



ENVISION CONFERENCE 2024

**PIANIFICARE
CITTÀ SOSTENIBILI:
IL RUOLO DELLE
INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE
Auditorium Donat Cattin

Organizzato da: **ICM^Q** Con il patrocinio di:

ICM^Q
Società Benefit

AIS
ASSOCIAZIONE
INFRASTRUTTURE
SOSTENIBILI

**CARBON
NEUTRAL
EVENT**

rete clima

PLANNING SUSTAINABLE CITIES: an infrastructure-based approach

Spiro N. Pollalis

Professor of Design Technology and
Management at the Harvard Design School

Director of the Zofnass Program for Sustainable Infrastructure (ISI)

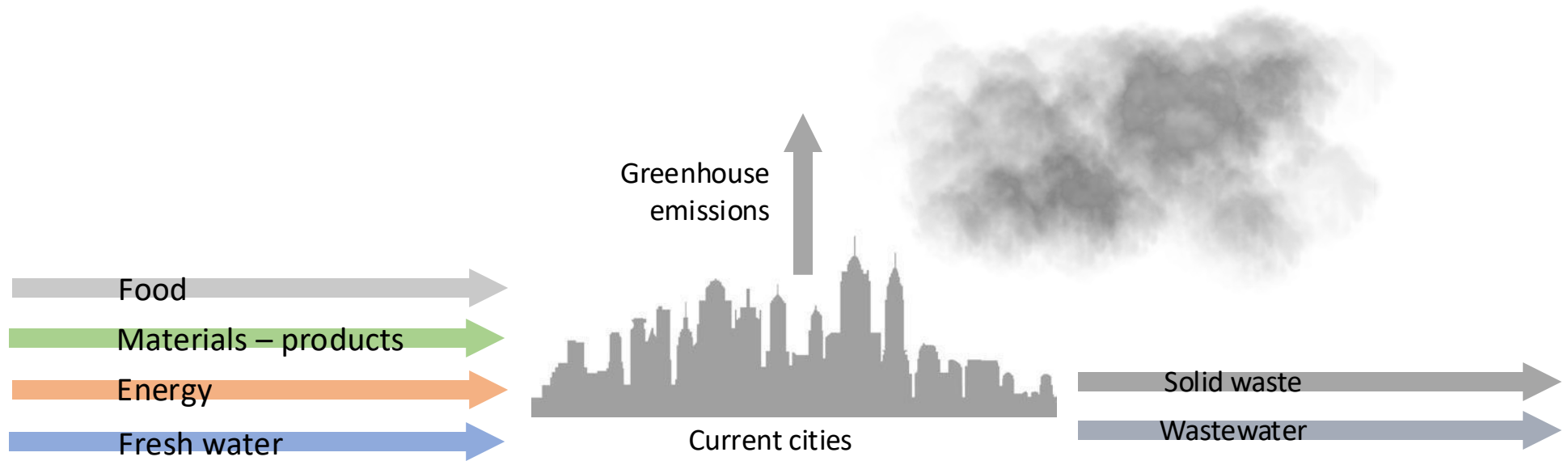


**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma

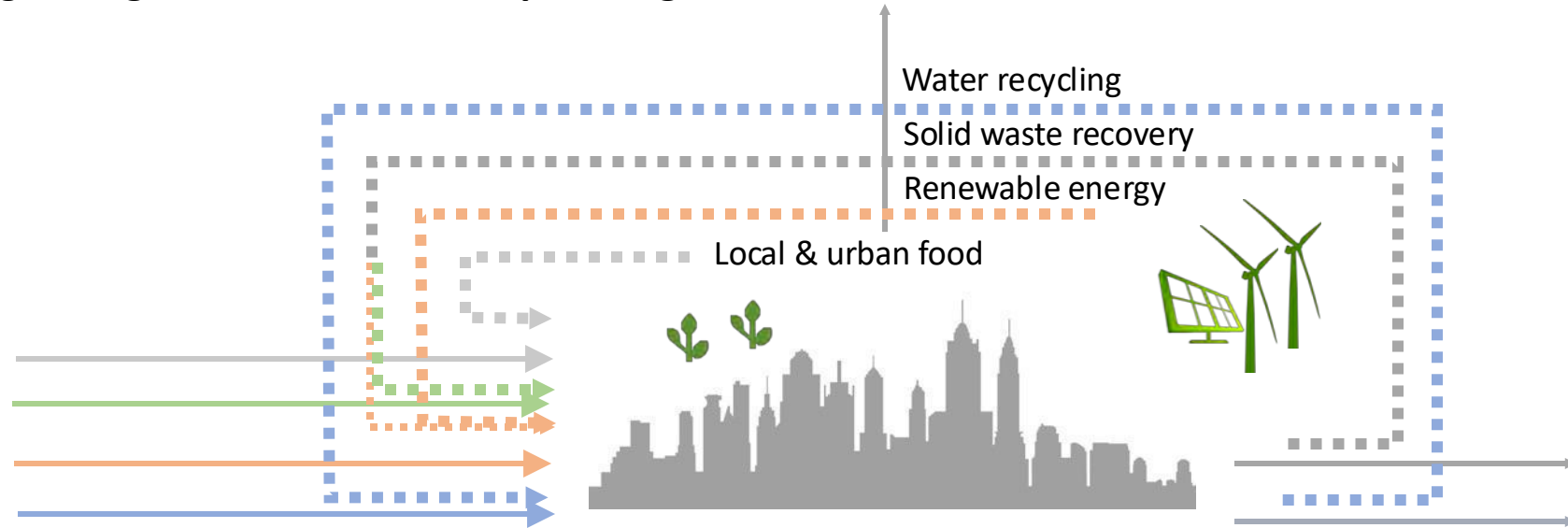
Toward a sustainable city

Current cities consume vast resources while polluting the natural environment and downgrading the quality of life.



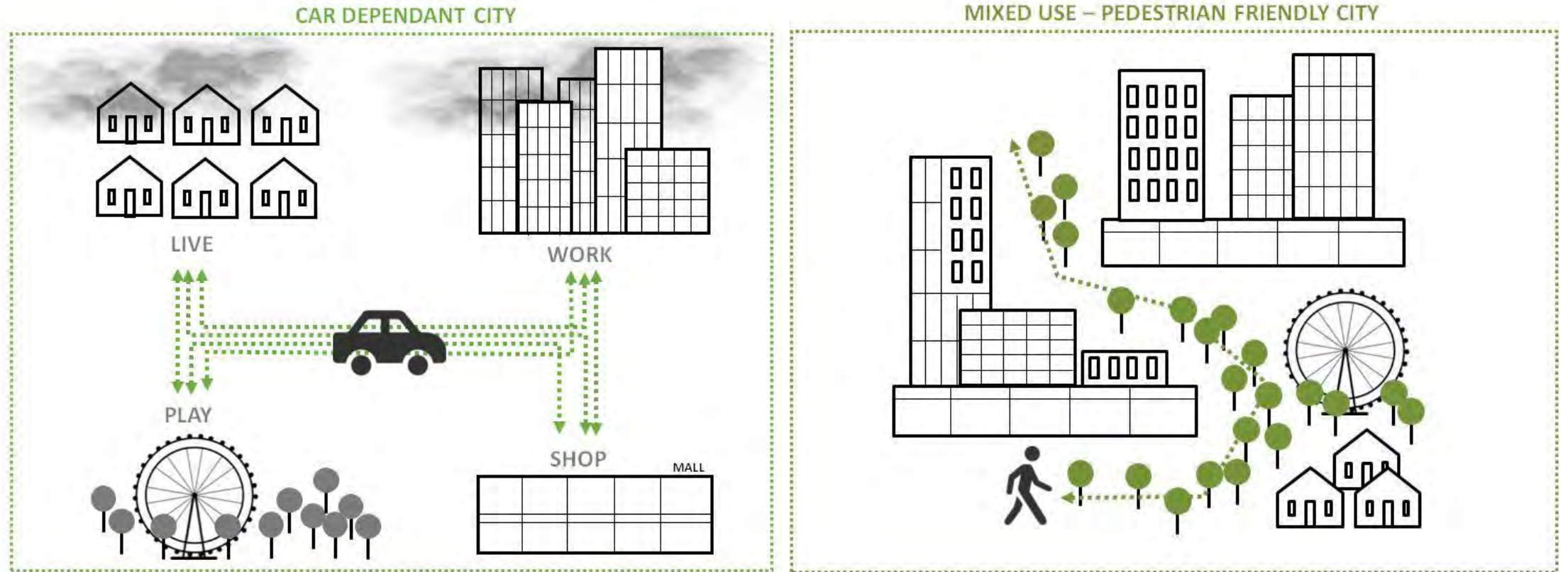
Toward a sustainable city

Sustainable cities should be able to work as a 'closed circuit' recycling and reusing resources through **integrated infrastructure planning**.



Toward a sustainable city

The polluted, inefficient, private car-dependent city should be replaced based on the principles of a pedestrian-friendly and mixed-use city.



**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma

The Zofnass Program & the Envision[®] Rating System



**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma

About the Zofnass Program



[Zofnass.org](https://zofnass.org)



The Zofnass Program for Sustainable Infrastructure was founded in 2007 at Harvard University through a generous donation by siblings Paul and Joan Zofnass.

Its mission is to develop and promote methods, processes, and tools for the sustainability of infrastructure projects.



**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma

About the Zofnass Program

In 2022, the Zofnass Program integrated with the Institute for Sustainable Infrastructure (ISI) to support the research and development of Envision.

The industry and research foundations support the Zofnass Research Program through an Industry Advisory Board.



**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma

About the Zofnass Program

The Zofnass Program research aims to facilitate the adoption of sustainable solutions for infrastructure projects and systems and expand the body of knowledge for sustainable infrastructure.



**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma

The Zofnass Program & the Envision® Rating System

The Zofnass Program research in collaboration with academic experts and industry specialists has led to the development of **Z-simple**, the Zofnass Rating System, that has been integrated into the **Envision®** system of the Institute for Sustainable Infrastructure.



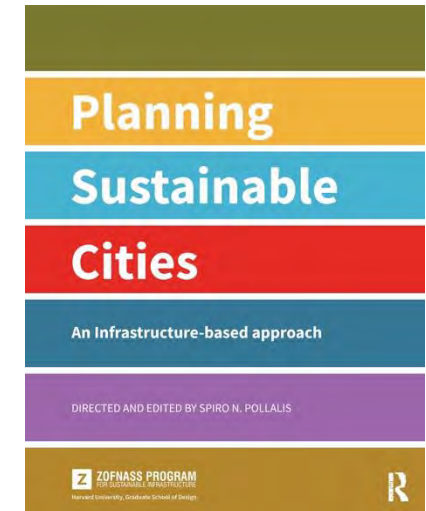
**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma

The Zofnass Program Research based on Envision

Since its inception, the Zofnass Program has developed research **based on the Envision framework.**

This presentation will focus on the **research on expanding sustainability from the infrastructure project scale to the city scale.** The study resulted in the 2016 publication 'Planning Sustainable Cities: An Infrastructure-based Approach.'



