short time horizon.

Risk: Maybe lack of interest of housing owners to implement a green roof.

Challenges: 1) Modernisation of existing roofs needs to consider the statics of the existing roof; and 2) Convincing real-estate stakeholders.

Innovation aspect: Criteria for innovative green roofs and facades have been developed together with the experts from the environmental authority.

CAL Road Mapping

Month	CO-CREATION					DESIGN PHASES			Risks
	Establishing UIP	Co-design	Co-implementation	Co-monitoring	Co-development	preliminary design	construction	operation	
M1 June 2018									
M2 July 2018									
M3 August 2018									
M4 September 2018									
M5 October 2018	Kick off UIP								
M6 November 2018		D 2.1							
M7 December 2018									
M8 January 2019		regular meetings UIP + thematic experts							
M9 February 2019									
M10 March 2019									
M11 April 2019	ToC Workshop								
M12 May 2019		D 2.2							
M13 June 2019		regular meetings of UIP / monthly jour fixe							
M14 July 2019		kick off co-creation planting event							
M15 August 2019		Activation of further real estate				D 2.3			
M16 September 2019		Implementation of green facades at Sandbek neighbourhood							
M17 October 2019		planting event fruit meadow							
M18 November 2019									
M19 December 2019									
M20 January 2020									
M21 February 2020									
M22 March 2020									
M23 April 2020									
M24 May 2020									
M25 June 2020									
M26 July 2020									
M27 August 2020									
M28 September 2020									
M29 October 2020									
M30 November 2020									
M31 December 2020									
M32 January 2021									
M33 February 2021									
M34 March 2021									
M35 April 2021									
M36 May 2021									
M37 June 2021									
M38 July 2021									
M39 August 2021									
M40 September 2021			D 2.4						
M41 October 2021									
M42 November 2021									
M43 December 2021									
M44 January 2022									
M45 February 2022									
M46 March 2022									
M47 April 2022									
M48 May 2022									
M49 June 2022									
M50 July 2022									
M51 August 2022									
M52 September 2022									
M53 October 2022									
M54 November 2022		D 2.5							
M55 December 2022									
M56 January 2023									
M57 February 2023									
M58 March 2023									
M59 April 2023									
M60 May 2023									

Figure 20. Road mapping of Co-Creation Plan of CAL 2 of Hamburg

File: [D2.2 HAMBURG CAL2 Green Roofs_Tool1.5_timeline.xlsx](#)

2.2.3. Hamburg: CAL 3. Schools Yards

Presentation

The CAL School Yards refers to three different schools in the project area Neugraben-Fischbek:

- Stadtteilschule Fischbek-Falkenberg,
- Schule Ohrnsweg and
- Grundschule Neugraben

All three school yards are or are planned to be renewed. Some of the restructuring measures will prospectively be co-created and implemented as part of CLEVER Cities. The school yards offer attractive spaces for recreation spaces. The school focus on sports offers synergies with the aim to foster movement with these measures. It is planned to develop the redesign measures in a co-creative process with the pupils. Besides the physical interventions, the CAL school yards will also focus on the topic of environmental and sustainability education.



*Figure 21. Preliminary School Yard Planning
(excerpt relevant for CLEVER Cities)*



*Figure 22. Photo of the school yard
(taken by the CLEVER Cities team)*

Pupils are well connected amongst each other and could spread ideas into their family, neighbourhood and beyond. On each school there are diverse approaches happening towards sustainable ideas and pupil-involvement. Partly highly motivated or even specifically qualified teachers will support the projects.

Co-Creation activities

Developing a prototypical planting plan for one year and defining responsibilities and roles of groups of pupils (class, project groups). A set of co-design workshops will be held at schools with the help of CLEVERmobil. The workshops at Stadtteilschule Fischbek-Falkenberg will serve as blueprint for both other schools to copy / learn from.

Figure 23. Imagen of workshop of CAL 3 of Hamburg



The co-creation activities will be conducted **at the schools**. If cooperative projects between the schools are planned, the activities will be held at one of the schools. In the future, the **CLEVERmobil** might be used for participation purposes on spot in terms of outreach participation.

The large UIP event in October did not include the topic of schools. However, as part of the RISE programme, different participation activities have happened already (organised by the local CLEVER Cities partner STEG).

CLEVER Cities meetings with all 3 school directors have been held to introduce the CLEVER Cities project and talk about potential NBS interventions.

Smaller project activities with pupils will happen throughout the CLEVER Cities project duration and are dependent on the school schedules.

The school Fischbek-Falkenberg can be the first school for physical NBS interventions (school garden). The other schools will (if possible during the CLEVER Cities timeframe) learn from this first school. Furthermore, the public Theory-of-Change-Workshop (ToC) including all CAL's has taken place at this school.

Partnership working in CAL

The CLEVER Cities project lead/coordinator in Harburg coordinates the activities in the CAL. STEG is responsible for co-creation process and LGV of Monitoring and Urban Data Platform. The school directors and responsible teachers will be responsible for implementing the interventions. If needed, professional help will be hired. The BUE, HCU and TUHH will contribute with their expertise.

Other stakeholders involved are pupils, teachers/staff, parents, and neighbours. Por instant, it has formed CAL-specific UIP with selected participants, which targeted pupils, teachers, parents, landscape architects to participate and get involved in developing a common vision (facility management Hamburg).

Highlights, Challenges & Innovation

Highlights: 1) design and implement multifunctional green spaces; and 2) environmental and sustainability education.

Constrain: Area potentials are limited, little human resources; too little financial resources; time restrictions of the students/pupils/teachers.

Risk: Legal requirements, structural specifications.

Challenges: 1) Long planning and implementation processes (regarding constructions and larger physical interventions); and 2) Gaining the interest of all pupils.

Innovation aspect: School garden that is co-created with the pupils and also a maintenance system is co-developed, pupils are involved in other CLEVER Cities activities (corridor), environmental education.

CAL Road Mapping

Month	CO-CREATION					DESIGN PHASES			Risks
	Establishing UIP	Co-design	Co-implementa-tion	Co-monitoring	Co-development	preliminary design	construction	operation	
M1 June 2018									
M2 July 2018									
M3 August 2018									
M4 September 2018									
M5 October 2018	Kick off UIP								
M6 November 2018	D 2.1								
M7 December 2018									
M8 January 2019									
M9 February 2019									
M10 March 2019									
M11 April 2019	ToC workshop								
M12 May 2019		D 2.2							
M13 June 2019		Project week at school							
M14 July 2019	Follow up Schule Neugraben / Schule Ohmweg								
M15 August 2019			D 2.3						
M16 September 2019									
M17 October 2019	Finish of RISE-project								
M18 November 2019	concept development								
M19 December 2019									
M20 January 2020		Co-manufacturing of raised beds etc.							
M21 February 2020									
M22 March 2020			Inauguration						
M23 April 2020									
M24 May 2020									
M25 June 2020									
M26 July 2020									
M27 August 2020									
M28 September 2020									
M29 October 2020									
M30 November 2020									
M31 December 2020									
M32 January 2021									
M33 February 2021									
M34 March 2021									
M35 April 2021									
M36 May 2021									
M37 June 2021									
M38 July 2021									
M39 August 2021									
M40 September 2021			D 2.4						
M41 October 2021									
M42 November 2021									
M43 December 2021									
M44 January 2022									
M45 February 2022									
M46 March 2022									
M47 April 2022									
M48 May 2022									
M49 June 2022									
M50 July 2022									
M51 August 2022									
M52 September 2022									
M53 October 2022									
M54 November 2022			D 2.5						
M55 December 2022									
M56 January 2023									
M57 February 2023									
M58 March 2023									
M59 April 2023									
M60 May 2023									

