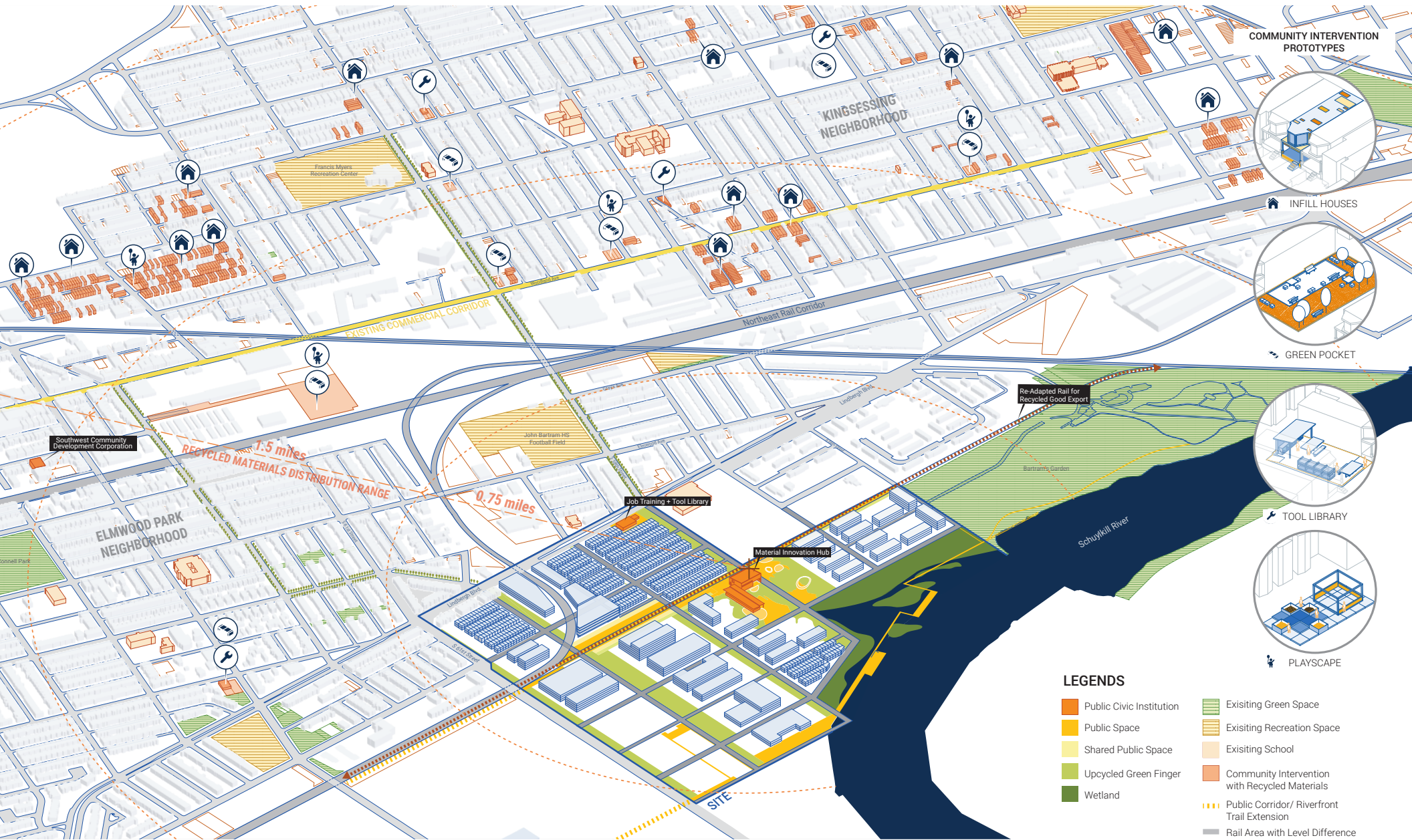
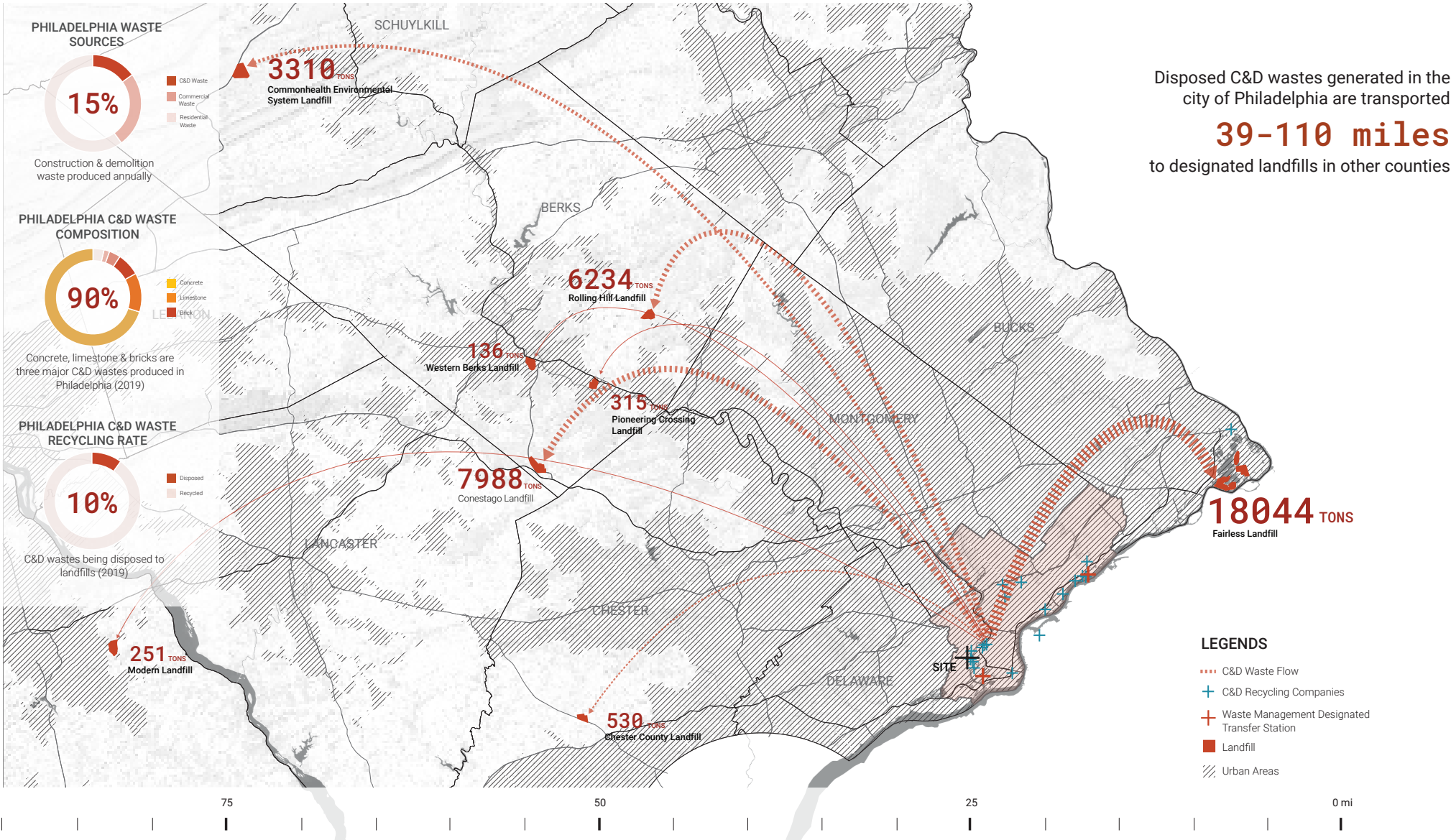