**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

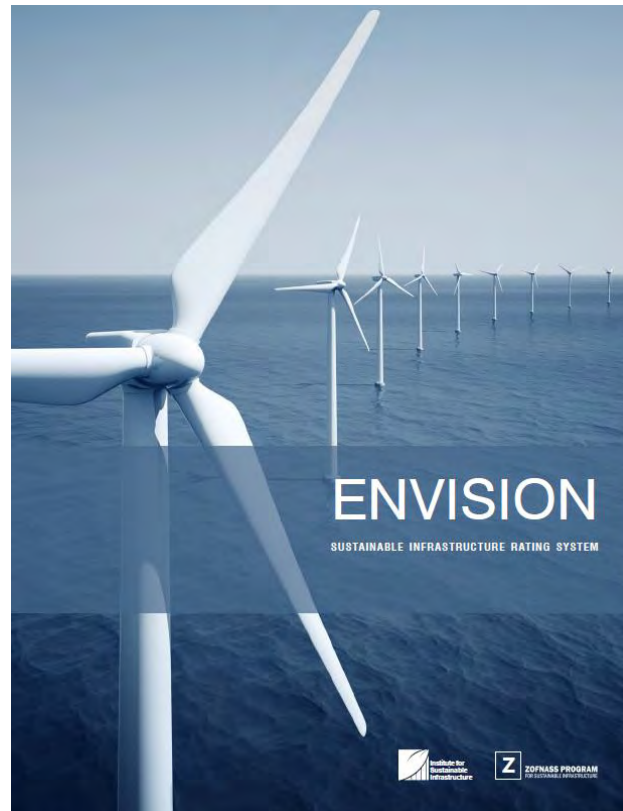
2 OTTOBRE 2024
Auditorium Donat Cattin
Roma

The Zofnass Program Infrastructure-based Approach



The Zofnass Program Approach – City as a Project

Building on Envision® V2:



Research hypothesis

Integrated planning at the city scale can be based on infrastructure

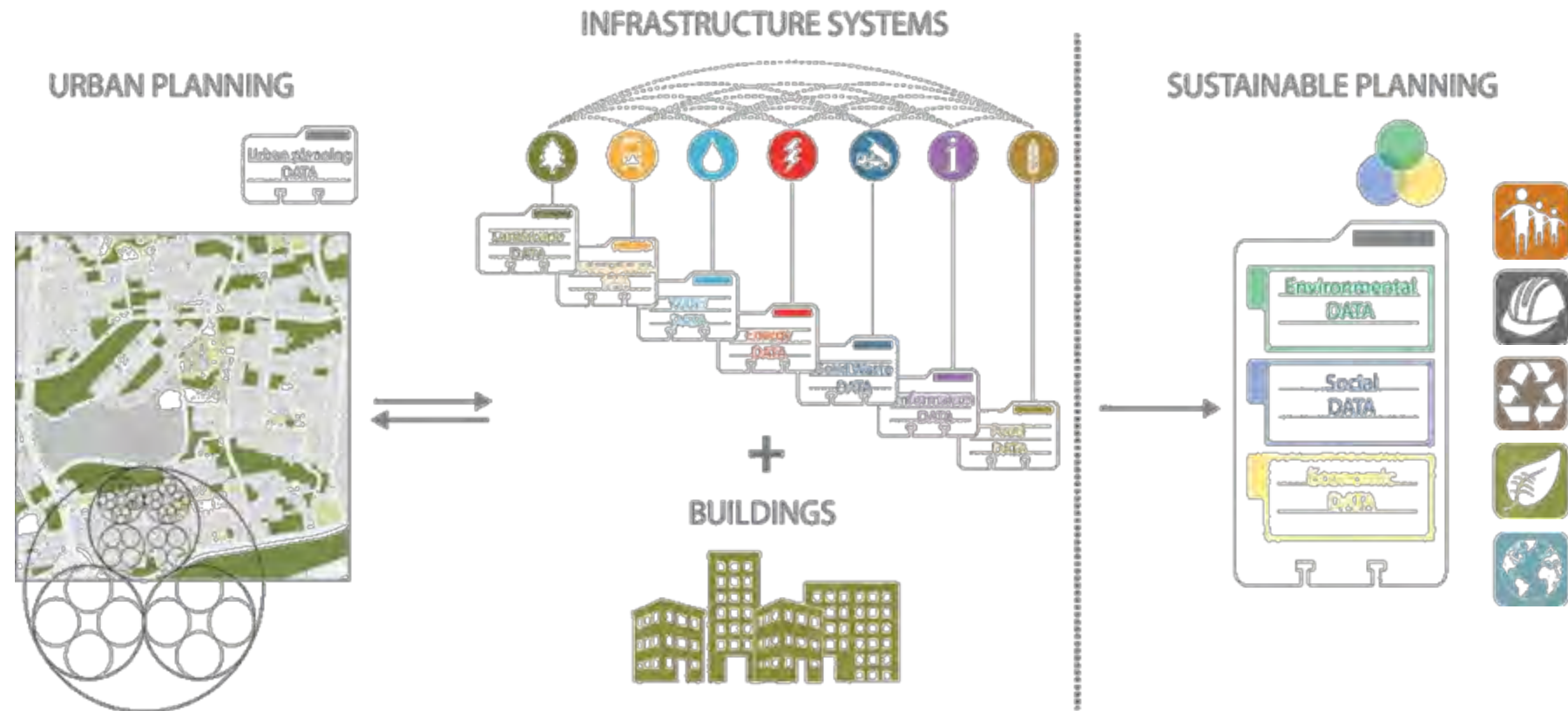
A city is a project, and as such, its sustainability is defined in these five Envision Impact Categories



The Zofnass Program Approach – City as a Project

The Zofnass program considers **the city as a project**:

- Infrastructure development is inextricably linked to city-scale planning.
- Infrastructure processes and entities constitute the infrastructure systems of the city.



The Zofnass Program Approach – City as a Project

Decomposing the **city as a project**, three distinct parts that affect its **sustainability** are distinguished:

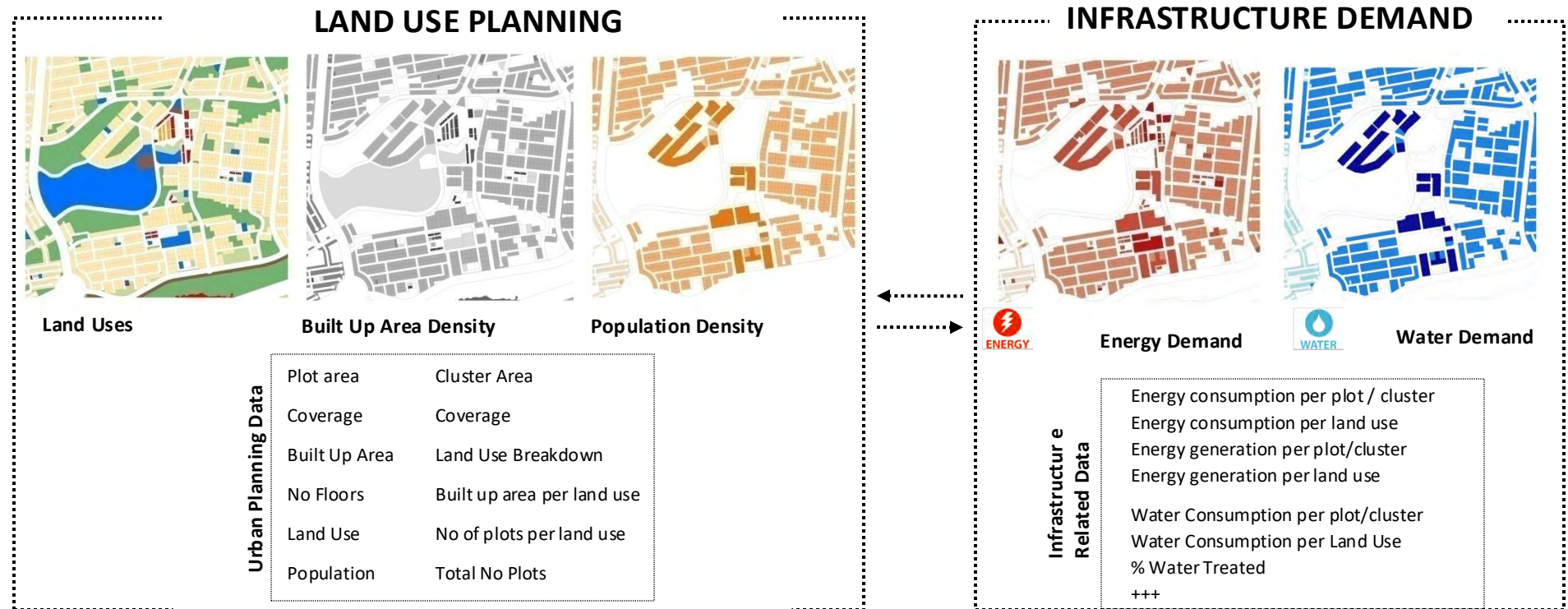
- the **planning of the city**
- the **infrastructure systems of the city, and**
- the **buildings of the city**



The Zofnass Program Approach – City as a Project

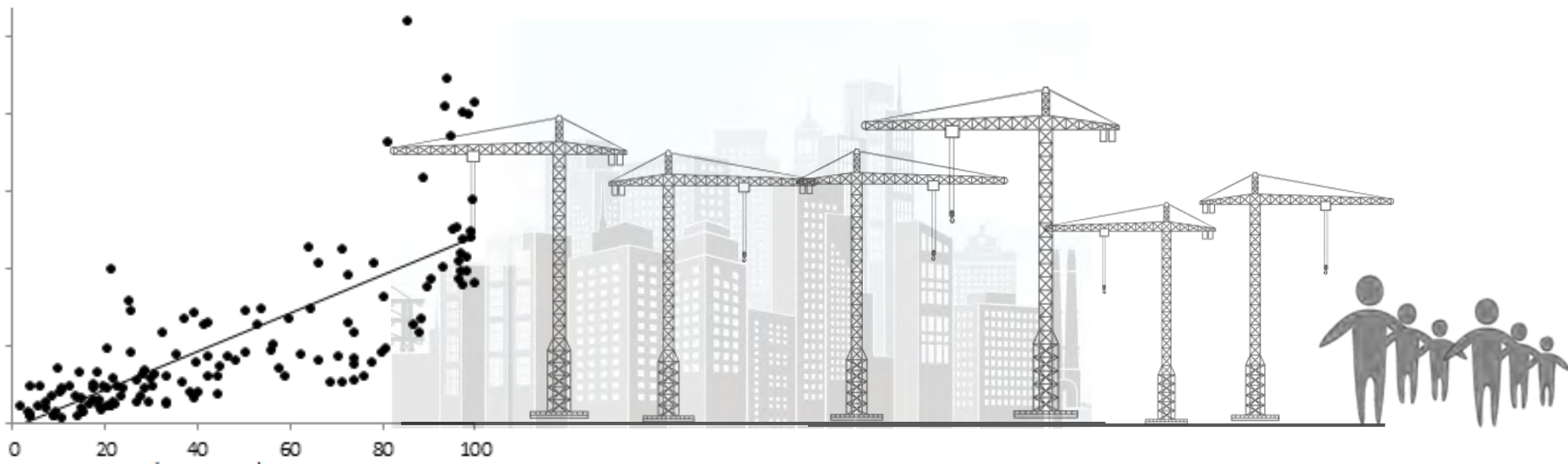
City planning and infrastructure planning are interconnected:

- **Land use planning** will determine the end-users and the demand for services and resources that infrastructure should cover.