Figure 24. Road mapping of Co-Creation Plan of CAL 3 of Hamburg

File: [D2.2 HAMBURG CAL3 Schools Tool1.5 timeline.xlsx](#)

2.3. London

CLEVER Cities London Context

Thamesmead is a unique area of South East London, with a unique history. It has an existing community of over 45.000 people, beautiful green spaces and unrivalled space and scale. The estate was designed and built in the 1960's. It was conceived and designed to address some of the problems associated with tenement and high-rise social housing built in the 1950's where residents no longer knew their neighbours and community cohesion had declined. The solution was to build a town of the future that had mixed types of housings (low and high rise) and link the buildings together by a series of aerial walkways, that would encourage social interaction and separate the people from the ground which was the domain of the car. Furthermore, the Thamesmead estate was built in the floodplain of the river Thames , these walkways were designed, in the event of a flood, to provide escape routes to higher ground



Figure 25 Thamesmead in London

The estate is set within a landscape of blue and green space designed to hold flood water and was in effect designed with an early form of nature-base solutions. However, the interventions did not work well for the residents. The elevated walkways designed to encourage mobility and community interaction were badly planned, poorly lit, and considered unsafe places to walk. The lakes and greenspaces are underused due to poor access routes and orientation and the vast blank green spaces were not multifunctional and provided little interest to engage residents.

The Thamesmead estate is now managed by Peabody Trust, and is the subject of a billion-pound estate regeneration and

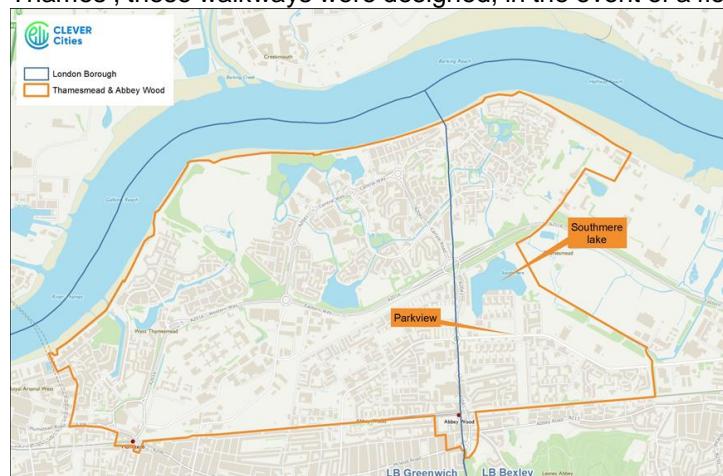


Figure 26 - Location of CALs in Thamesmead

renewal project, that forecasts to double its population by 2050. Part of the estate will be completely redeveloped to create new homes fit for the future, the remainder of the estate will be renewed through a series of interventions to improve the housing and enhance the public realm. There is a strong focus on taking a landscape led approach to improving connectivity within and through the estate and animating its public spaces and parks. Peabody have developed a 'whole place philosophy' for Thamesmead, they will be place-makers that take an area-based approach to the regeneration, investment and management of the whole town.

CLEVER Cities London Action Labs: Nature Based Communities

CLEVER Cities is undertaking action research into the socio-economic benefits of nature-based solutions that will test out new ways of working with professional and community stakeholders to co-create solutions to some of the most pressing issues. The CLEVER Cities work will be delivered in parallel with the existing regeneration work, developing synergies and strengthening actions initiated by Peabody. The ambition is that CLEVER will add value by including a diverse range of stakeholders in the co-creation life cycle.

Our work is divided into three City Action Labs (CALs) across two neighbourhoods (Parkview and Southmere), each with a distinct focus, but that are still interconnected, all working towards the same goal

of making Thamesmead a vibrant, liveable, green and healthy place to live, visit and thrive. Key to the success of CALs is building strong ties with the local community, and involving them in the co-creation, co-implementation and co-monitoring, effectively co-developing new solutions to our identified urban regeneration challenges. The residents of Thamesmead have voiced dissatisfaction with those in authority due to perceived over promising and under-delivering. Between 2012 and 2017 there were 22 public consultations. It is for this reason we have been mindful of how we approach our public communication, and as such we have created an Engagement Strategy that sets out our approach and **Principles to Community Participation:**

- Review, acknowledge and build on previous consultations, pilot projects and contributions.
- Work collaboratively with others to avoid duplication, create synergies and maximise opportunities.
- Recognise and value everyone's input and opinions.
- Develop active, exciting, fun engagement mechanisms and activities, appealing to a wider range of people.
- Identify and eliminate barriers to participation.
- Be culturally sensitive to different groups.
- Focus on what truly benefits the community and responds to what they want.
- Start with small interventions and scale up.
- Develop virtuous cycles: Make impacts visible.
- Avoid consultation fatigue at all costs! Build in feedback loops and demonstrate how information received has been acted upon, informed design development and led to beneficial impacts.
- Be mindful of time poverty – ensure that our actions do not add to people's daily stress.

The location of our CALs are all in South Thamesmead, primarily the neighbourhoods of Parkview and Southmere. These neighbourhoods were chosen as there is a strategic ambition from Peabody to use NBS, such as rain gardens and swales, to help improve the look and feel of the estates. These neighbourhoods also have very poor social-economic indicators, for example, life expectancy in South Thamesmead for a man is four years less than the London average. This part of Thamesmead is also very interesting as it is likely to undergo significant change in the lifetime of CLEVER. Hundreds of new homes will be built, and the Queen Elizabeth Line will open sometime in 2020-21 bringing fast connections to economic hubs such as Canary Wharf and central London.

CLEVER London Co-Design Process

Although each of our CALs will have its own vision and objectives, underpinning all the activities will be the co-creation plan. Co-creation with professional stakeholders is a valid and important part of the design process, but its approach is one that is well understood, for the purpose of this document we will primarily focus on community co-creation. CLEVER London has created a **Nine-Stage Process for Co-Creation** (see below). These stages have been designed to be public friendly and work to breakdown into smaller steps the lifecycle of co-creation, co-implementation, co-monitoring, co-development.

Stage 1: Finding your people setting up the community Urban Innovation Partnership (UIP): carrying out activities such as planting days, attending festivals, free lunches to meet people and share the message that we are seeking to work with people to help make Thamesmead a more pleasant place to be.