SOUTHWEST PHILADELPHIA IN 2070: FROM WASTE TO RENOVATION



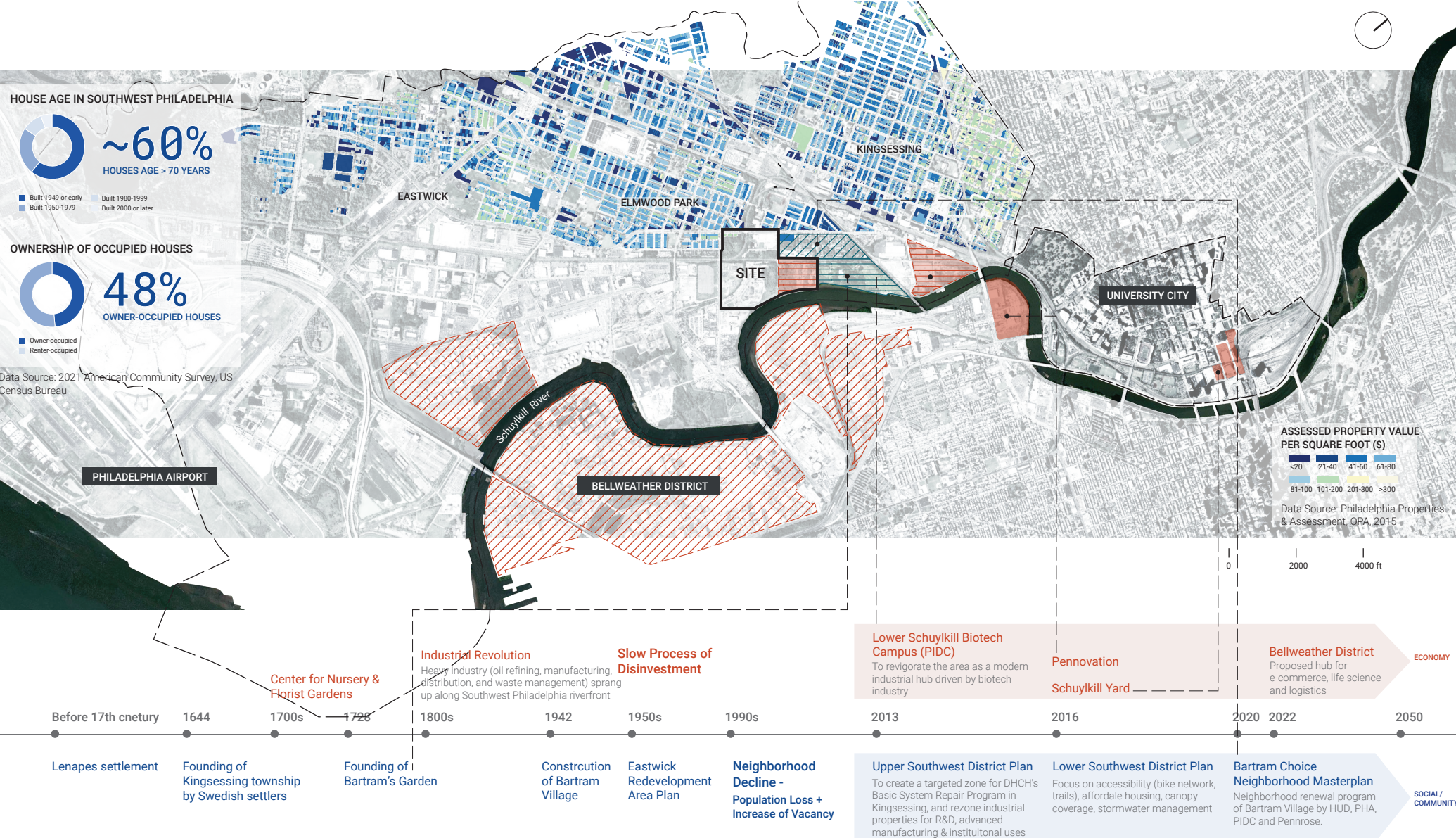
The project aims to establish an on-site material recovery and research system as a connector, spatially, materially, and socially, between existing community and looming transformational investment along Lower Schuylkill River in Southwest Philadelphia. The system helps to leverage long-term house maintenance for displacement mitigation, revitalize vacant lots, and to create new common ground between community and development.

CONSTRUCTION & DEMOLITION WASTES LOGISTICS OF PHILADELPHIA



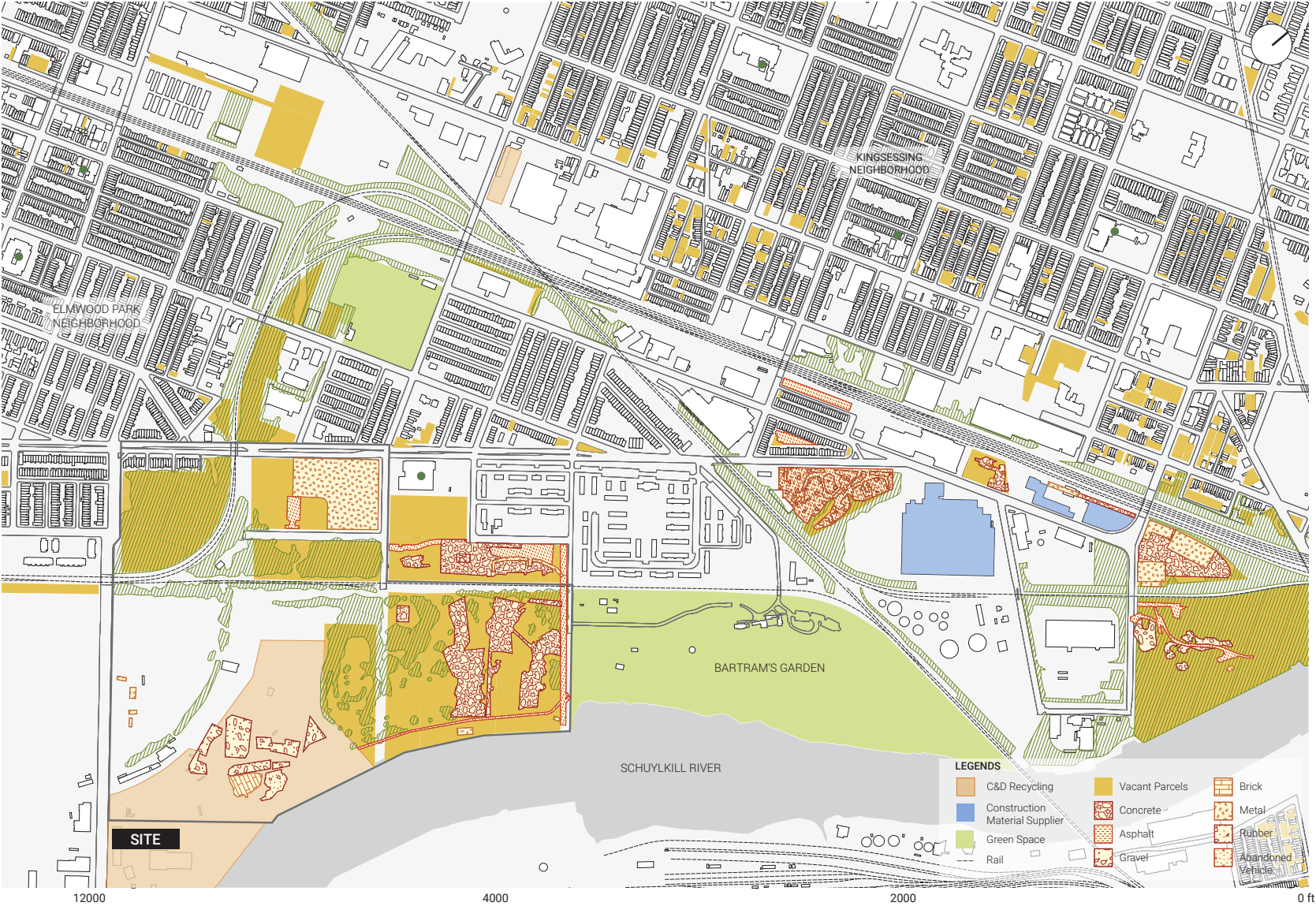
Despite Philadelphia's high recycling rate of C&D wastes, long transportation distance and limited landfill capacity highlight an importance of a further closed loop system and an alternative material flow.

DEVELOPMENT BOOM: TIMELINE OF SOUTHWEST PHILADELPHIA



Since the 1950s, Southwest Philadelphia has been underserved economically and socially. In recent years, the area is experiencing new inflows of investment, characterized by life science manufacturing industry. Yet, low housing values in the area may impose displacement threat to the existing community. A socially and economically resilient urban framework is needed.