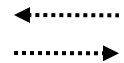


The Zofnass Program Approach – City as a Project

Infrastructure provides the quality and type of services that affect the economic development of the city and its social environment.



ECONOMIC DEVELOPMENT



INFRASTRUCTURE



SOCIAL DEVELOPMENT

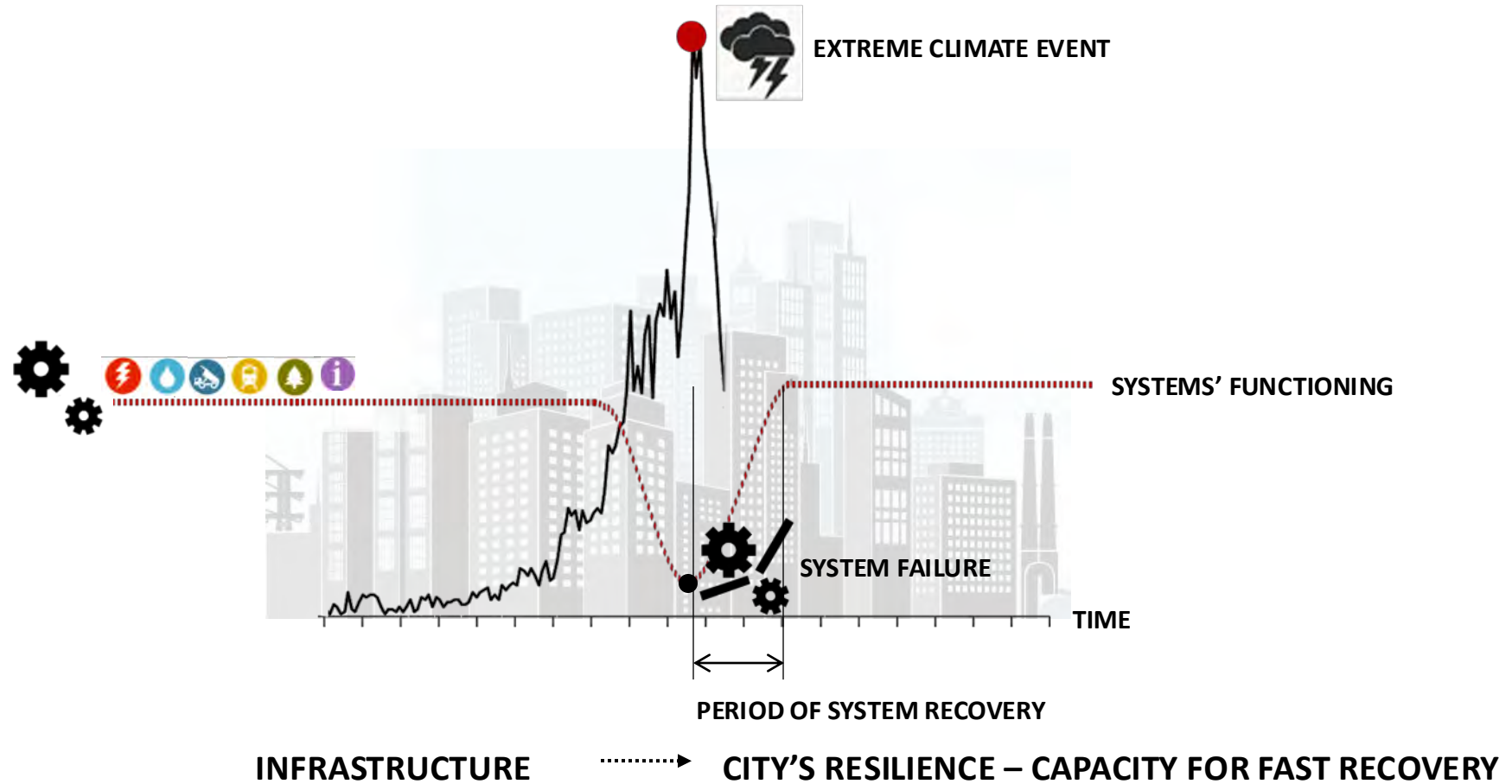


**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma

The Zofnass Program Approach – City as a Project

Infrastructure affects the city's resilience against extreme events.

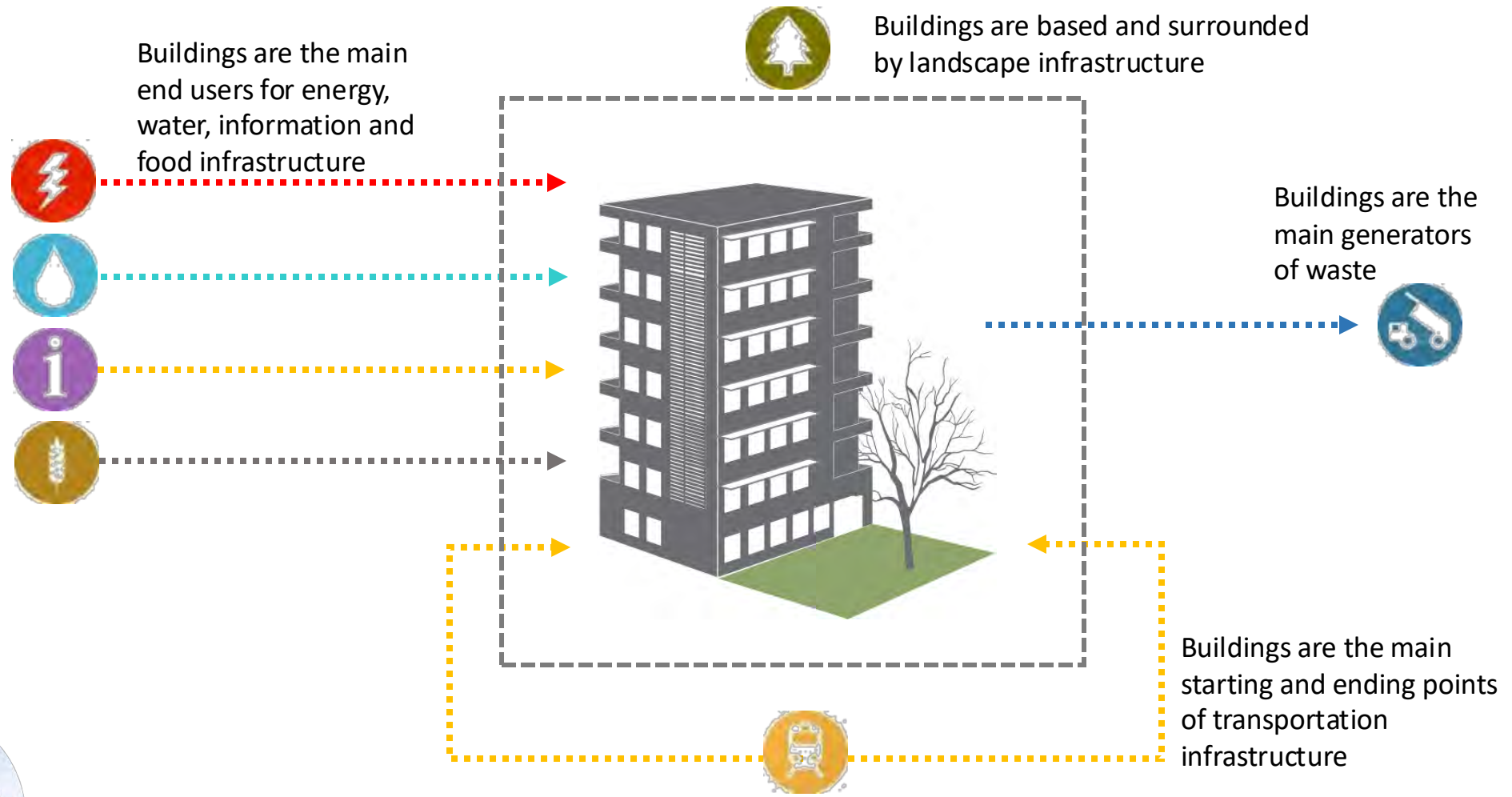


**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma

The Zofnass Program Approach – City as a Project

Buildings, as components of each infrastructure system, become critical for a sustainable city.