Stage 2: Building Trust as the core UIP is consolidated, collaborative work will intensify. Focus is given to activities that show CLEVER is a long-term partner there to share skills and knowledge and learn from the volunteers.

Stage 3: Creating a plan: we will co-create a roadmap consisting of a range of activities that appeal to a wide range of people. We will create a robust/creative/iterative engagement process, consisting of whole community and targeted engagement activities to maximise reach and representation.

Stage 4: Making things happen testing out ideas, carrying out quick win/low cost interventions to demonstrate that progress is being made and the community's views are being acted up. This will be the

basis for building the foundations for successful collaboration and start the conversations about how to approach the design process.

Stage 5: Designing together working in collaboration with the CLEVER team, and the appointed designer for wider regeneration work, start to develop a design for the chosen public spaces / interventions.

Stage 6: Building together where practicable, involve as many people as possible in construction and planting, followed by a stimulating programme to animate spaces and reap the co-benefits of NBS solutions.

Stage 7: Celebrating success: record and share the co-design/implementation/monitoring process itself, as well as findings, results and recommendations, culminating in celebratory launch events.

Stage 8: Looking back and forward time to review the lessons learned and start to evaluate to what extent the NBS and the process of co-creation have provided a solution to the challenges identified, and clearly evidence benefits to the community.

Stage 9: Consolidating, replicating and scaling up: Sustaining the benefits of utilising NBS to improve the quality of life through continued activities and urban space programming while consolidating/creating new partnerships/networks and sharing learning.

Although the above approach is neatly laid out in nine steps, co-creation is not a linear process, and as such we are expecting to be flexible and take an iterative approach to co-designing our solutions. There will be some top down decisions made, such as how we go about recruiting members of the UIP, the types of activities that will be programmed early in the process, some KPIs, and the inevitable project constraints of budget, staff resourcing, timelines and where it is feasible to implement interventions.

The three **CLEVER Action Labs in London City** are:

- CAL 1 Parkview: Connecting People and Places
- CAL 2 Southmere: Activating Southmere Lake
- CAL 3 South Thamesmead: Greening Unusual Spaces

Table 7. General characterization of CALs of London City

CAL	Parkview: Connecting People and Places	Southmere: Activating Southmere Lake	South Thamesmead: Greening Unusual Spaces
Acronym	Parkview-Connecting	Southmere-Lake	South Thamesmead
Component	Corridor, node, spot	Node, spot	Node, spot
Scale	Neighbourhoods		
Intervention area (m2)	140.000m2 (14ha)	2.610.000m2 (26.1ha)	841.000m2 (84.1ha)
Population (inh)	13.000 (based on ward level data)	13.000 (based on ward level data)	13.000 (based on ward level data)
Budget & funding source	3.200.000€* (Peabody)	2.000.000€* (Peabody)	TBC & Peabody
CLEVER funds	220.000euro	220.000euro	220.000euro
NBS	Using rain gardens, swales, and play to green streets, squares and courtyards.	Reed bed filtration approach to improving the water quality of the lake. Activating the public spaces with events to encourage residents to better understand and appreciate nature, and co-designing public spaces and activities	Greening unusual spaces: walls, balconies, roofs, walkways, and the incidental spaces that are often underutilised.
ToC process	Completed May 2019	Completed May 2019	Completed May 2019

*this budget includes regeneration work outside of the scope of CLEVER Cities.

The Table 7 presents the main characteristics of the three Action Labs proposed by London, indicating the diversity in respect to scale, population, stakeholders engaged and typology of NBS proposed.

In terms of participants of the co-creation process, the three CALs present identical organization: Organizational Scheme (GLA, Peabody, and Groundwork) and stakeholder involved (Social Finance, Arup, Urban Mind and Academic with UCL, KCL, Greenwich university).

They also share the same Co-Creation matrix: Background, Constraints or Determining factors, Stakeholders involved, Specific budget, Risks and Innovation element, defined as follow.

Table 8. Characterization of co-creation matrix of London' CALs

LONDON			
CAL	Connecting people and places	Activating Southmere Lake	Greening Unusual Spaces
Starting date	July 2019	July 2019	July 2019
Finishing date	September 2022	September 2022	September 2022
Background	Groundwork London will be leading on co-design and have over 30 years' experience of facilitating inclusive participatory engagement and co-design processes, engaging a wide range of stakeholders to raise aspirations, develop/ implement designs that meet the needs/priorities of local communities, are sympathetic to the local context and result in high quality design solutions that have a high level of legitimacy/ support, are fit for purpose and sustainable.		
Constraints / Determining factors	Co-design solutions are being developed within the overall context of large scale, long term regeneration across the Thamesmead Estate. Wider regeneration provides the context and we will frame the co-design of NBS solutions to synergise with and add value the wider regeneration.		
Stakeholders involved	<p>The co-design process will be guided by the UIP. We are working with and through local community structures in order to embed the co-design process locally and are reaching out/ involving residents and key stakeholder groups from the voluntary, statutory and private sectors (for a more detailed breakdown of stakeholders, please see the stakeholder list).</p> <p>To date we have been engaging with a wide range of professional stakeholders, taking a multi-discipline approach to co-creating project concept and ambition. The start date of July 2019 marks the beginning of our community co-creation work.</p>		
Specific budget	660.000euro (excluding staff resources, and Peabody budget)		
Risks	Low participation; consultation fatigue; lack of trust; lack of interest from residents; We are carrying out a detailed risk assessment for each of the CALs and are identifying strategies how to mitigate/ overcome potential risks. We have created, and will regularly update, a risk and issues log to record and address risk as the projects evolve.		
Innovation element	Range of innovative engagement methods will ensure that we are effectively engaging the different audiences, building community capacity and maximising reach and engagement. We will utilise a range of on and offline engagement tools and test their effectiveness in order to clearly evidence which elements of co-design and working well and why.		

2.3.1. London: CAL 1. Parkview: Connecting People and Places

Presentation

CAL 1 Connecting People and Places will examine how nature-based solutions (NBS) can be used to make more attractive and liveable streets and public realm in Parkview. Currently, many of the open spaces do not encourage people to linger or socialise, the neighbourhood feels grey, uninviting, empty and inactive.



Poor legibility and multiple routes can lead to limited people present on the streets and imbues a feeling of isolation and unease. To build a more family-oriented and inviting place for all local residents, a multi-stage inter-disciplinary and community co-design process will be applied to better understand how a co-created greened, socially inclusive public spaces can improve people's quality of life, and ultimately use NBS to make Parkview's greenspaces, streets and squares feel vibrant, safe, and pleasant places to be.