SITE ANALYSIS: VACANCY & MATERIALITY



SITE MATERIAL COLLAGE

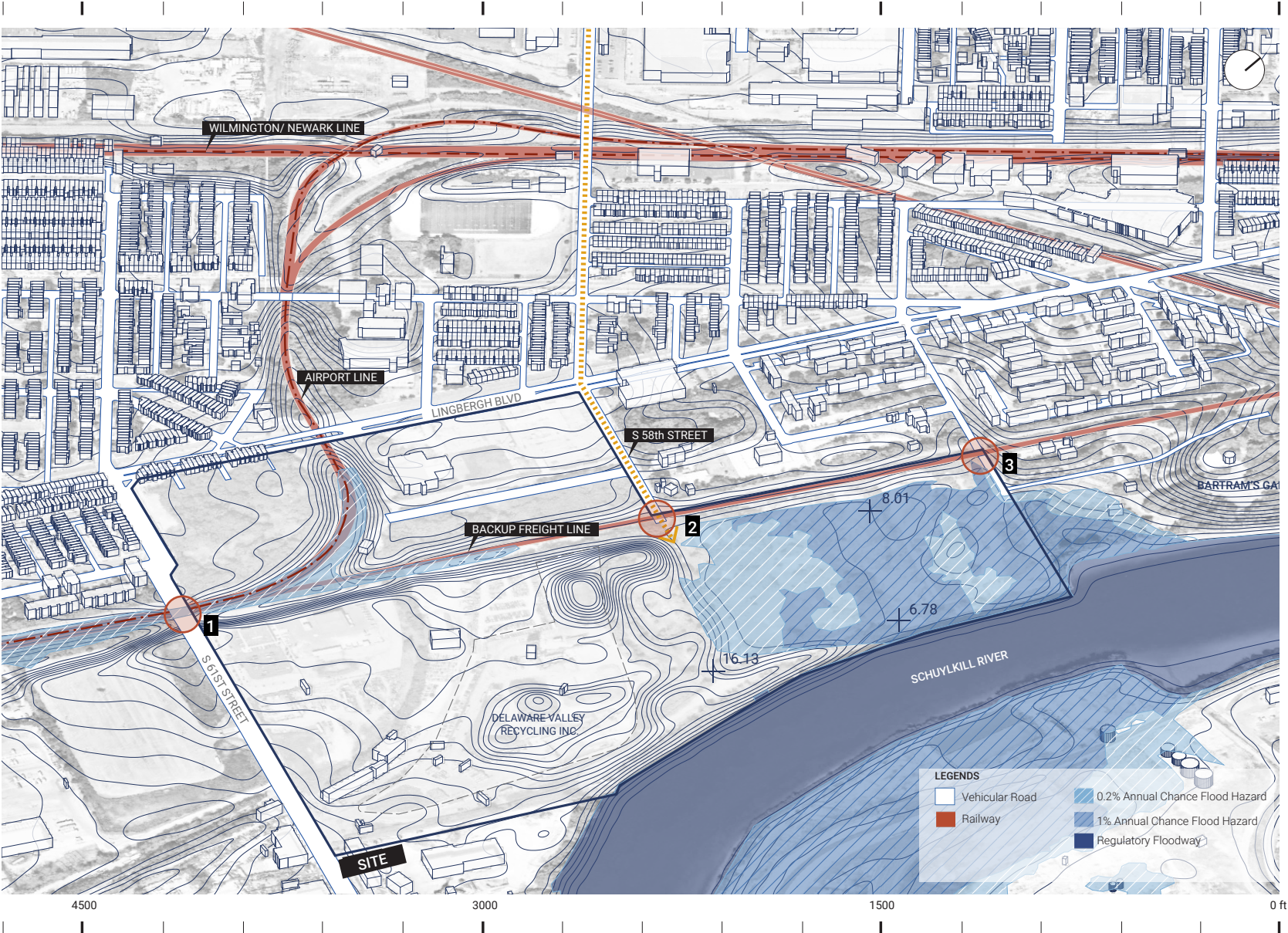


SITE VACANCY

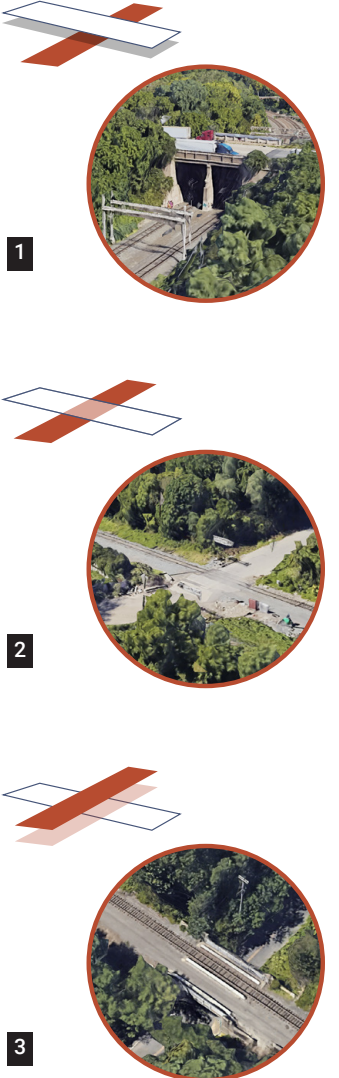


High vacancy and rich materiality collage are observed in the neighborhoods. There is material reuse in public spaces and house repair.

SITE ANALYSIS: PHYSICAL BARRIER TO RIVERFRONT

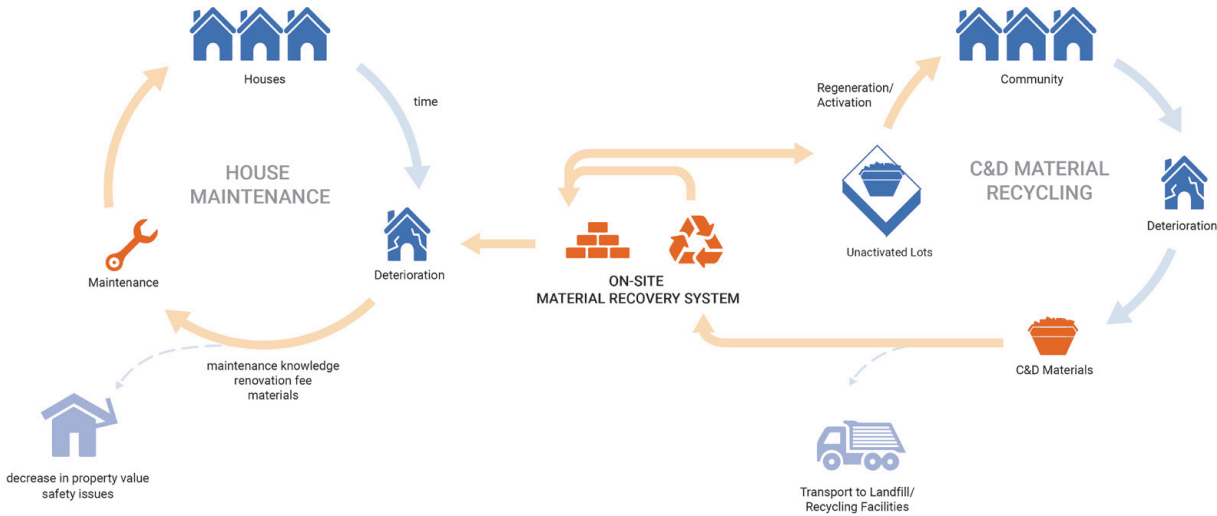
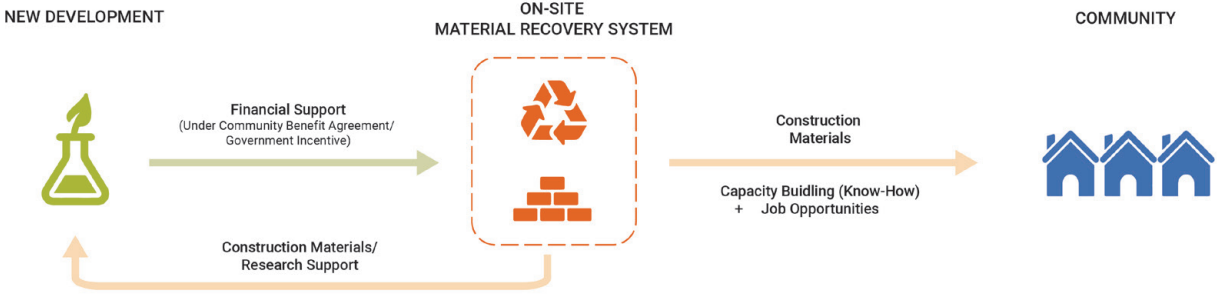


TYPES OF PHYSICAL SEPERATION



Community is separated from the riverfront by infrastructural level differences. The northern part of the site is threatened by flooding.