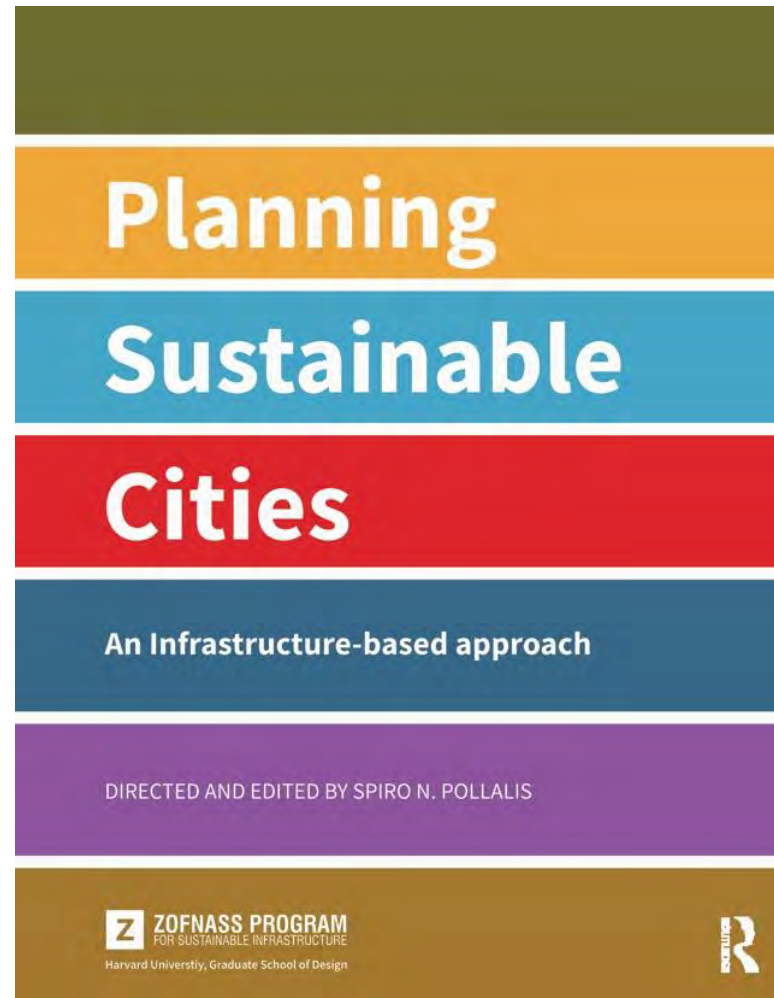


The Zofnass Program Sustainable Planning Guidelines



**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma



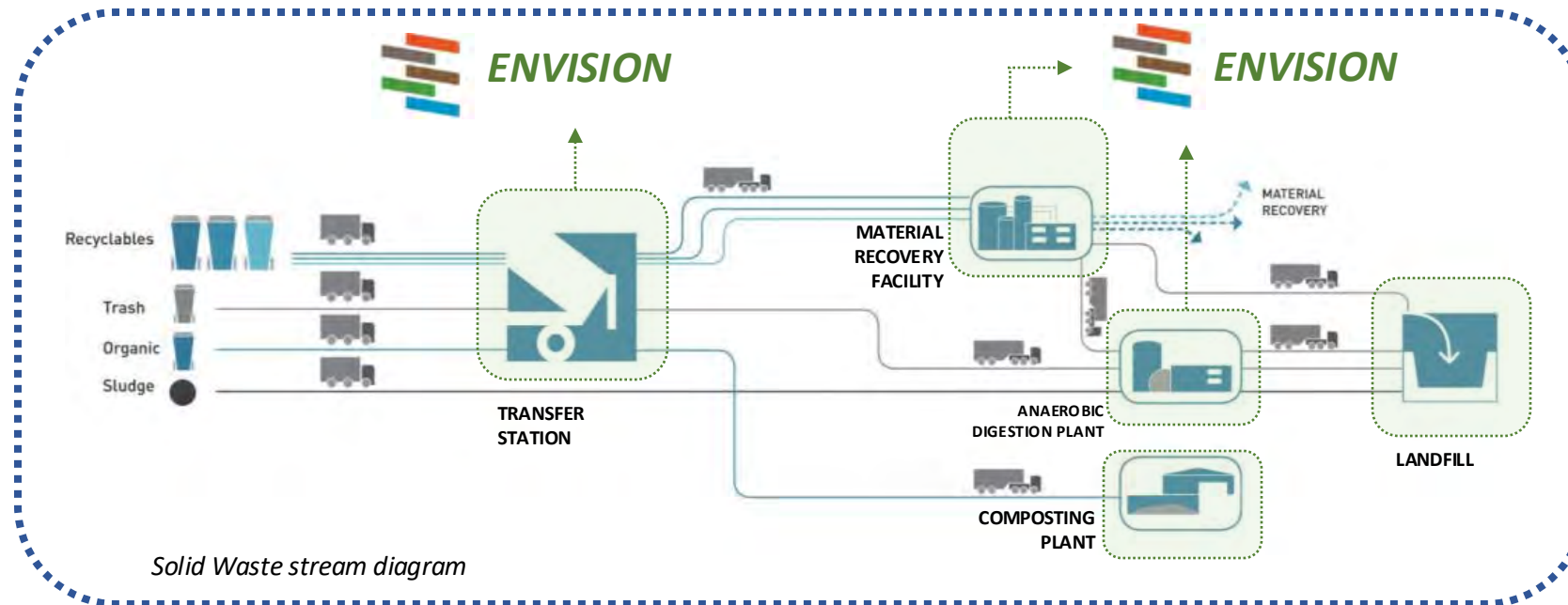
Zofnass research at the city scale:

- **Fills a gap** between the professions of planners and engineers, contributing to the fundamental process of planning and building infrastructure for cities.
- **Responds to the urgency of integrating these practices** to develop cities through a **unified, cross-disciplinary process**.
- **Forms the foundation of a joint collaborative platform** among public authorities, planners, and engineers, enabling those who have traditionally functioned in silos to work together in infrastructure planning.

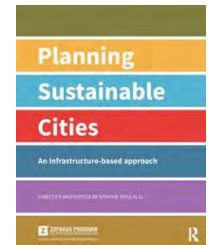


Relation between Envision & the Planning Guidelines

Infrastructure projects/entities are managed as **integrated components** of extended Infrastructure Systems.



Zofnass
Sustainable
**Planning
Guidelines**



Sustainable Planning Guidelines - Structure

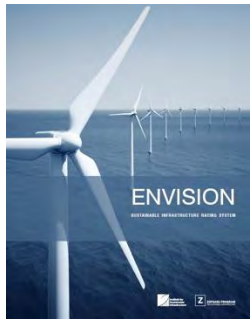


Urban infrastructure is organized in seven systems:

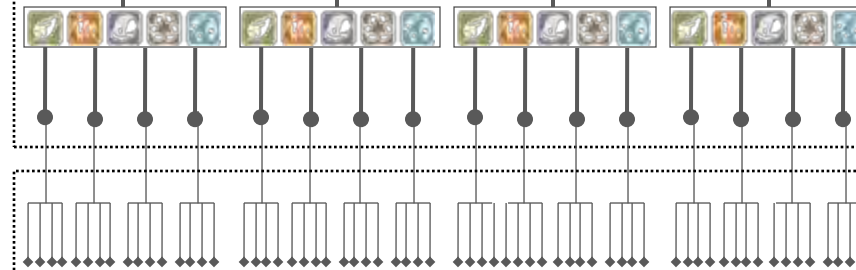
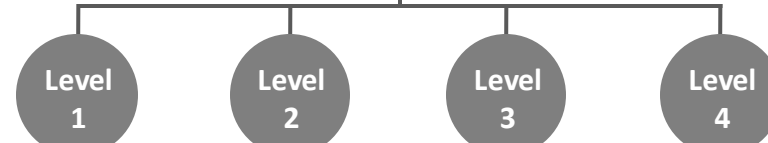
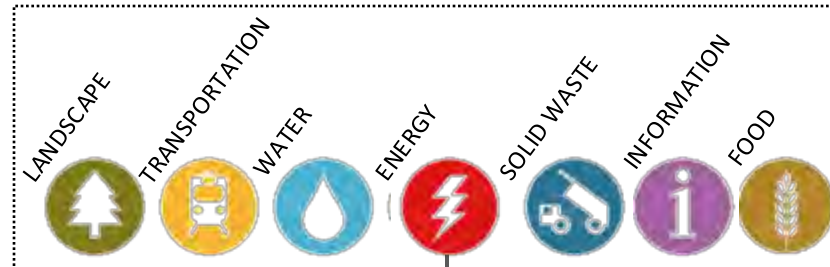


Sustainable Planning Guidelines - Structure

Input
from
Envision



Impact
Categories
& Credits



ACTIONS

Each Infrastructure System is decoded in **four** "System Levels."

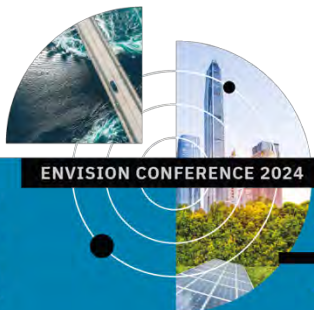
System Levels:

- Group processes and entities within the systems
- Organize a high-level planning and decision-making process

Sustainability Objectives are set for each System Level based on the Zofnass impact categories.

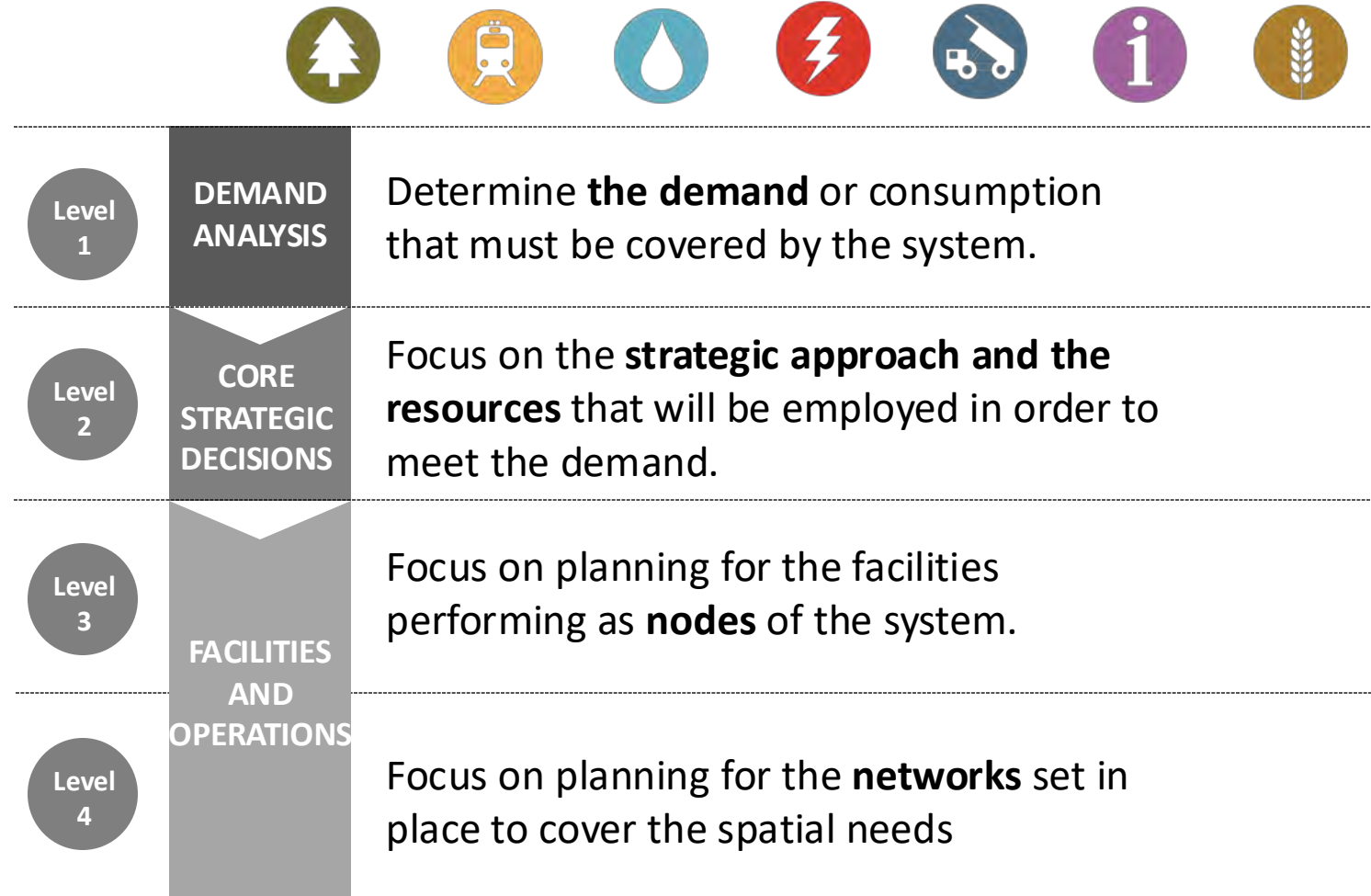
Each Objective is then analyzed into one or more **Planning Guidelines**.