Figure 27. Route to be replaced with rain gardens and play (phase 1) in Parkview of CAL 1 of London



Figure 29. Design (phase 1) of greened route of 'Parkview' of CAL 1 of London: general view



COMMUNITY PLACE-MAKING

Figure 28. Design (phase 1) of greened squares of CAL 1 of London: detail

Co-Creation activities

Since September 2018 we have been working extensively with a wide range of stakeholders to develop the CLEVER CAL project concept and ensure that our approach to community co-design is seamlessly integrated with the wider regeneration programme. This has involved establishing our core UIP and holding workshops and walkabouts to discuss what we mean by NBS and Co-design. Given the amount of community engagement to date with Thamesmead's residents it was important to ensure that the project team were clear on our ambitions and could articulate these to the community in an engaging and meaningful way.

In order to involve local community stakeholders to become active participants, in designing, implementing and evaluating Nature Based Solutions (NBS) the following co-creation activities will be used:

Please note that at present, given the close proximity of the CALs, the same co-creation activities are planned for all three CALs. We are taking an integrated approach to community engagement and co-design and wish to use these activities to bring members of different neighbourhoods together to help break down barriers and build social connections. We expect the activities specific to each CAL will be created later in the co-design stages.

Stages 1, 2 & 3: Raising awareness, building trust and initial co-design strategies:

- CLEVER Cities Programme will announce its presence via online/ off-line channels, events, activities and community outreach.
- Build on existing Peabody/local engagement activities and upcoming events to achieve synergies and maximise engagement.
- Gap analysis and targeted engagement to reach out to under-represented groups.
- Develop a series of schools-based based programmes.
- Identity community aspirations and priorities via creative engagement mechanisms, e.g. visioning events, participatory enquiry, etc.
- Deal with dissatisfiers (basic needs that are perceived to be unfulfilled).
- Ascertain community issues and concerns, utilising a range of techniques, e.g. community mapping, participatory site analysis, perception surveys,
- Brainstorming & problem-tree analysis.
- Creating feedback loops to keep up momentum.
- Establish a ‘voice of the community’ via community UIP or a *Blue Green Forum*.

Stages 4 & 5: Making things happen & designing together:

- CLEVER Cities Programme will announce its presence via online/ off-line channels, events, activities and community outreach.
- Develop a green skills training programme.
- Do additional Wayfinding, origin/ destiny studies in CAL areas.
- Develop community gardening programmes.
- Art installations as social experiments and ice-breakers.
- Mapping natural and architectural anchoring elements.
- Design process training/ interactive design workshops.
- Ranking& prioritisation exercises.
- Spatial & psycho-social mapping.
- Whole community design show case and exhibition events.
- Fun days with scale mock-ups.

The co-implementation process will consolidate details of the design solutions, provide opportunities for training and learning, and demonstrate the positive results of the initial community involvement.

Stage 6: Building Together:

- On site detail mock-ups and alterations.
- NBS and construction training and learning for local people.
- Implementation of discreet projects, create volunteering, training and employment opportunities.
- Skills development and skills sharing programme.
- Gardening and food growing clubs to build community capacity, sustainability and legacy.
- Community build days.
- Community social point design build interventions (collective bench placement etc).
- Resources made available to the local community to implement their own projects; competitions with prize for best community space.

Documenting and celebrating the success of positive interventions is an important part of building the critical mass needed to sustain a community design process. The CLEVER programme will have as a primary focus the evaluating the impact on the well-being of Thamesmead, but it will also consider the co-benefits that NBS offer and efficacy of the CALs with respect to their urban regeneration baselines. Stakeholders involved in the co-design and implementation process will be actively involved in monitoring and evaluation, including qualitative and quantitative data collection.

Stage 7: Celebrating Success:

- Vox Pox.
- Mini docs filmed by students on phones.
- Design wrap up celebrations.
- Celebratory launch events.

Stage 8: Looking Backwards and Forwards:

- Form citizen science groups supported by academic partners.
- Blue-green forums acting as a community voice.
- Utilise co-design process feedback groups.
- Validating strategic indicators.
- Collective proposal for indicators (taken from guided discussions).

After the physical improvements have been made there would be an opportunity to increase engagement by new potential local users through the development of activity programmes.

CLEVER will create new partnerships in order to build knowledge/ skills of local stakeholders to become champions and advocates for NSB solutions beyond the CLEVER funding period.

Stage 9: Consolidating, replicating and scaling up:

- Continued communication to all registered stakeholder groups and residents to notify them of the relevant construction information and key dates.
- Continued open space programming of events and activities.

- Cement existing and formalise new groups and networks, e.g. Green/Blue Forum.
- Local representatives presenting to other London boroughs, organisations, professional bodies, groups, etc.
- Participation in CLEVER Fellow Cities events.
- Best practice guide/ tool-kit.

Partnership working in CAL

Due to the larger wider regeneration work taking place in Thamesmead, there are extensive and complicated partnership working in the London CLEVER CALs.

- The stakeholder involvement to date has been mainly professionals from Peabody, GLA and Groundwork, and a number of other professional Services: Architects, Landscape Architects, Engineers.

As we move into community co-design we intend to engage in a diverse range of stakeholders, community mapping to date has identified

- Residents: on Parkview (CAL 1), Southmere (CAL 2) and Thamesmead (CAL 3).
- Community groups, not-for profit organisations: Tump 53, Arts and Culture Forum, South Thamesmead Forum Archway Project, Garden Organic, North West Kent Countryside Partnerships, Bow Arts.
- Local institutions: Thames Water, Environment Agency.
- Education: schools, nurseries, children's centres: Hawksmoor Primary School, Bishop John Robinson CE Primary School, Linton Mead Primary School, Windrush Primary School, Woolwich Polytechnic.
- Shops/ businesses in South Thamesmead.
- Service providers- health centres, police, places of worship.
- Media/ communication.

Highlights, Challenges & Innovation

Highlights: 1) Significant green interventions in two phases, phase one implementation kick off - September, phase two co-creation kick off June; 2) Opportunities for innovative evaluation of NBS on wellbeing.

Constraints: 1) Co-design solutions are being developed within the overall context of large scale, 2) Long term regeneration across the Thamesmead Estate, 3) Wider regeneration provides the context and we will frame the co-design of NBS solutions to synergise with and add value the wider regeneration.

Risk: 1) Low participation; 2) consultation fatigue; 3) lack of trust;

Challenges: Co-creation is a slow process - need to keep pace with overarching regeneration plan; and 2) Designing the right methodology for evaluating wellbeing.

Innovation aspect: 1) Greening complicated spaces: 2) Creating doorstop not destination play; 3) Citizen science via smart app - Urban Mind

In relation to Risk, London is carrying out a detailed risk assessment for each of the CALs and are identifying strategies how to mitigate/ overcome potential risks. We have created, and will regularly update, a risk and issues log to record and address risk as the projects evolve.