ALTERNATIVE SYSTEM & GOALS



URBAN MINING OF MATERIALS

EASTABLISH A MATERIAL UPCYCLING & RESEARCH HUB

- ▶ Unlock Potential of Construction & Demolition Materials On-Site
- ▶ Reduce Carbon Impact of New Construction through On-Site Reuse
- ▶ Support Material Research for Long-Term Development

MAINTENANCE + HOUSING

MITIGATE DISPLACEMENT THROUGH LONG-TERM HOUSE MAINTENANCE & KNOW-HOW

- ▶ Mitigate Displacement through Continuous Housing Maintenance Support and Know-How
- ▶ Supply Materials for Future Housing/ Infill Housing Construction

VIBRANT & DIVERSE COMMUNITY

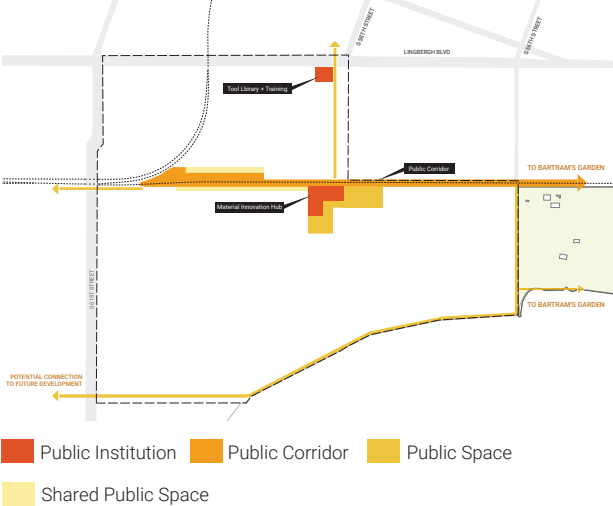
INTEGRATE EXISTING COMMUNITY & NEW DEVELOPMENT SPATIALLY AND MATERIALLY

- ▶ Reframe a New Common Ground between New Development & Existing Community through Shared Resources & Building Process
- ▶ Improve Accessibility within the Community for Better Inclusion
- ▶ Activate Vacant Lots in Community for Diverse Social Activities

Establishing an on-site material recovery and research system for re-routing unused material piles in order to reframe a common ground for community and development.

FRAMEWORK LAYERS

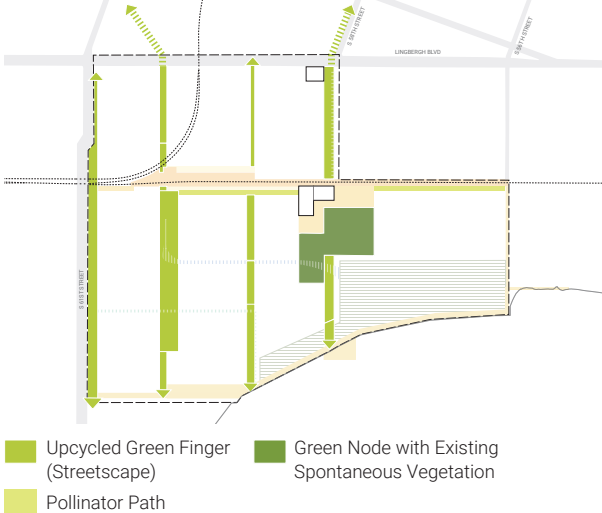
01 PUBLIC CORRIDOR



02 WATERFRONT



03 UPCYCLED GREEN FINGERS



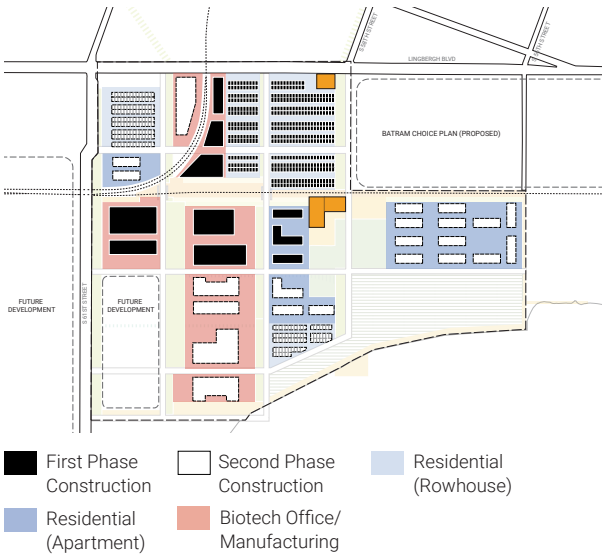
04 MATERIALITY SPINE



05 ACCESSIBILITY

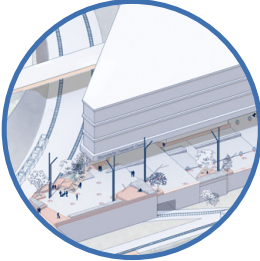


06 BUILDING



The system is embedded in a larger public-realm urban framework, structured by layers of public space, green space, stormwater management and materiality, for guiding future urban transformation in the neighborhoods.

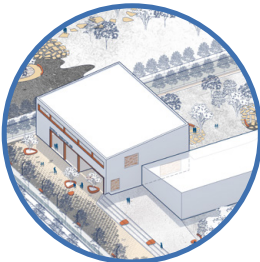
FRAMEWORK PLAN & KEY NODES



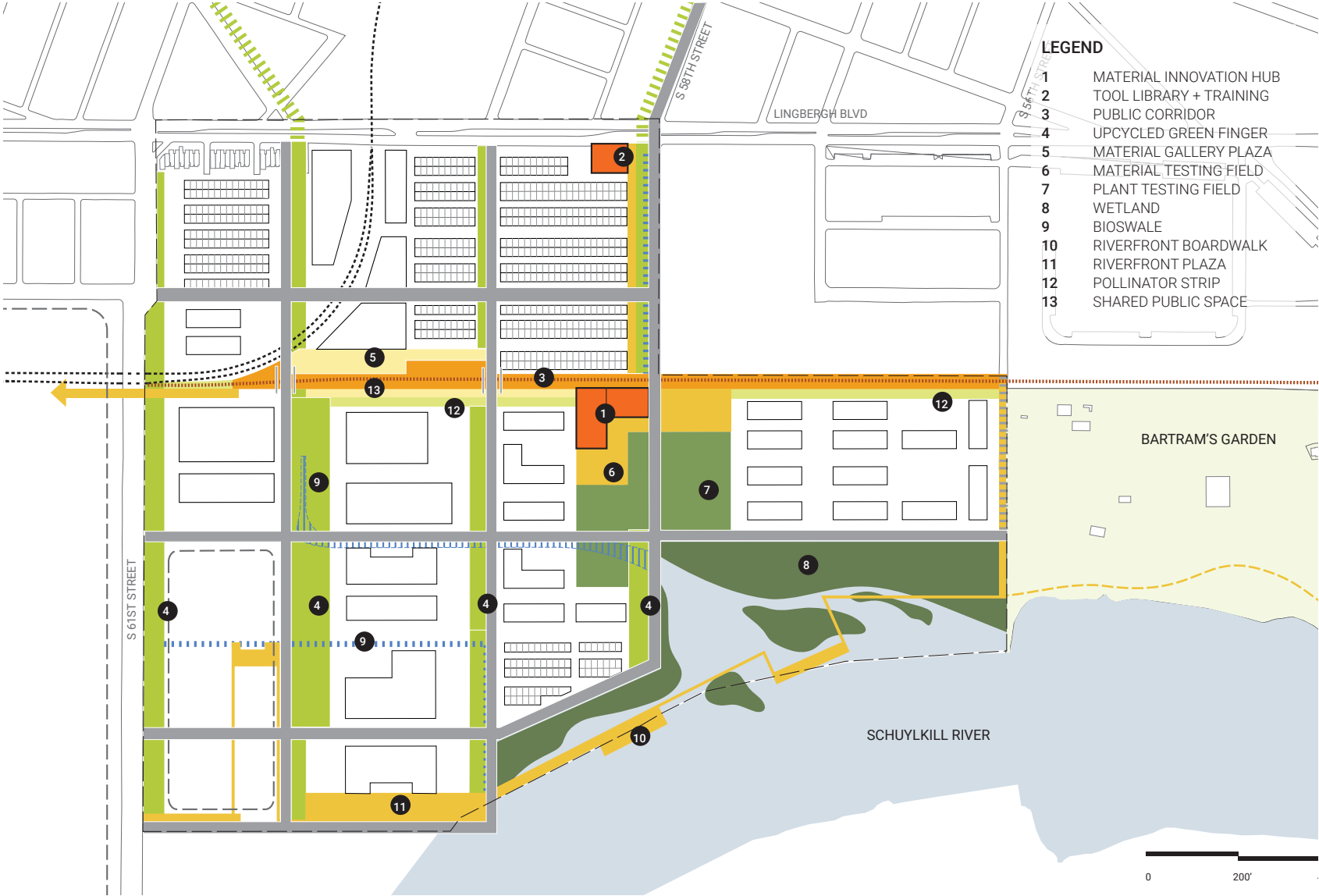
SECONDARY PUBLIC REALM
MATERIAL GALLERY PLAZA
+ TRANSIT NODE



CONNECTIVE SPACE
UPCYCLED GREEN FINGER



PRIMARY PUBLIC REALM
MATERIAL INNOVATION HUB
+ MATERIAL EXPERIMENT FIELD



- LEGEND**
- 1 MATERIAL INNOVATION HUB
 - 2 TOOL LIBRARY + TRAINING
 - 3 PUBLIC CORRIDOR
 - 4 UPCYCLED GREEN FINGER
 - 5 MATERIAL GALLERY PLAZA
 - 6 MATERIAL TESTING FIELD
 - 7 PLANT TESTING FIELD
 - 8 WETLAND
 - 9 BIOSWALE
 - 10 RIVERFRONT BOARDWALK
 - 11 RIVERFRONT PLAZA
 - 12 POLLINATOR STRIP
 - 13 SHARED PUBLIC SPACE