The Planning Guidelines do not describe specific solutions. Their role is to prompt project teams to **develop a set of Actions** adapted to each context project.



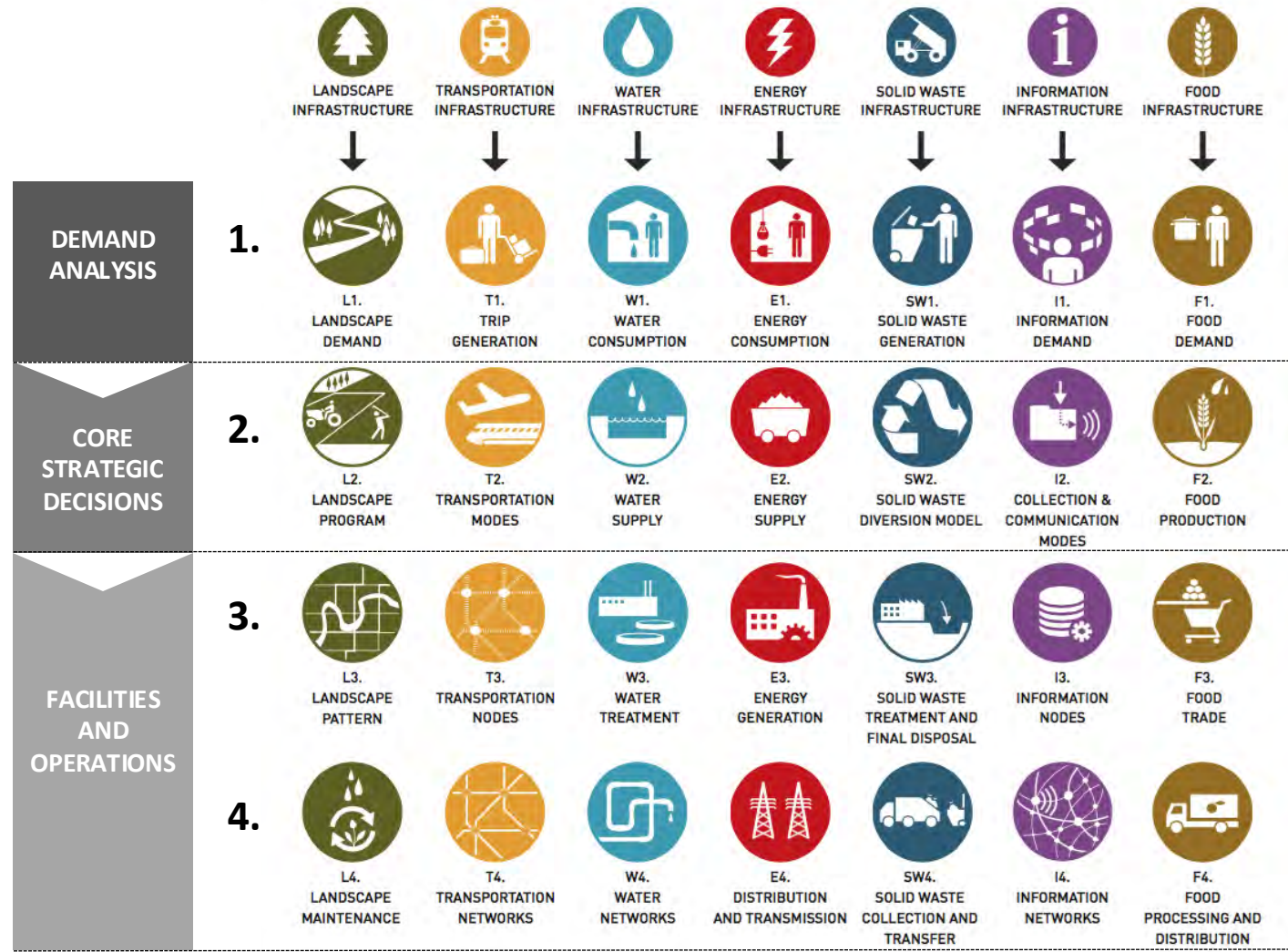
Sustainable Planning Guidelines - Structure

To ensure a sustainable infrastructure system each system is decoded in **four “system levels”**:



Sustainable Planning Guidelines - Structure

The 7 Infrastructure Systems with their “system levels”:



ENVISION CONFERENCE 2024



**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma

To ensure a sustainable infrastructure system, **objectives and strategies are hierarchized:**

Every infrastructure system has its first strategy, “SAVING,” which is the reduction of consumption to reduce the demand for infrastructure.



**Less installed capacity for infrastructure
Less production need**

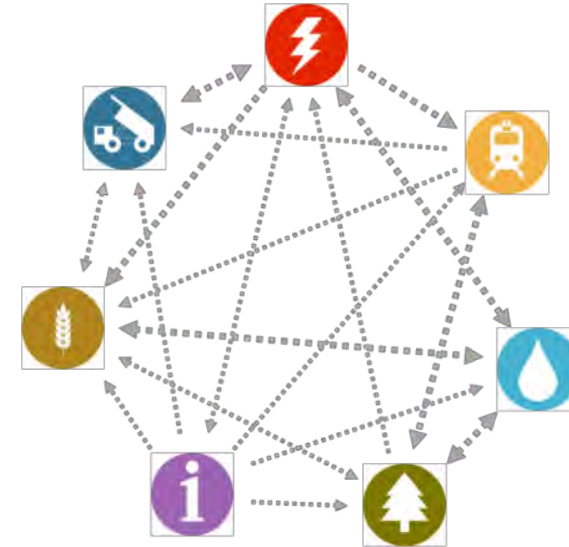


Sustainable Planning Guidelines

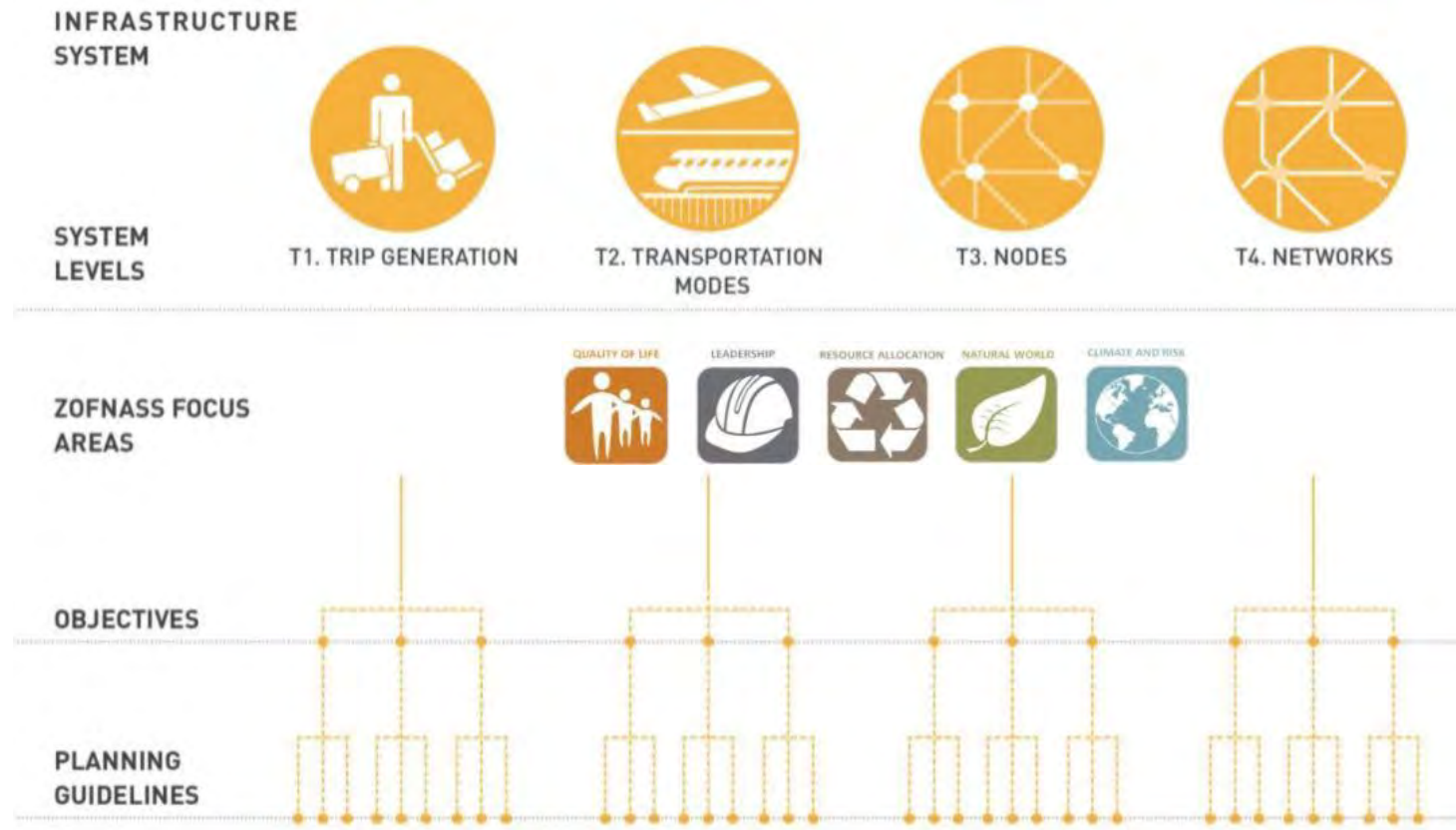
A **systemic approach** is emphasized in the Zofnass Planning Guidelines. Infrastructure systems are considered **sub-systems of the city** that should function **in synergy**.

Synergies usually refer to:


- Reducing the **initial demand** for other systems and the challenges for their operation
- Connecting **by-products** and feedstock needs
- Optimizing the **placement** of entities
- **Combining** entities
- **Mitigating** negative impacts of processes



Planning Guidelines Example: Transportation Infrastructure



Planning Guidelines Example: Transportation Infrastructure

OBJECTIVES	GUIDELINES	SYNERGIES
 T1 TRIP GENERATION		▲ TO + WITH ▼ FROM
● T1.1. Reduce number of unnecessary Trips	T1.1.1. Provide and promote remote access and e-services	
● T1.2. Reduce length of Trips	T1.2.1. Promote mixed-use development	
	T1.2.2. Include basic amenities within each residential area	
	T1.2.3. Promote compactness in urban fabric	
	T1.2.4. Optimize placement of infrastructure facilities that generate significant traffic	
● T1.3. Monitor Trip Generation trends	T1.3.1. Identify main city Trip attractors	
	T1.3.2. Collect and organize data on Transportation needs of goods and passengers	
	T1.3.3. Monitor daily and seasonal Trip Generation fluctuations across the city	
● T1.4. Regulate Trip Generation rates and patterns	T1.4.1. Reduce peaks in Trip Generation	
	T1.4.2. Optimize itineraries within other infrastructure systems	












T	→	Infrastructure System
T1	→	Infrastructure System Level
T1.1.	→	System Level Objective
T1.1.1.	→	Planning Guideline



ENVISION CONFERENCE 2024

Planning Guidelines Example: Transportation Infrastructure

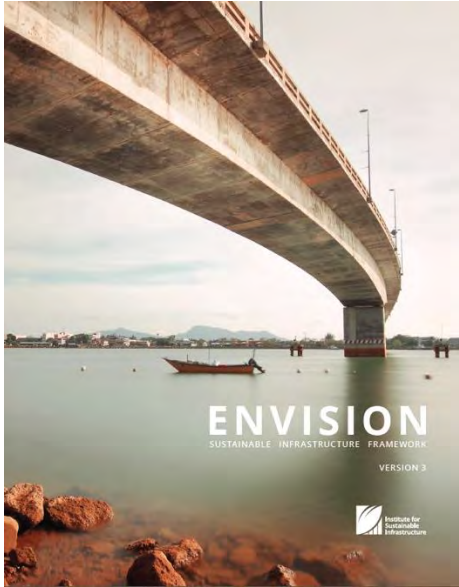
Adaptation to the **unique context**, circumstances and priorities of each city.