CAL Road Mapping

Month	CO-CREATION					DESIGN PHASES			Risks
	Establishing UIP	Co-design	Co-implementation	Co-monitoring	Co-development	preliminary design	construction	operation	
M1 June 2018						Phase 1			
M2 July 2018									
M3 August 2018									
M4 September 2018									
M5 October 2018									
M6 November 2018	D 2.1								
M7 December 2018									
M8 January 2019									
M9 February 2019									
M10 March 2019									
M11 April 2019									
M12 May 2019	Stage 1	D 2.2							
M13 June 2019	Stage 1			Pre-Greening		RIBA 3			
M14 July 2019	Stage 1			Pre-Greening					
M15 August 2019	Stage 1		D 2.3	Pre-Greening					
M16 September 2019	Stage 1	Stage 3		Pre-Greening			Phase 1		
M17 October 2019	Stage 1	Stage 3		Pre-Greening			Phase 1		
M18 November 2019	Stage 1	Stage 3		Pre-Greening			Phase 1		
M19 December 2019	Stage 1	Stage 3					Phase 1		
M20 January 2020	Stage 2	Stage 3					Phase 1		
M21 February 2020	Stage 2	Stage 3					Phase 1		
M22 March 2020	Stage 2	Stage 4	Planting phase 1				Phase 1		Limited community participation
M23 April 2020	Stage 1	Stage 5	Planting phase 1				Phase 1		
M24 May 2020	Stage 2	Stage 3	Planting phase 1				Phase 1		
M25 June 2020	Stage 1	Stage 5	Planting phase 1				Phase 1		
M26 July 2020	Stage 7	Stage 5	Planting phase 1	Citizen Science			Phase 1		Limited community participation
M27 August 2020		Stage 4	Planting phase 1	Citizen Science			Phase 1		
M28 September 2020	Stage 5	Stage 6	Citizen Science			Phase 2		Phase 1	
M29 October 2020		Stage 5	Stage 6				Phase 1		
M30 November 2020		Stage 4	Stage 6				Phase 1		
M31 December 2020		Stage 5	Stage 6				Phase 1		Phase 2 tender slips
M32 January 2021		Stage 5	Stage 6				Phase 1		
M33 February 2021		Stage 4	Stage 6			RIBA 3		Phase 1	
M34 March 2021		Stage 5	Stage 6				Phase 2	Phase 1	Phase 2 tender slips
M35 April 2021		Stage 5	Stage 6					Phase 1	
M36 May 2021		Stage 7	Stage 6					Phase 1	
M37 June 2021			Stage 6					Phase 1	
M38 July 2021			Stage 6	Citizen Science				Phase 1	
M39 August 2021			Stage 6	Citizen Science				Phase 1	
M40 September 2021			Stage 6	Citizen Science				Phase 1	
M41 October 2021			Stage 7					Phase 1	
M42 November 2021			Stage 6					Phase 1	
M43 December 2021			Stage 6					Phase 1	
M44 January 2022			Stage 6	Stage 8				Phase 2	Phase 2 tender slips
M45 February 2022			Stage 6						
M46 March 2022			Stage 6						
M47 April 2022			Stage 6						
M48 May 2022			Stage 6						
M49 June 2022			Stage 6	Stage 8					
M50 July 2022			Stage 6	Stage 8					
M51 August 2022			Stage 6	Stage 8					
M52 September 2022			Stage 7	Stage 8					
M53 October 2022				Stage 8					
M54 November 2022				Stage 8	D2.5				
M55 December 2022			Stage 7	Stage 8					
M56 January 2023				Stage 9					
M57 February 2023				Stage 8					
M58 March 2023				Stage 8					
M59 April 2023			Stage 7	Stage 9					
M60 May 2023				Stage 9					

File: [D2.2 LONDON CAL1 Parkview_Tool1.5 timeline.xlsx](#)

*Figure 30.
Road
mapping of
Co-Creation
Plan of CAL
1 of London*

2.3.2. London: CAL 2. Southmere: Activating Southmere Lake

Presentation

The co-design, co-implement and co-monitor of the green-blue NBS of London's CAL 2 will address the poor water quality issues in the lake while engaging stakeholders at the new Lakeside Centre, local residents, and the Thamesmead Sport club. The lake can be an integral part of improving community cohesion, developing new skills for people in Thamesmead. CAL 2 will work with specialists and residents to develop a reedbed wetlands project to address the pollution in the lake. It will look at innovative ways to manage and reuse excavated silt, saving millions of pounds and avoidable waste. CLEVER will work with stakeholders to co-create a plan for lakeside activation. CAL 2 will focus on community engagement that reaches beyond the local and immediate communities that border on the lake. Cultural and sports activities that have wide



Figure 31. Current view Southmere Lake of CAL 2 in London

appeal can act as catalysts for the collaborative design process. This CAL will have an important environmental education aspect through school-based engagement activities. The lake is an important activity node as well as potential key point for developing a collective identity in Southmere.

Significant changes are already under way to Southmere, with a new state of the art library and 1.500 new homes arriving within the lifetime of CLEVER. The lake should be the focal point of activity in this new neighbourhood; providing opportunity for recreation, leisure, and sport. It could also act as catalyst for cohesion by bringing established and new communities together to enjoy and care for a shared asset.



Figure 32. Masterplan of Southmere Lake of CAL 2 in London

Co-Creation activities

[See the co-design activities as set out for CAL 1].

Partnership working in CAL

[See the partnership working as set out for CAL 1].

Highlights, Challenges & Innovation

Highlights: 1) Recent silt reports show that it can be reused on site; 2) Incredible opportunity to make Thamesmead a destination and add value to new developments.

Constrain: 1) Co-design solutions are being developed within the overall context of large scale, 2) Long term regeneration across the Thamesmead Estate, 3) Wider regeneration provides the context and we will frame the co-design of NBS solutions to synergise with and add value the wider regeneration.

Risk: 1) Low participation; 2) consultation fatigue; 3) lack of trust;

Challenges: 1) Many factors leading to current state of water quality-tricky to solve all; 2) Many stakeholders and other projects - need to coordinate activity.

Innovation aspect: 1) Taking a green over grey approach; 2) Reuse of silt on site to create softer, more natural edging and habitats.

In relation to Risk, London is carrying out a detailed risk assessment for each of the CALs and are identifying strategies how to mitigate/ overcome potential risks. We have created, and will regularly update, a risk and issues log to record and address risk as the projects evolve.