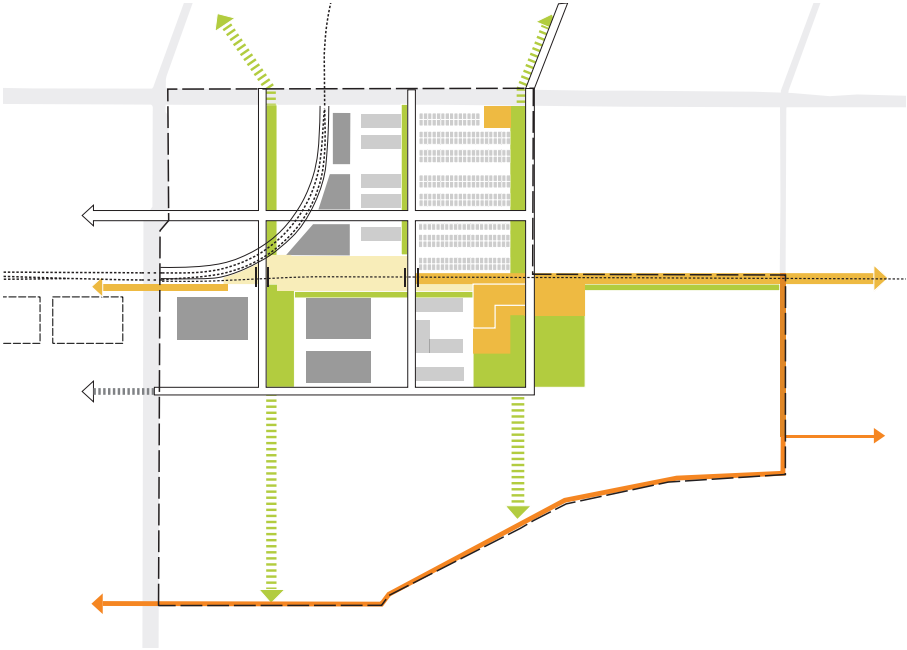
0 200'

Three key nodes in the framework include 1) Material Innovation Hub & Material Experiment Field (primary public realm), 2) Terraced Brick Plaza & Transit Node (secondary public realm), and 3) Upcycled Green Finger (connective spaces).

INVESTMENT SCENARIOS

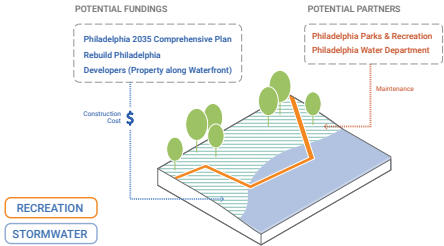
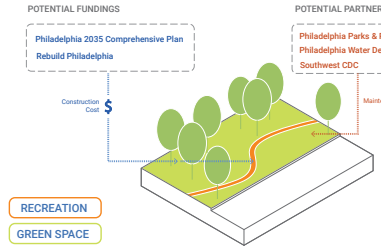
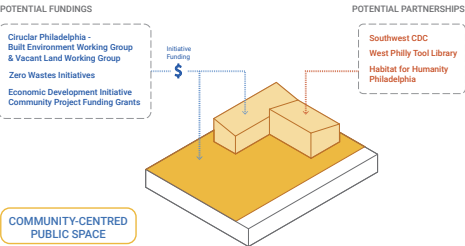
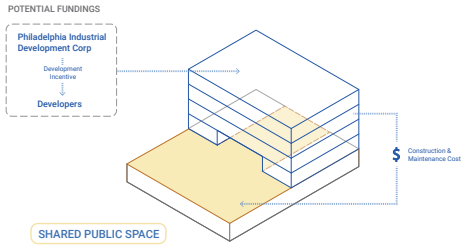
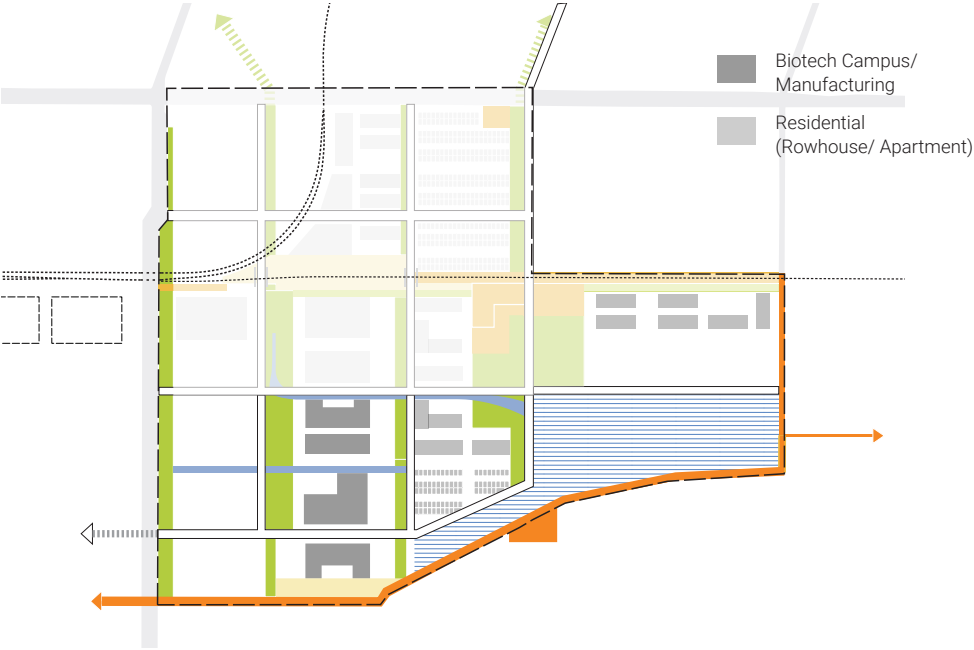
LOW INVESTMENT SCENARIO

Socio-economic oriented



HIGH INVESTMENT SCENARIO

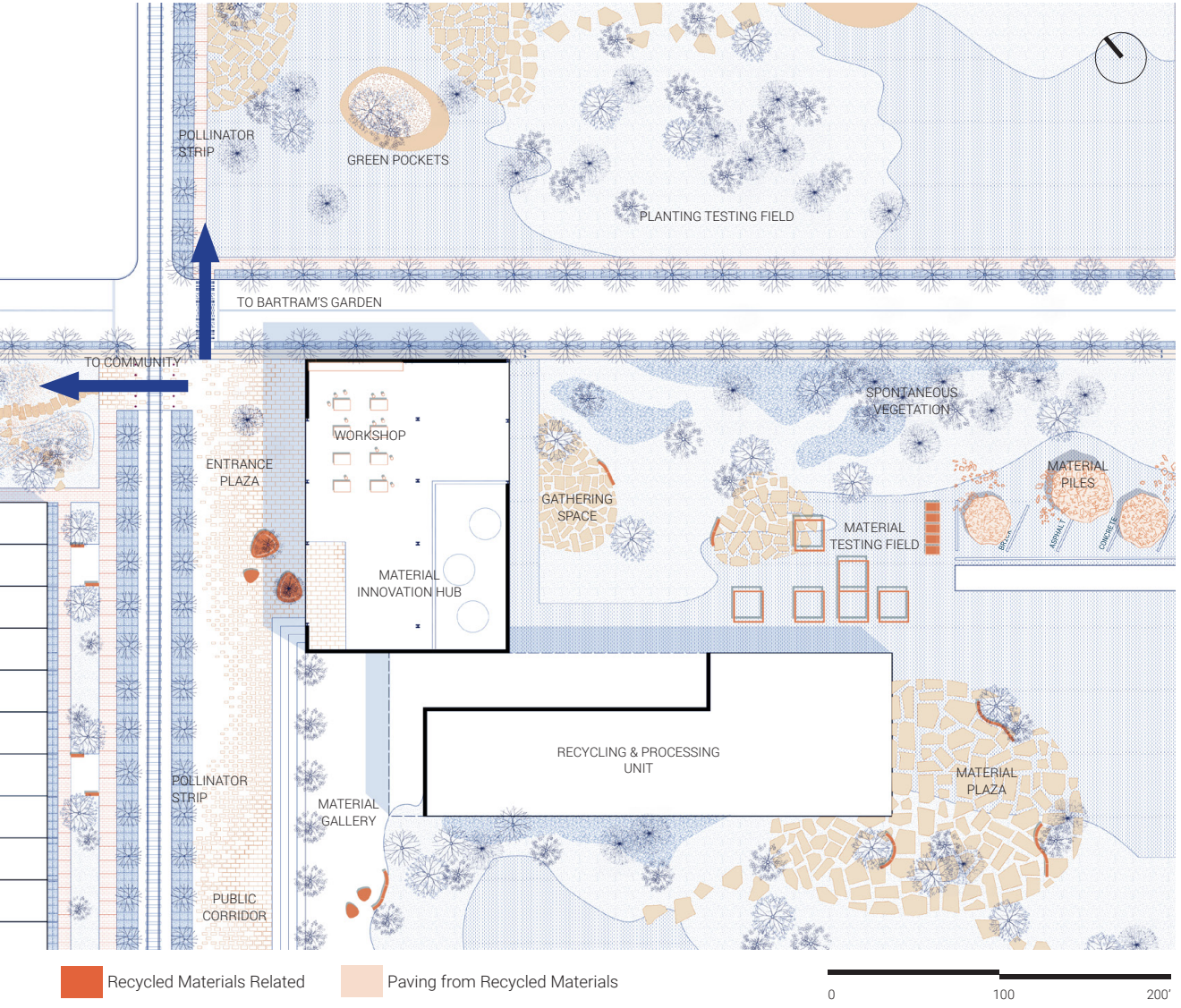
Socio-economic + environmental oriented



Catalytic components are identified in low-investment scenarios. Relationships between supporting policy, partnerships and funding are considered in different types of public spaces.