OBJECTIVES	GUIDELINES	SYNERGIES
 T1 TRIP GENERATION		
		▲ TO + WITH ▼ FROM
● T1.1. Reduce number of unnecessary Trips	T1.1.1. Provide and promote remote access and e-services	
● T1.2. Reduce length of Trips	T1.2.1. Promote mixed-use development	
	T1.2.2. Include basic amenities within each residential area	
	T1.2.3. Promote compactness in urban fabric	
	T1.2.4. Optimize placement of infrastructure facilities that generate significant traffic	
● T1.3. Monitor Trip Generation trends	T1.3.1. Identify main city Trip attractors	
	T1.3.2. Collect and organize data on Transportation needs of goods and passengers	
	T1.3.3. Monitor daily and seasonal Trip Generation fluctuations across the city	
● T1.4. Regulate Trip Generation rates and patterns	T1.4.1. Reduce peaks in Trip Generation	
	T1.4.2. Optimize itineraries within other infrastructure systems	

Project teams should translate the Guidelines to **Context Specific Actions**.



The Envision® Holistic Approach to Sustainability



The research on the Planning Guidelines **reaffirmed** that Envision Categories of Impact and the sustainability topics of Envision credits **are fundamental for sustainable planning across all scales.**



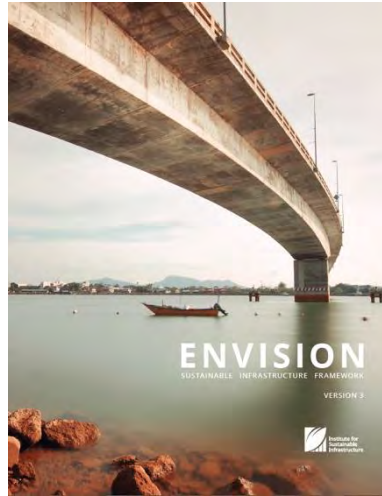
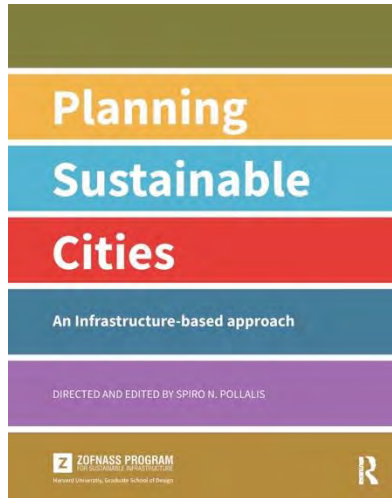
Envision's holistic approach to sustainability maximizes opportunities and minimizes trade-offs. It safeguards against isolated or narrowly focused approaches that will likely do more harm than good in the long term.



**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma

Tools for Sustainable City Planning



The Sustainable Planning Guidelines and Envision are critical resources for sustainable city planning:

- Systemic planning ensures that the right project is prioritized and the interdependencies between different infrastructure systems are leveraged
- Sustainable infrastructure planning ensures that the project is done right.



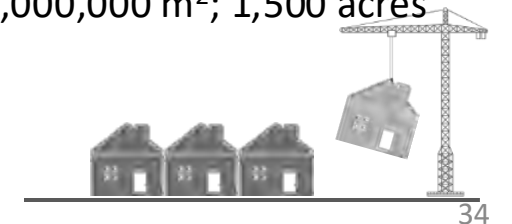
Example of Planning with Envision and the Zofnass Planning Guidelines

Development of the
Hellinikon former airport
Athens, Greece.

AN EXPANDING DEVELOPMENT

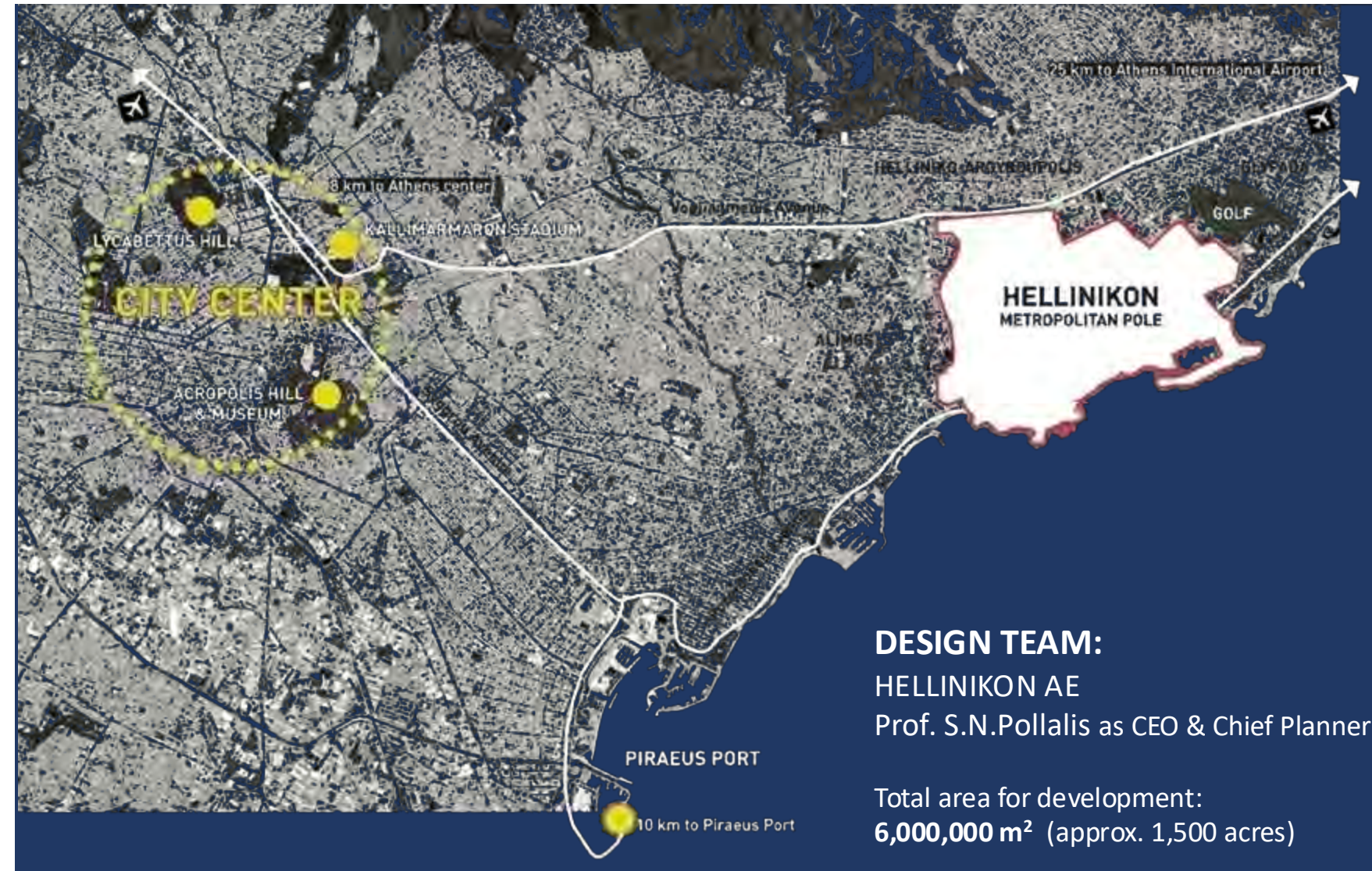


6,000,000 m²; 1,500 acres



Development of the Hellinikon Former Airport, Athens

The redevelopment of the former Hellinikon airport of Athens provided a unique opportunity for sustainable urban development of a **1,500-acre site within a metropolitan area** and along a 3.5 km pristine coastal zone.



DESIGN TEAM:

HELLINIKON AE

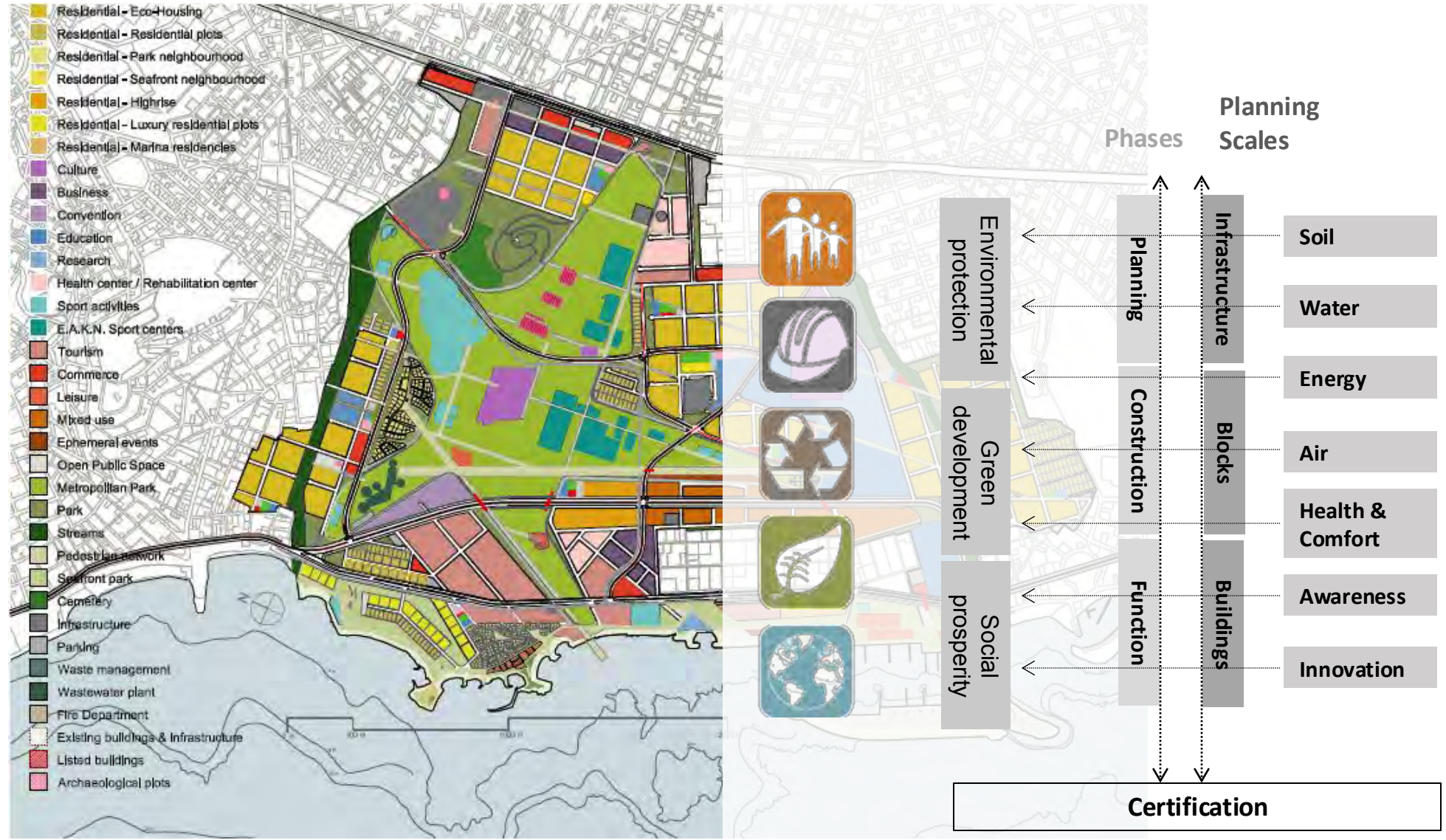
Prof. S.N.Pollalis as CEO & Chief Planner