CAL Road Mapping

Month	CO-CREATION					DESIGN PHASES			Risks
	Establishing UP	Co-design	Co-Implementation	Co-monitoring	Co-development	Preliminary design	construction	operation	
M1 June 2018									
M2 July 2018									
M3 August 2018									
M4 September 2018									
M5 October 2018									
M6 November 2018	D.2.1								
M7 December 2018									
M8 January 2019									
M9 February 2019									
M10 March 2019									
M11 April 2019									
M12 May 2019	Stage 1	D.2.2							
M13 June 2019	Stage 1								
M14 July 2019	Stage 1								
M15 August 2019	Stage 1								
M16 September 2019	Stage 1	Stage 3							
M17 October 2019	Stage 1	Stage 3							
M18 November 2019	Stage 1	Stage 3							
M19 December 2019	Stage 1	Stage 3							
M20 January 2020	Stage 2	Stage 3							
M21 February 2020	Stage 2	Stage 3							
M22 March 2020	Stage 2	Stage 4	Planning phase 1						
M23 April 2020	Stage 1	Stage 5	Planning phase 1						
M24 May 2020	Stage 2	Stage 3	Planning phase 1						
M25 June 2020	Stage 1	Stage 5	Planning phase 1						
M26 July 2020	Stage 7	Stage 5	Planning phase 1	Citizen Science					
M27 August 2020		Stage 4	Planning phase 1	Citizen Science					
M28 September 2020		Stage 5	Stage 6	Citizen Science					
M29 October 2020		Stage 5	Stage 6						
M30 November 2020		Stage 4	Stage 6						
M31 December 2020		Stage 5	Stage 6						
M32 January 2021		Stage 5	Stage 6						
M33 February 2021		Stage 4	Stage 6						
M34 March 2021		Stage 5	Stage 6						
M35 April 2021		Stage 5	Stage 6						
M36 May 2021		Stage 7	Stage 6						
M37 June 2021		Stage 6							
M38 July 2021		Stage 6	Citizen Science						
M39 August 2021		Stage 6	Citizen Science						
M40 September 2021		Stage 6	Citizen Science						
M41 October 2021		Stage 7							
M42 November 2021		Stage 6							
M43 December 2021		Stage 6							
M44 January 2022		Stage 6	Stage 8						
M45 February 2022		Stage 6							
M46 March 2022		Stage 6							
M47 April 2022		Stage 6							
M48 May 2022		Stage 6							
M49 June 2022		Stage 6	Stage 8						
M50 July 2022		Stage 6	Stage 8						
M51 August 2022		Stage 6	Stage 8						
M52 September 2022		Stage 7	Stage 8						
M53 October 2022		Stage 8							
M54 November 2022		Stage 8							
M55 December 2022		Stage 7	Stage 8	D.2.5					
M56 January 2023		Stage 9							
M57 February 2023		Stage 8							
M58 March 2023		Stage 8							
M59 April 2023		Stage 7	Stage 9						
M60 May 2023		Stage 9	Stage 9						

Figure 33. Road mapping of Co-Creation Plan of CAL 2 of London

File: [D.2.2 LONDON CAL2 Southmere Tool1.5 timeline.xlsx](#)

2.3.3. London: CAL 3. South Thamesmead: Greening Unusual Spaces

Presentation

As London's population grows and the city becomes more densely built, the impacts of climate change will become more acute, the need to embed greener infrastructure into our neighbourhoods at the local level will become even more important.

CAL 3 Greening Unusual Spaces will work with specialists and residents to test new approaches to greening unusual spaces: walls, balconies, roofs, walkways, and the incidental spaces that are often underutilised. Taking both a top down and bottom up approach to the co-design, implementation, and evaluation of interventions, the project will explore how to use smart and analogue systems to create new products and make greening the grey more effective and scalable in regeneration projects. South Thamesmead is characterised by very many unusual and underused spaces in the public realm. These detract from the aesthetic and function of the public realm. CAL 3 will have a strong innovation focus; urban spaces will be transformed by the creative use of green infrastructure to identify and rectify typical problems that occur in cities.

Figure 34. CAL 3 in South Thamesmead of London: Greening Grey Blank Walls ➔



Figure 35. CAL 3 in South Thamesmead of London: Greening Incidental Spaces



Figure 36. CAL 3 in South Thamesmead of London: Greening Walkways and Underpasses

Co-Creation activities

[See the co-design activities as set out for CAL 1].

Partnership working in CAL

[See the partnership working as set out for CAL 1].

Highlights, Challenges & Innovation

Highlights: 1) Place to explore technical challenges, 2) Opportunity to retrofit small spaces, at scale.

Constrain: 1) Co-design solutions are being developed within the overall context of large scale, 2) Long term regeneration across the Thamesmead Estate, 3) Wider regeneration provides the context and we will frame the co-design of NBS solutions to synergise with and add value the wider regeneration.

Risk: 1) Spaces are too hard to green; 2) Designs are too high cost; 3) low level of interest;

Challenges: 1) Resistance from stakeholders concerns over damaging buildings, 2) Sustainable approach to greening the grey - ensure low cost low effort maintenance.

Innovation aspect: 1) Scope for design competition, 2) good opportunity to work with start-ups and commercial partners

In relation to Risk, London is carrying out a detailed risk assessment for each of the CALs and are identifying strategies how to mitigate/ overcome potential risks. We have created, and will regularly update, a risk and issues log to record and address risk as the projects evolve.

CAL Road Mapping

Month	CO-CREATION					DESIGN PHASES			Risks
	Establishing UP	Co-design	Co-implementation	Co-monitoring	Co-development	preliminary design	construction	operation	
M1 – June 2018									
M2 – July 2018									
M3 – August 2018									
M4 – September 2018									
M5 – October 2018									
M6 – November 2018	D2.1								
M7 – December 2018									
M8 – January 2019									
M9 – February 2019									
M10 – March 2019									
M11 – April 2019									
M12 – May 2019	Stage 1	D2.2							
M13 – June 2019	Stage 1								
M14 – July 2019	Stage 1					Pre-Greening			
M15 – August 2019	Stage 1					Pre-Greening			
M16 – September 2019	Stage 1	Stage 3				Pre-Greening			
M17 – October 2019	Stage 1	Stage 3				Pre-Greening			
M18 – November 2019	Stage 1	Stage 3				Pre-Greening			
M19 – December 2019	Stage 1	Stage 3							
M20 – January 2020	Stage 2	Stage 3							
M21 – February 2020	Stage 2	Stage 3							
M22 – March 2020	Stage 2	Stage 4	Planting phase 1						
M23 – April 2020	Stage 1	Stage 5	Planting phase 1						
M24 – May 2020	Stage 2	Stage 3	Planting phase 1						
M25 – June 2020	Stage 1	Stage 5	Planting phase 1						
M26 – July 2020	Stage 7	Stage 5	Planting phase 1	Citizen Science					
M27 – August 2020		Stage 4	Planting phase 1	Citizen Science					
M28 – September 2020		Stage 5	Stage 6	Citizen Science					
M29 – October 2020		Stage 5	Stage 6						
M30 – November 2020		Stage 4	Stage 6						
M31 – December 2020		Stage 5	Stage 6						
M32 – January 2021		Stage 5	Stage 6						
M33 – February 2021		Stage 4	Stage 6						
M34 – March 2021		Stage 5	Stage 6						
M35 – April 2021		Stage 5	Stage 6						
M36 – May 2021		Stage 7	Stage 6						
M37 – June 2021			Stage 6						
M38 – July 2021			Stage 6	Citizen Science					
M39 – August 2021			Stage 6	Citizen Science					
M40 – September 2021			Stage 6	Citizen Science					
M41 – October 2021			Stage 7						
M42 – November 2021			Stage 6						
M43 – December 2021			Stage 6						
M44 – January 2022			Stage 6	Stage 8					
M45 – February 2022			Stage 6						
M46 – March 2022			Stage 6						
M47 – April 2022			Stage 6						
M48 – May 2022			Stage 6						
M49 – June 2022			Stage 6	Stage 8					
M50 – July 2022			Stage 6	Stage 8					
M51 – August 2022			Stage 6	Stage 8					
M52 – September 2022			Stage 7	Stage 8					
M53 – October 2022				Stage 8					
M54 – November 2022				Stage 8					
M55 – December 2022			Stage 7	Stage 8					
M56 – January 2023				Stage 9					
M57 – February 2023				Stage 8					
M58 – March 2023				Stage 8					
M59 – April 2023			Stage 7	Stage 9					
M60 – May 2023				Stage 9					