PRIMARY PUBLIC SPACE

MATERIAL INNOVATION HUB + MATERIAL TESTING FIELD



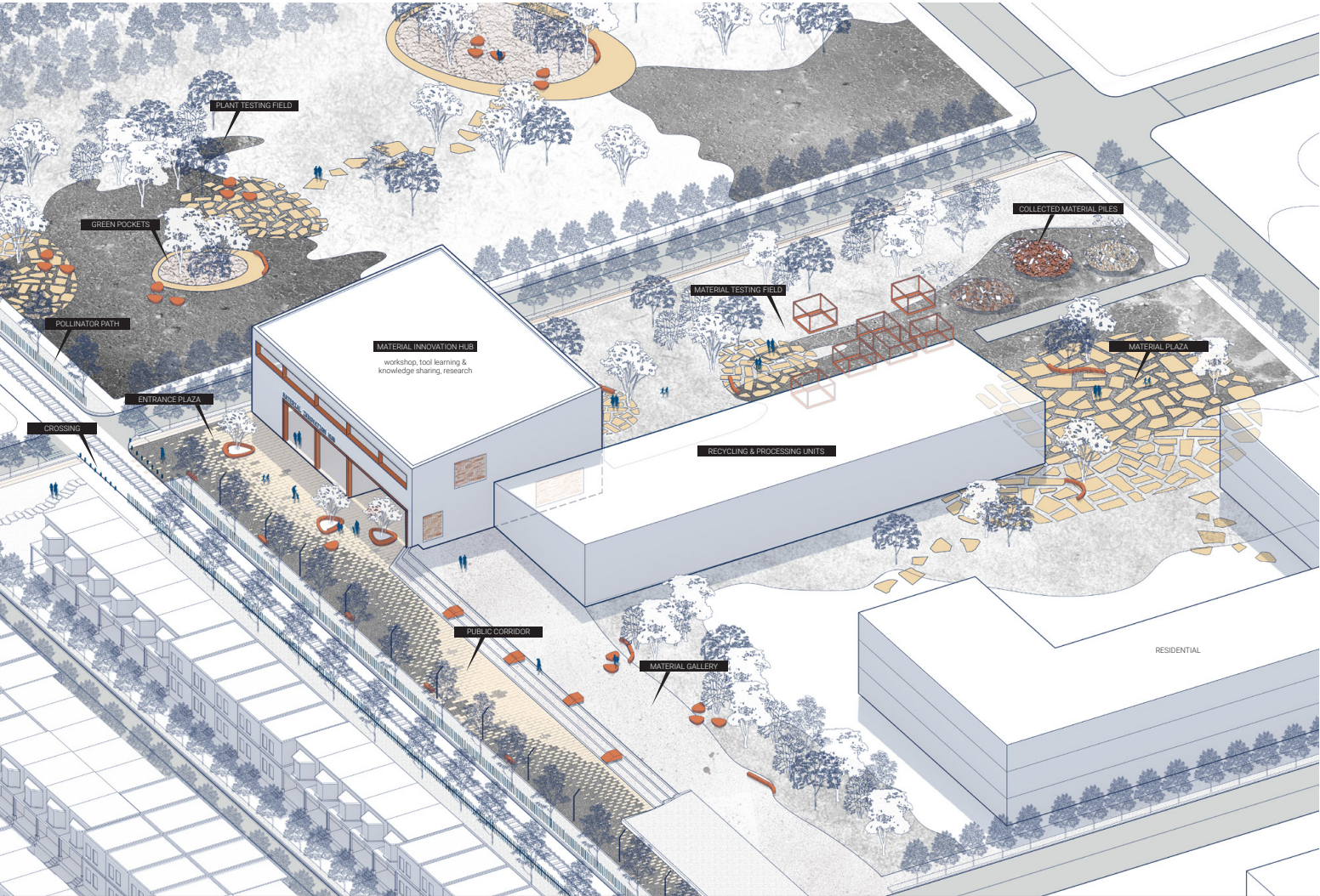
ENTRANCE PLAZA & MATERIAL INNOVATION HUB



MATERIAL TESTING FIELD

Material Innovation Hub includes community workshop, recycling & processing, research, and material testing field. This enables community capacity building (know-how), recycled materials for house maintenance and vacant lots activation, as well as potential material research of the incoming biotech industry.

PRIMARY PUBLIC SPACE MATERIAL INNOVATION HUB + MATERIAL TESTING FIELD



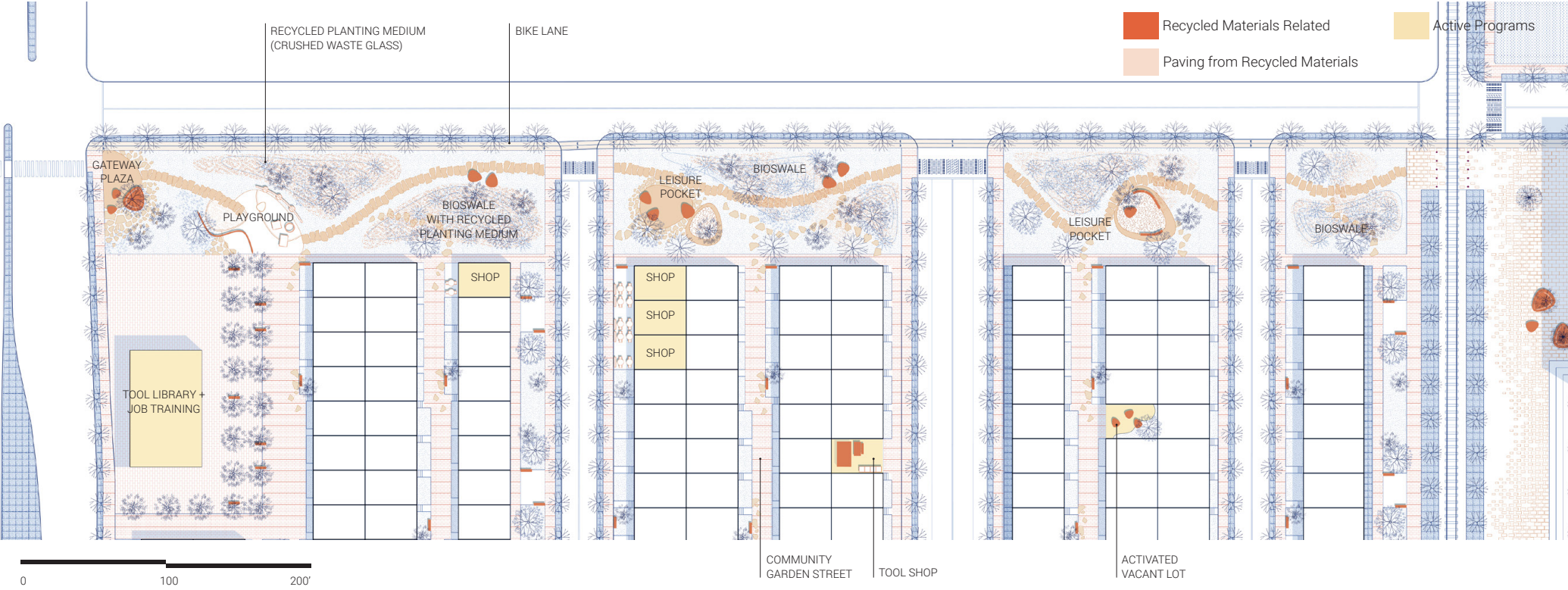
ENTRANCE PLAZA & MATERIAL INNOVATION HUB