Total area for development:
6,000,000 m² (approx. 1,500 acres)



Holistic Planning using Envision and the Planning Guidelines

Planning followed the **holistic approach** of the Envision and the Zofnass program.



**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma

Planning Strategies using Envision

Planning strategies are related to the **Envision Impact categories:**



- 1** A self-sufficient city integrated with its surrounding context 
- 2** Minimization of car use & connectivity with adjacent municipalities 
- 3** Existing avenue relocation & restoration of coastline's continuity 
- 4** Creation of a metropolitan park and provision for an accessible waterfront 
- 5** Land use synergies 
- 6** Sustainable infrastructures & renewable energy sources 
- 7** Compact neighborhoods with local centers & connectivity with surroundings 
- 8** "Eco-housing" the development's model urban blocks 



**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma



Planning strategies & related Envision categories:

1

A self-sufficient city integrated with its surrounding context



2

Minimization of car use & connectivity with adjacent municipalities



3

Existing avenue relocation & restoration of coastline's continuity



4

Creation of a metropolitan park and provision for an accessible waterfront





Planning strategies & related Envision categories:

5

Land use synergies



6

Sustainable infrastructures & renewable energy sources



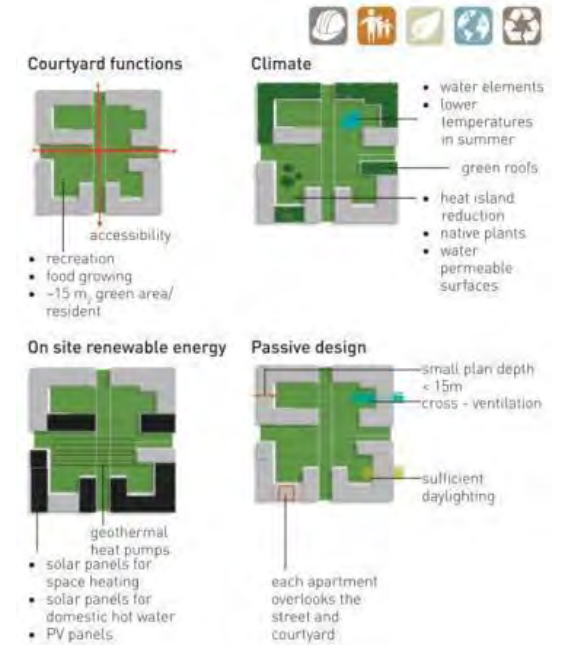
7

Compact neighborhoods with local centers & connectivity with surroundings



8

“Eco-housing” the development’s model urban blocks



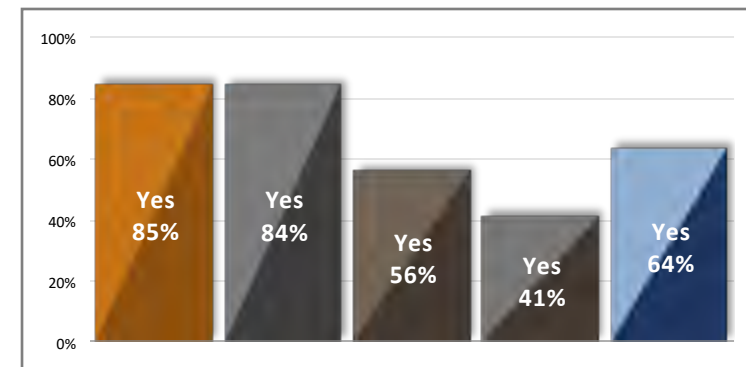
Planning Strategies using Envision



		Y	N	NA			
1-12	PURPOSE	QL1.1 Improve community quality of life	2	1	0	2 of 3	NA
		QL1.2 Stimulate sustainable growth and development	3	0	0	3 of 3	12%
		QL1.3 Develop local skills and capabilities	3	0	0	3 of 3	
	COMMUNITY	QL2.1 Enhance public health and safety	0	0	1	0 of 0	No
		QL2.2 Minimize noise and vibration	0	0	1	0 of 0	4%
		QL2.3 Minimize light pollution	0	0	1	0 of 0	
		QL2.4 Improve community mobility and access	3	0	0	3 of 3	Yes
	WELLBEING	QL2.5 Encourage alternative modes of transportation	2	0	0	2 of 2	85%
		QL2.6 Improve site accessibility, safety and wayfinding	3	0	0	3 of 3	
QL3.1 Preserve historic and cultural resources		2	0	0	2 of 2		
QL3.2 Preserve views and local character		2	0	0	2 of 2		
QL3.3 Enhance public space		2	0	0	2 of 2		
TOTAL	22	1	3	22 of 23			
13-21	COLLABORATION	LD1.1 Provide effective leadership and commitment	3	0	0	3 of 3	No
		LD1.2 Establish a sustainability management system	1	0	0	1 of 1	16%
		LD1.3 Foster collaboration and teamwork	1	0	0	3 of 3	
	MANAGEMENT	LD1.4 Provide for stakeholder involvement	2	1	0	2 of 3	
		LD2.1 Pursue by-product synergy opportunities	0	1	0	0 of 1	Yes
		LD2.2 Improve Infrastructure Integration	3	0	0	3 of 3	84%
	PLANNING	LD3.1 Plan for long-term monitoring and maintenance	1	1	0	1 of 2	
		LD3.2 Address conflicting regulations and policies	2	0	0	2 of 2	
		LD3.3 Extend useful life	1	0	0	1 of 1	
TOTAL	16	3	0	16 of 19			
22-34	MATERIALS	RA1.1 Reduce Net Embodied Energy	0	0	2	0 of 0	NA
		RA1.2 Support Sustainable Procurement Practices	0	0	3	0 of 0	27%
		RA1.3 Use Recycled Materials	0	0	2	0 of 0	
	ENERGY	RA1.4 Use Regional Materials	1	0	1	1 of 1	No
		RA1.5 Divert Waste from Landfills	2	1	0	2 of 3	17%
		RA1.6 Reduce Excavated Materials Taken off Site	3	0	0	3 of 3	
		RA1.7 Provide for Deconstruction and Recycling	0	0	3	0 of 0	Yes
	WATER	RA2.1 Reduce energy consumption	3	0	0	3 of 3	56%
		RA2.2 Use renewable energy	1	1	0	1 of 2	
		RA2.3 Commission and monitor energy systems	2	1	0	2 of 3	
	TOTAL	RA3.1 Protect fresh water availability	4	3	0	4 of 7	
		RA3.2 Reduce potable water consumption	3	1	0	3 of 4	
		RA3.3 Monitor water systems	4	0	0	4 of 4	
TOTAL	23	7	11	23 of 30			
35-45	SITING	NW1.1 Preserve prime habitat	0	0	5	0 of 0	NA
		NW1.2 Protect wetlands and surface water	3	0	0	3 of 3	54%
		NW1.3 Preserve prime farmland	0	0	1	0 of 0	
	LAND & WATER	NW1.4 Avoid adverse geology	0	0	5	0 of 0	No
		NW1.5 Preserve floodplain functions	2	0	4	2 of 2	4%
		NW1.6 Avoid unsuitable development on steep slopes	0	0	2	0 of 0	
		NW1.7 Preserve greenfields	1	0	1	1 of 1	Yes
	BIODIVERSITY	NW2.1 Manage stormwater	2	0	0	2 of 2	41%
		NW2.2 Reduce pesticide and fertilizer impacts	3	0	2	3 of 3	
		NW2.3 Prevent surface and groundwater contamination	4	0	-1	4 of 4	
TOTAL	NW3.1 Preserve species biodiversity	0	0	4	0 of 0		
	NW3.2 Control invasive species	1	0	2	1 of 1		
	NW3.3 Restore disturbed soils	2	0	0	2 of 2		
	NW3.4 Maintain wetland and surface water functions	3	0	2	3 of 3		
TOTAL	19	2	25	19 of 21			
46-55	EMISSION	CR1.1 Reduce greenhouse gas emissions	0	1	1	0 of 1	NA
		CR1.2 Reduce air pollutant emissions	0	0	1	0 of 1	18%
	RESILIENCE	CR2.1 Assess climate threat	1	0	0	1 of 1	No
		CR2.2 Avoid traps and vulnerabilities	2	0	0	2 of 2	18%
		CR2.3 Prepare for long-term adaptability	0	1	0	0 of 1	
		CR2.4 Prepare for short-term hazards	2	0	0	2 of 2	Yes
TOTAL	7	2	2	7 of 9	64%		

The Envision checklist has been used for self-assessment giving:

- an excellent performance in Quality of Life (Yes:85%, No: 4%) and Leadership (Yes:84%, No 16%)
- a very good performance in Resource Allocation (Yes: 56%, No: 17%), Natural World (Yes: 41%, No: 4%) and Climate Risk (Yes: 64%, No: 18%)



ENVISION CONFERENCE 2024



PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma



E.g. CATEGORY
↳ SUBCATEGORY
↳ CREDIT



RESOURCE ALLOCATION: ENERGY

RA2.3 Use Renewable Energy

For the RA2.3 credit, the Hellinikon Project Design included:



- **Reduction of fossil fuel use**
- **Energy - saving** technologies in the building & transportation sectors
- Exploitation of **on-site Renewable Energy Sources**
- **Distributed energy production** through building - mounted PVs
- **Cogeneration** for large units (e.g., hospitals, hotels)
- **Energy mix** for cooling, heating & domestic hot water (solar thermal, biomass, geothermal)
- **Regulation & Monitoring** of Energy Demand & Production with a combination of Building Energy Management Systems & Smart Grids