Figure 37. Road mapping of Co-Creation Plan of CAL 3 of London

File: [D2.2 LONDON CAL3 SouthThamesmead Tool1.5 timeline.xlsx](#)

3. Design the CAL-Space Internally

In respect to the co-design of the CAL spaces, it is still too early to show a complete development in this document, since the spaces and solutions has been defined recently and the co-creation plan has been just established. Co-design is the next step, and at the moment, the three FR-cities are working on the definition of the co-design process to engage the stakeholders and present solutions soon.

In the case of **Milan**, next steps and expectations for co-design are coordinated between the CALs but slightly different for each one:

- CAL 1 Green Roof and Walls is holding meetings between local cluster and main stakeholders (professional associations, enterprise association) to prepare a tender supporting innovative green roofs over private buildings, with 1.000.000 € coming from city clean energy funds. In the same meetings we are preparing technical courses and onsite visits to increase awareness and capacities in green roofs and walls design. Courses and visits will start in June and the funding tender will be published between June and September, reinforced by public events and launch of a web platform during Milan Green Week, end of September 2019. CAL 1 action will promote knowledge about CLEVER Cities and NBS in the whole city.
- CAL 2 after internal co-creation sessions between local cluster, city rehab and green departments, will start co-creation lab with local Borough and Lorenteggio social empowerment agency from now, and open lab with citizens, local association and committees during June and July. This lab will lead to define detailed project of Giambellino 129 Garden, choosing multifunctional NBS and reserving parts of it to co-implementation and co-management, while the whole basic greening and the rest of innovative NBS will be implement by public procurement and works in 2020-2021, after soil cleaning.
- CAL 3 held internal co-creation table between designers of Italferr (RFI Third party) and rest of Local Cluster, aiming at defining NBS to be introduced in Tibaldi train stop design during ongoing procurement process: living green walls and escarpment, a green waiting room, and a test of noise barrier supporting NBS were chosen. Solution will be presented and debated with local Borough and local stakeholder between June and November 2019, selecting among alternative solution were possible, particularly for noise barriers. This design will be a significant test for green walls also as part of CAL 1 debate and awareness activities. A second section of co-monitoring and co-creation will be held at end of implementation, to choose which NBS could be replicated along the rest of city rail ring and road infrastructures.

In the case of **Hamburg**, regarding the co-design of solutions, in every CAL there are distinct approaches when it comes to concrete projects. An overall instrument of co-creation and participation of stakeholders will be the CLEVERmobil, which will be used for “pop-up-participation” on spot in a dynamic way, which is re-designed with the help of students from HCU and youngsters from the neighbourhood.

London insights about the co-design of solutions are:

CAL 1 - Connecting People and Places (Parkview, South Thamesmead)

CAL 1 Connecting People and Places will examine how nature-based solutions (NBS) can be used to make more attractive and liveable streets and public realm in Parkview. Currently, many of the open spaces do not encourage people to linger or socialise, the neighbourhood feels grey, uninviting, empty and inactive. Poor legibility and multiple routes can lead to limited people present on the streets and imbues a feeling of isolation and unease. To build a more family-oriented and inviting place for all local residents, a multi-stage inter-disciplinary and community co-design process will be applied to better understand how a co-created greened, socially inclusive public spaces can improve people's quality of life.

The programme will use a range of interesting engagement activities in order to reach a diverse range of people. Bringing people together for the co-design, co-implementation, co-monitoring process will help guarantee that the solutions developed truly respond to residents' needs. NBS will be creatively applied in the creation of routes, corridors, and social spaces in a manner that not only encourages meaningful interaction, improves people's perception of their neighbourhood, and increases the space for play and other relaxing activities, but also solves technical issues like street drainage with the aid of more natural solutions rather than traditional engineering techniques.

This CAL will undertake significant qualitative research to better understand how people use public spaces, the issues they face, the ideas they have to improve them and ultimately co-create solutions to common urban challenges. It will monitor how people move about the streets and the types of activities that people undertake, and how this might change as the spaces are improved.

It is hoped that the creation of greened public spaces that improve and connect to form a network of pedestrian and nature-friendly spaces will help Thamesmead's residents to relate better to the wider landscape, including, for example, the extensive riverside of the Thames estuary which is currently unknown to most residents. In particular, it will help young people and children, in particular, to attain a better understanding of the significant and extensive areas of greenspace in their part of the city which can provide Thamesmead a unique identity. Together with the other CALs and the many improvement projects underway in Thamesmead, the CLEVER Cities programme will work to co-create and to evidence how to use the natural world to support healthier and happier residents.

CAL 2 - Activating Southmere Lake (Southmere, South Thamesmead)

CAL 2 - Activating Southmere Lake will reach out to the wider community of Thamesmead with the aim of bringing Southmere Lake to the attention of residents of Thamesmead and into their day-to-day lives. Cultural and sports activities, that have wide appeal, will act as the principal catalysts for the collaborative design process for the lake and its surrounding area.

CAL 2 will work with specialists to develop a reedbed and wetlands project to address the pollution in the lake. It will look at innovative ways to manage and reuse excavated silt, saving millions of pounds in waste management costs and hundreds of tonnes of avoidable waste. CAL 2 will work with stakeholders at the new Lakeside Centre (a renovated community centre with workspaces for artists, a nursery, and community café), local residents, and the Thamesmead Sport club to co-create a plan for lakeside improvement and activation.

New emerging infrastructure such as the library, lakeside centre, and an increasingly diversified commercial offer will provide a backdrop for a range of exciting engagement activities. The programme will contribute with fun and varied engagement activities to bring a diverse range of people and various special interest groups together to co-design, co-implementation, co-monitoring process will help guarantee that the solutions developed truly address residents' needs. The co-design of the nature-based solutions will improve the environmental quality and recreational offer of this special place, by helping to solve current issues such as: poor water quality and inadequate lighting, with a programme a critical mass of activities that will bring enough excitement to make Southmere Lake a destination for people inside and outside of Thamesmead. Many schools, social groups, and organisations will play a key role in the process of bringing nature to the forefront of the process, providing important opportunities for environmental awareness and education.

This CAL will undertake significant qualitative research to better understand how people use public spaces, the issues they face, the ideas they have to improve them and ultimately co-create solutions to common urban challenges. It will monitor how the water quality improves and biodiversity is enhanced.