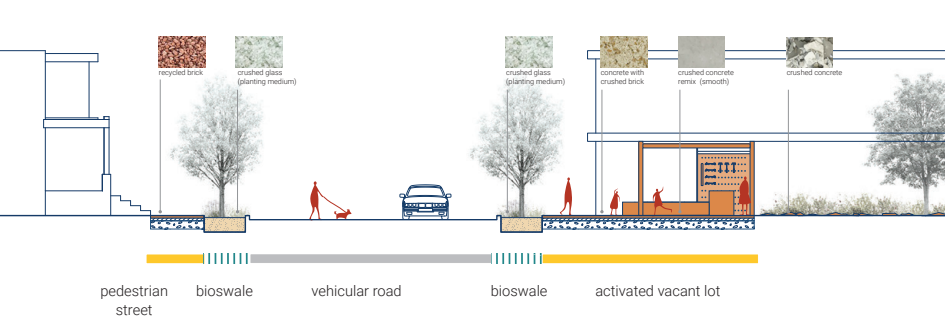
MATERIAL TESTING FIELD

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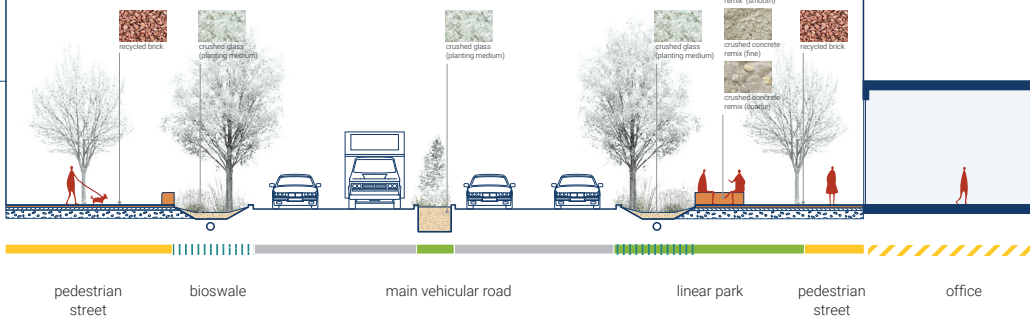
CONNECTIVE SPACE UPCYCLED GREEN FINGER



GREEN FINGER INTERFACE WITH RESIDENTIAL

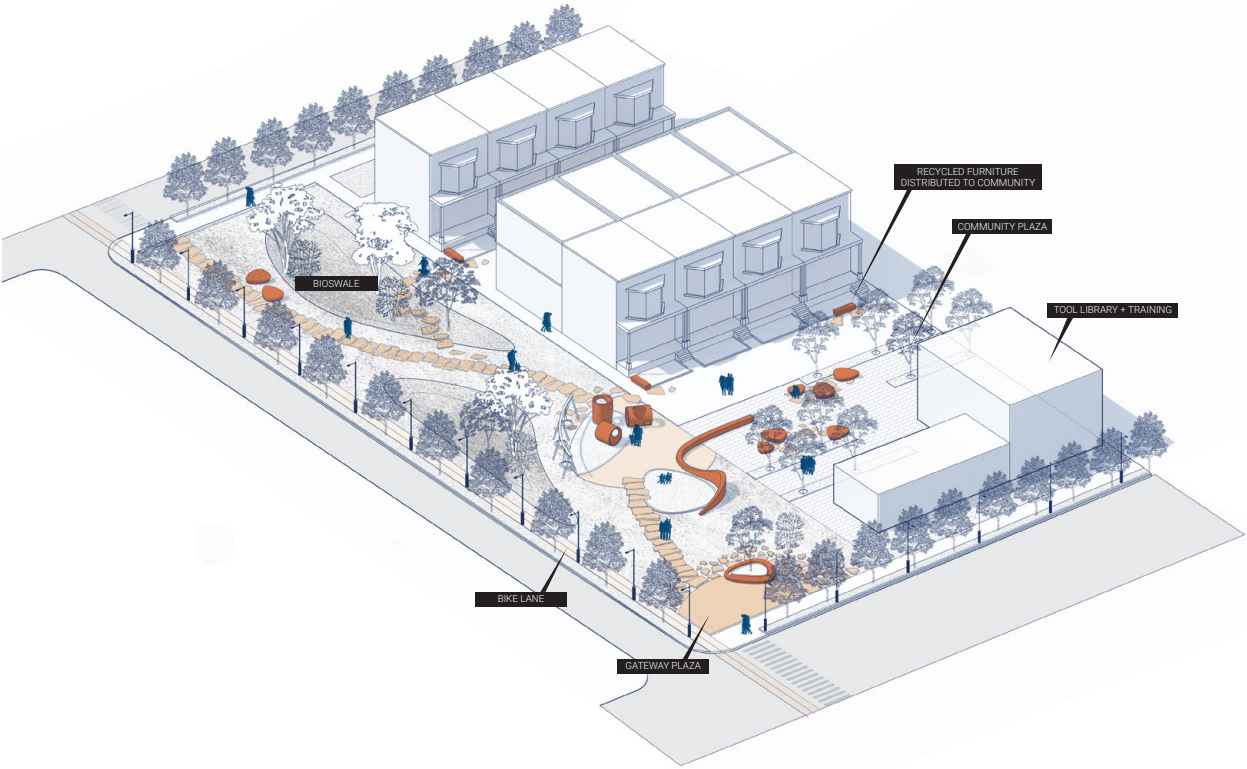


GREEN FINGER INTERFACE WITH BIOTECH CAMPUS

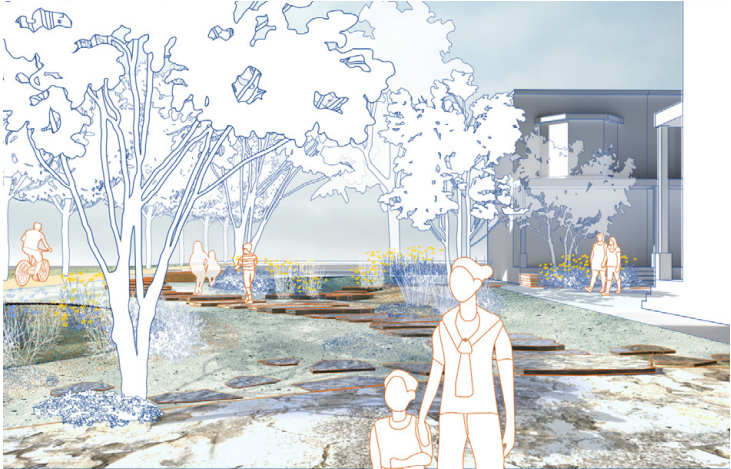


Upcycled Green fingers connect existing communities, new development areas and riverfront. They are constructed with recycled materials in terms of paving, furniture and planting medium.