Planning Infrastructure Systems using the Planning Guidelines



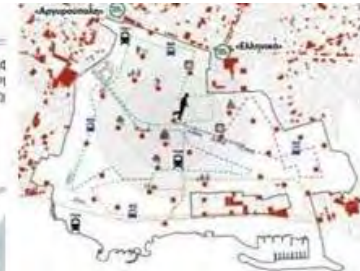
Use of renewable energy sources



Water streams & soil management



Waste & Grey water management



Limitation of private vehicles & connection to the surroundings



Metropolitan Park & Accessible sea limit



ENVISION CONFERENCE 2024



**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma

The example of Transportation Infrastructure





Transportation Infrastructure: Demand Analysis

T1.
TRIP
GENERATION



OBJECTIVE

Monitor / Project Trip Generation trends

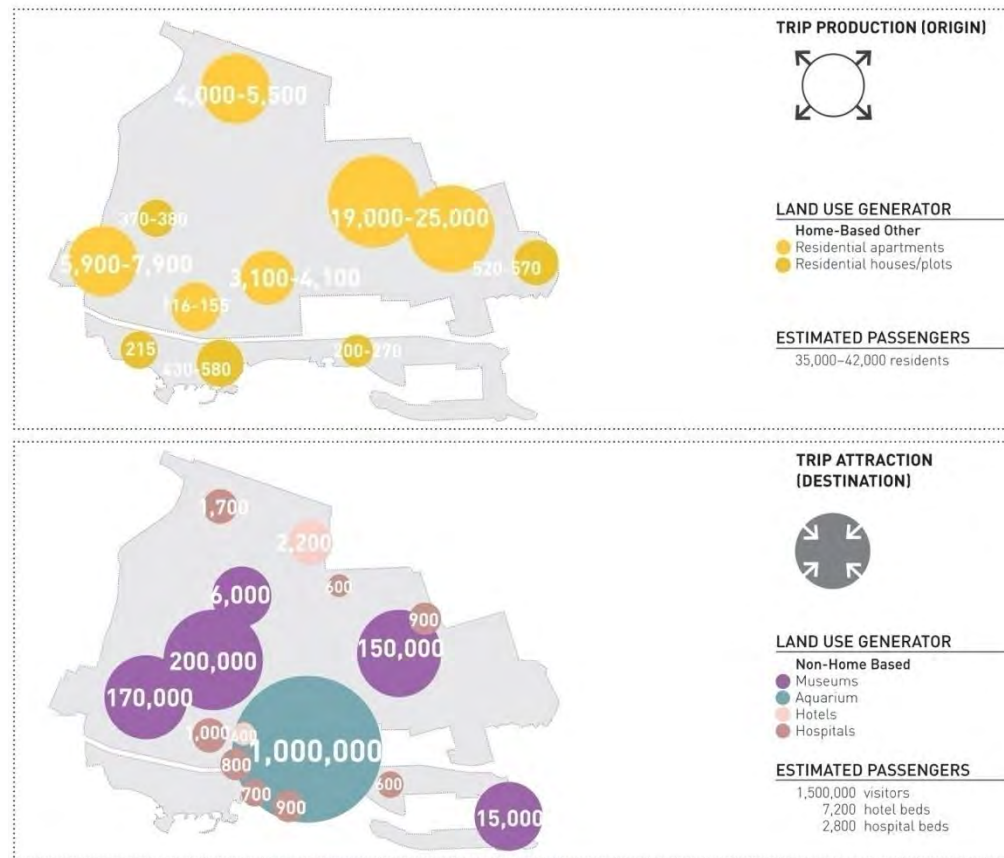
GUIDELINE

T1.3.1. Identify main city Trip attractors

SUSTAINABLE ACTIONS

Identify land use properties, capacities, estimated population data, and their impact on everyday trips.

The 2,000,000 sqm metropolitan park, the Convention Center, the world-class museum, the Incubator center, and the marina's leisure facilities will become the development's main trip attractors.





Transportation Infrastructure: Strategic Decisions



OBJECTIVE

Reduce traffic congestion
Reduce greenhouse and air pollutant emissions

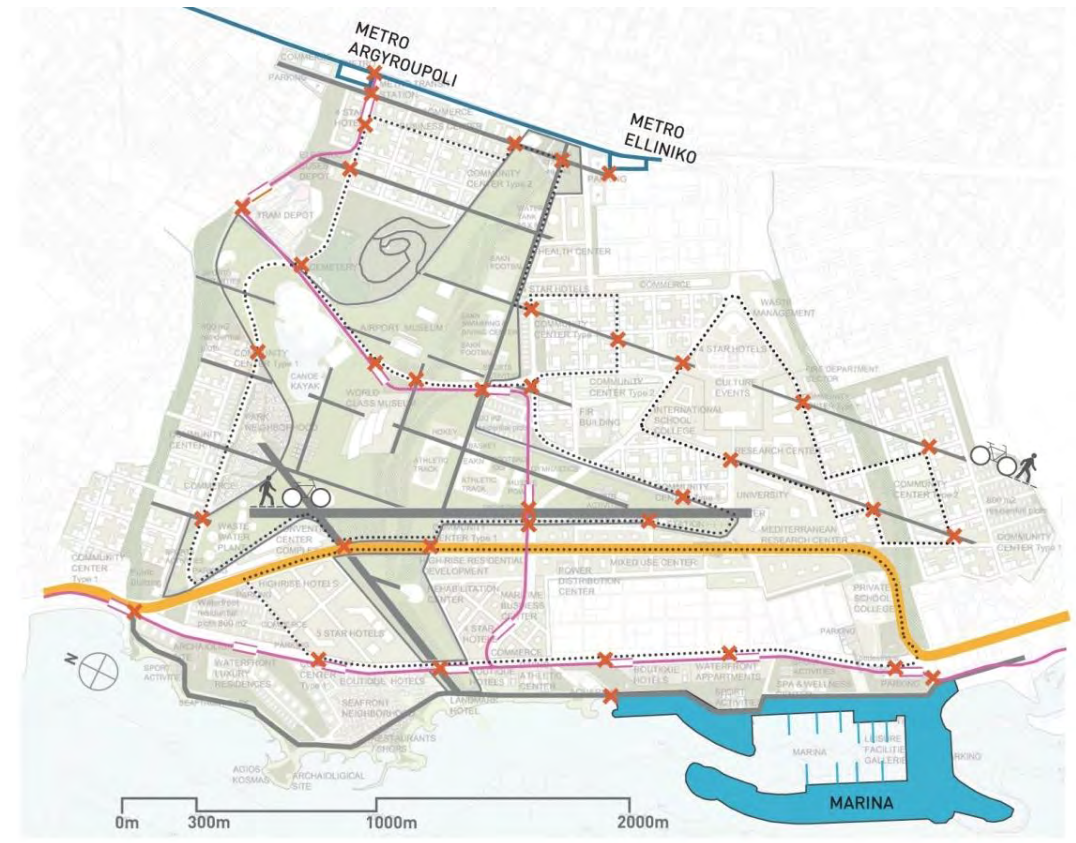
GUIDELINE

T2.3.1. Provide and promote reliable public and mass transit
T2.4.2. Promote non-motorized Transportation Modes

SUSTAINABLE ACTIONS

Development of new bus lines, conversion of the existing auxiliary tram line into a fully functional passenger line, and their interconnection with the site's two existing metro stations.

Design a pedestrian and bicycle grid of 300mx300m, which will extend throughout the site, connecting the neighborhood centers with the supraregional facilities.



ENVISION CONFERENCE 2024



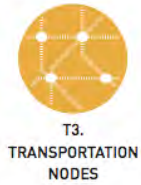
PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma



Use of the Zofnass Planning Guidelines

Transportation Infrastructure: Spatial Distribution



OBJECTIVE

Place and distribute Transportation Nodes for optimized Transportation system performance

GUIDELINE

T3.1.1. Place Transportation Nodes in correlation to Trip attractors
T3.1.2. Ensure equal connection opportunities for all areas of the city

SUSTAINABLE ACTIONS

Interconnect the main trip attractors with current and new transportation nodes. Health and business centers are located near metro and tram line stations, and the park's cultural facilities, museums, and aquarium are connected through bus stops and tram line stations. In contrast, hotels and leisure facilities are approached via mass transit nodes and the supraregional node of the marina.

The conversion of the auxiliary existing tramway into a fully functional passenger line with multiple stations and its extension to the site's nearest existing metro station, as well as new bus lines with stops placed throughout the development.



NODES AND ATTRACTORS

- Bus lines and stations
- Tram line stations
- Parking stations
- Nodes' large areas:**
 - Metro stations
 - Tram depot
 - Marina
 - Helipad
 - Transit station
- Attractors / buildings
- Relocated Poseidonos Avenue



Transportation Infrastructure: Spatial Distribution



OBJECTIVE

Facilitate traffic flows



GUIDELINE

T4.2.1. Define a clear hierarchy in Transportation Networks to serve different levels of flow intensity

SUSTAINABLE ACTIONS

Proposal for various road types according to the site's estimated demographic data and expected traffic flows —clear road hierarchy about the development's main attractors.



ROADS AND ATTRACTORS	
33m.	Relocated Poseidonos Avenue
30m.	Existing Poseidonos Avenue
27.2m.	Main axes
17.6m.	Local axes, Type 1
14.6m.	Local axes, Type 2
7m.	Local axes, Type 3
10.6m.	Service Road
15m.	Pedestrian path, Type 1
10m.	Pedestrian path, Type 2
11m.	Park perimeter path
8m.	Pedestrian path, Type 1
38m.	Reconstructed runways
	Metro stations
	Attractors / buildings



ENVISION CONFERENCE 2024

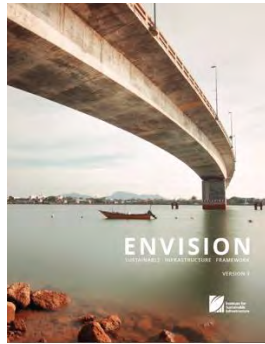
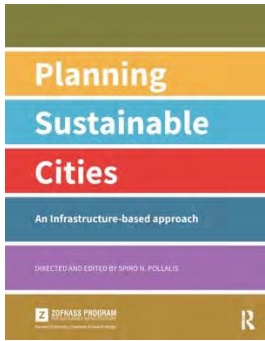


PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma

Integrated and Holistic Planning

Concluding, planning with Envision and the Planning Guidelines guided the design of the former Hellinikon Airport of Athens to:



- provide **new, high-standard infrastructure**
- **minimize the impact** on existing city infrastructure
- achieve a **clear identity** for the development
- **integrate** with the surrounding environment
- restore **natural systems**
- create **engaged community**



Thank you



**PIANIFICARE CITTÀ SOSTENIBILI:
IL RUOLO DELLE INFRASTRUTTURE**
USA e Italia a confronto

2 OTTOBRE 2024
Auditorium Donat Cattin
Roma