The vision is that the lake is a key community asset that can act as focal point for developing a place-based, collective identity in Southmere. The lake can take on the role of a common space capable of bringing together the old and the new communities. Thus, the lake can be an integral part of improving community cohesion and acting as cultural anchor point for the Thamesmead as a whole. Giving the lake and its surrounding a new range of recreation and leisure facilities closely connected to the natural landscape of

Thamesmead will help to encourage a stronger sense of civic pride, contribute to healthier residents, and help build a more cohesive community.

CAL 3 - Greening Unusual and Underused Spaces (South Thamesmead)

CAL 3 Greening Unusual and Underused Spaces will work with specialists and residents to test new approaches to greening unusual spaces: walls, balconies, roofs, walkways, and the incidental spaces that are often underutilised. Taking both a top down and bottom up approach to the co-design, implementation, and evaluation of interventions, the project will explore how to use smart and analogue systems to create new products and make greening the grey more effective and scalable in regeneration projects.

CAL 3 will have a strong innovation focus; urban spaces will be transformed by the creative use of green infrastructure to identify and rectify typical problems that occur in cities; abandoned spaces, vandalism, dull and unwelcoming facades, fly tipping or other anti-social behaviours.

This CAL can help demonstrate that the greening of a diversity of grey spaces is not an overly onerous process and it is possible to apply realistic solutions to a wide range of spaces and places in the city, giving them new life through the introduction of trees, vines, flowers, water and earth. These “green spots” can add value to a housing block or neighbourhood and give a new sense of civic pride to the businesses and residents nearby, whilst also addressing the wider challenges of climate change.

There is much opportunity to identify and train community members who can work with these new green infrastructures and also work to multiply the number of people involved in things like NBS stewardship. The strategic application of innovative “green spots” can help create a sense of identity in currently non-descript places and also contribute to the clarity and safety people feel when moving through the space.

This CAL will undertake research to better understand the underused spaces of the neighbourhood and monitor how, through greening, the look and feel of these spaces’ changes. It will test new technological approaches to growing in difficult urban areas and ensure, where possible, all new interventions are rainwater fed.

The ambition is that CAL 3 will help make South Thamesmead’s neighbourhoods greener, more interesting more active and safer, contributing to healthier, more connected communities by diminishing the presence of the grey urban landscape and increasing daily contact with nature.

4. Conclusions

Co-creation is not a linear process, and as such we are expecting to be flexible and take an iterative approach to co-designing our solutions. Each of our cities are taking a locally tailored approach that is right for them, however all decisions are being made upon evidence of previous co-design projects, attempting to learn and develop our approaches. The challenge has been, how to set out a plan that ensures both progresses is made, but still leave room for the inevitable changes that comes with co-design. Building in flexibility is a must and is key to the success of CLEVER.

The most noticeable aspects, at a CLEVER city level or at CAL level, can be used as an example and can generate a reflection in terms of Co-Creation process for other cities (CLEVER Fellow-cities and beyond CLEVER Project):

- The campaigns of Co-Creation process may have different duration in different cities
- Some of the places selected to carry out the implementation of the NBS are economically, socially and sometimes environmentally deprived places, as it is the case of Giambellino in Milan or South Thamesmead in London, using NBS to support the improvement of health and quality of life of its citizens is both innovative and relevant.
- The constraints and determining factors are specific to each CAL, although timing and financial resources are repeatedly mentioned in many of them.
- Risks are also diverse, although they include those related to stakeholders' engagement, especially of vulnerable groups, or the barriers of legislative and construction standards to the inclusion of the local community.
- Regarding the innovative elements, Hamburg highlights the Digital participation (DIPAS), while Milan highlights the combination of the NBS & community management, while London highlights the use of testing new ways to green difficult spaces and how the process of co-creation can help build community cohesion.
- Co-creation activities are varied: workshops (Technical, Open Co-Design Participatory, Cultural...), face to face meetings, CLEVERmobil (CAL 1 Hamburg), etc.
- There are also many and very diverse stakeholders involved: Associations of different types (Neighbourhoods, Business, Professionals, Green Building Chain, Apartment Block Administrators, Landscape...), Training Institutions, Media Networks, Educational and Research Centres (University, Schools...), Youth and Elderly Centres, Owners (building, business...), Users (teachers, pupils...), UIP Local Cluster, Municipal Technical Officers, Local Civil Society Communities (residents), etc. The definition and description of the stakeholders involved in each city is described in the Deliverable 2.1. of CLEVER Project.

In addition, it is interesting to highlight some novel contributions made by CLEVER CITIES, such as:

- **Open Co-design participatory workshops** to share with wide public the CAL focus and scope, together with activities of brainstorming, designing of co-benefits, and verification of NBS in place (MILAN City).
- **CLEVERmobil**; An overall instrument of co-creation and participation of stakeholders which will be used for "Pop-Up-Participation" on spot in a dynamic way, which is re-designed with the help of students from HCU and youngsters from the neighbourhood (Hamburg City).
- **The use of the Theory of Change model to better understand project's ambitions.**
- **Approach and Principles to Community Participation (LONDON).**
- **9-Stages Process for Co-Creation (LONDON).**

- **Design competition for greening unusual spaces (London).**

The most remarkable conclusion however, is how each City has been striving to create something new and innovative. By taking a locally relevant and tailored approach, each plan reflects the characteristics of each CAL, with a clear identity and focus having emerged. This gives CLEVER cities a strength, insofar as it can look at a wide range of issues and seek to address them in different ways, yet also identify the synergies and within our own project team, co-create approaches and solutions to shared problems.

In respect to the co-design of solutions, it is evident that each FR-city is in different stages, although currently all of them are working to define it soon, in the next steps of the project.

5. APPENDIX

Annex to this document, you will find the complete CAL-ID received from each FR-city, from where the material above was taken. The documents are based on the template from the CLEVER Framework guide.

Annex I.1 Milan CAL 1. Green Roof and Walls ([D2.2 MILAN CAL1_GRW Annex.docx](#))

Annex I.2 Milan CA L2. Giambellino 129 (File: [D2.2 MILAN CAL2_G129 Annex.docx](#))

Annex I.3 Milan CAL 3. Train Station & Noise Barriers (File: [D2.2 MILAN CAL3_TSNB Annex.docx](#))

Annex II.1 Hamburg CAL 1. Corridor (File: [D2.2 HAMBURG CAL1_Corridor Annex.docx](#))

Annex II.2 Hamburg CAL 2. Green Roofs (File: [D2.2 HAMBURG CAL2_Green Roofs Annex.docx](#))

Annex II.3 Hamburg CAL 3. Schools (File: [D2.2 HAMBURG CAL3_Schools Annex.docx](#))

Annex III.1 London CAL 1 Connecting (File: [D2.2 LONDON CAL1-2-3 Annex.docx](#))

Annex III.2 London CAL 2 Activating Lake (File: [D2.2 LONDON CAL1-2-3 Annex.docx](#))

Annex III.3 London CAL 3 Greening Unusual Spaces (File: [D2.2 LONDON CAL1-2-3 Annex.docx](#))