CONNECTIVE SPACE UPCYCLED GREEN FINGER



Recycled Materials Related
 Paving from Recycled Materials



GREEN FINGER - GREEN POCKETS & BIOSWALE

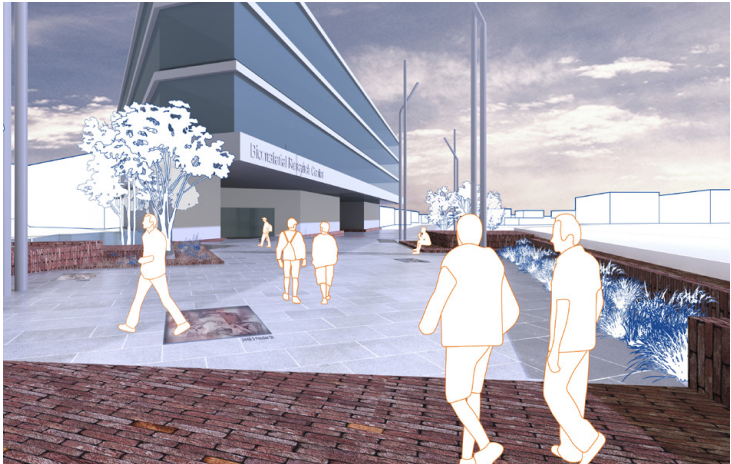
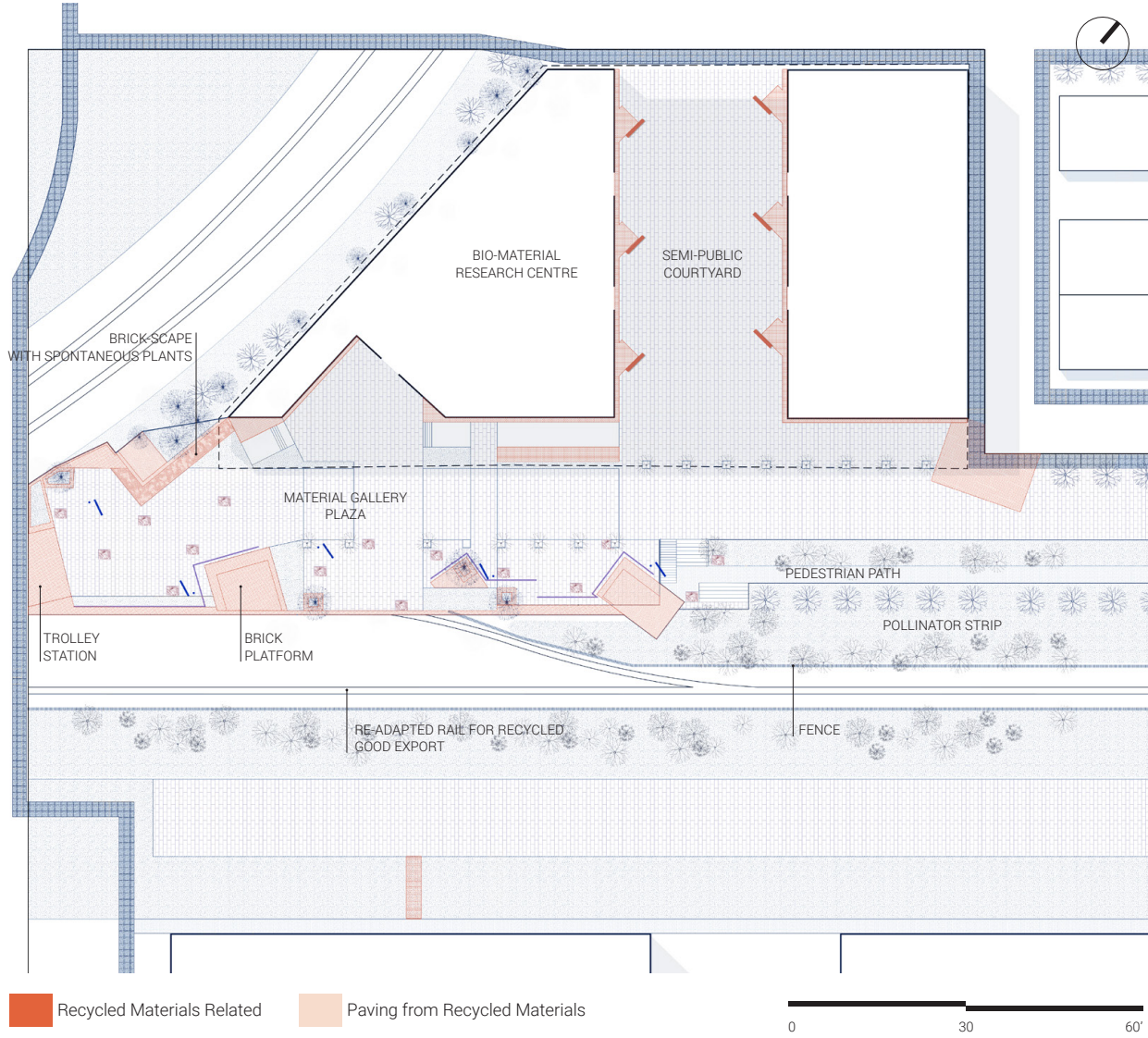


GREEN FINGER EXTENSION TO COMMUNITY

These linear spaces support various daily recreational and social activities (gathering, jogging, biking, passive leisure, playground), while their bioswales help with stormwater management.

SECONDARY PUBLIC REALM

MATERIAL GALLERY PLAZA + TRANSIT NODE



TRANSIT NODE & ENTRANCE OF MATERIAL GALLERY PLAZA

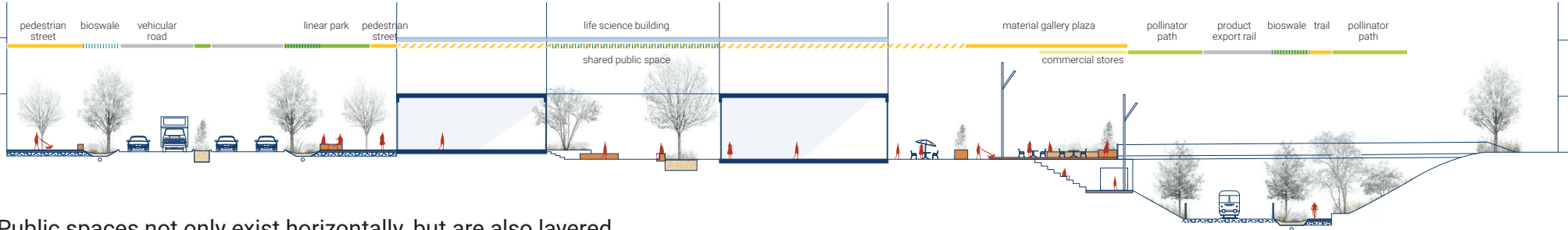
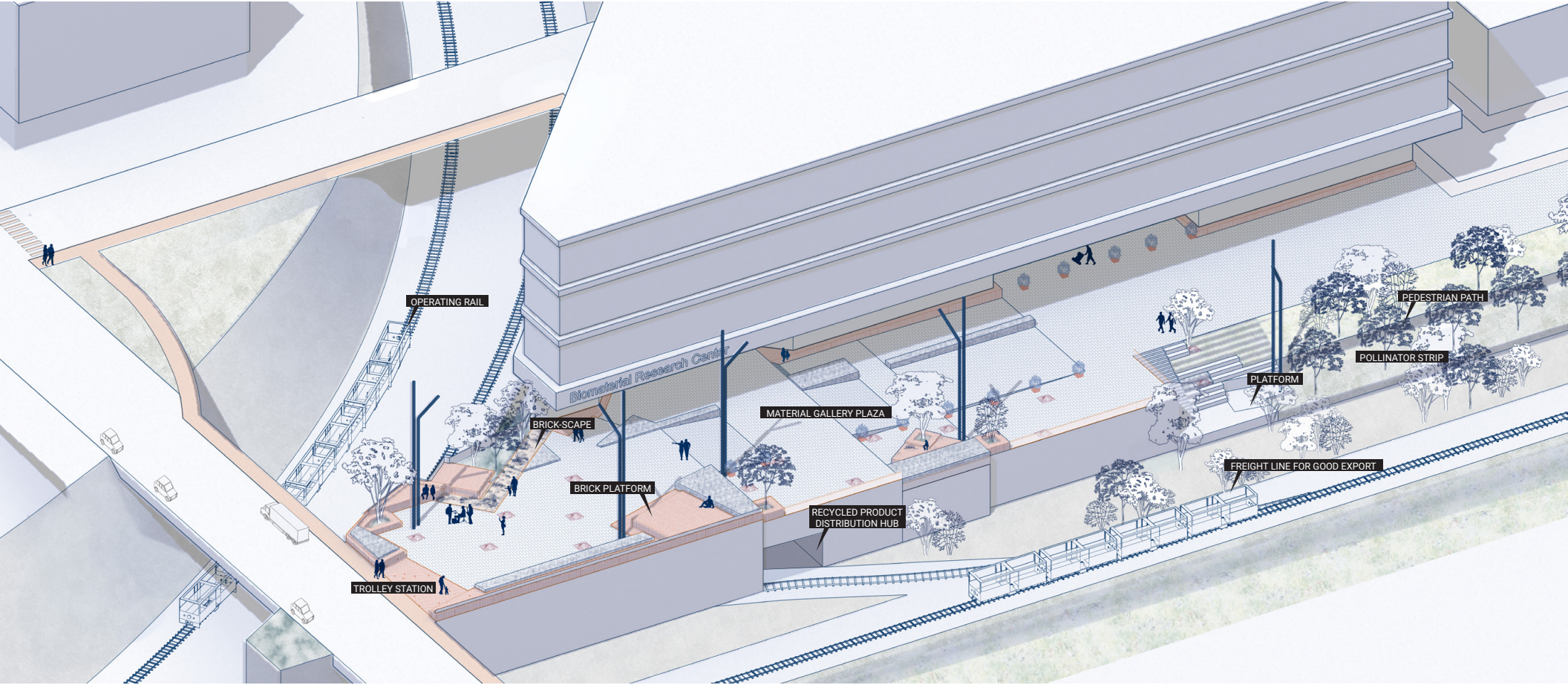


BRICKSCAPE IN SHARED PUBLIC SPACE OF NEW DEVELOPMENT

Terraced brick plaza is a design response to challenging accessibility conditions within the site. Shared infrastructure and public space form a more inclusive relationship between existing communities and new development. Recycled materials also start to shape the aesthetics and identity of anonymous new buildings and spaces.

SECONDARY PUBLIC REALM

MATERIAL GALLERY PLAZA + TRANSIT NODE



Public spaces not only exist horizontally, but are also layered vertically to negotiate between existing infrastructural level differences.