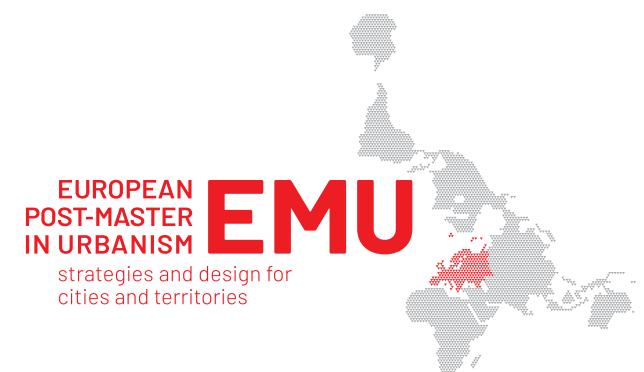


Looking for alternatives in the city of the slopes

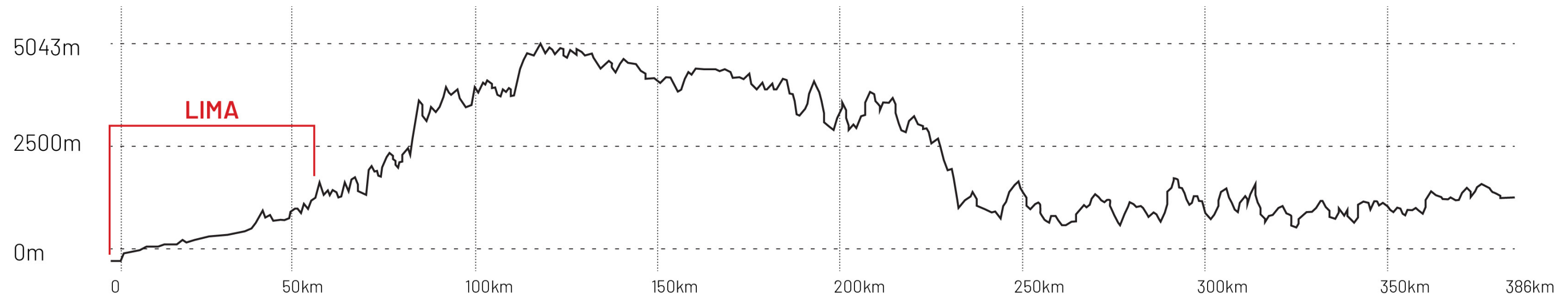
Housing as a process to reduce socio spatial segregation in Lima, Peru

Pablo Muñoz Unceta / Graduation project / European Master of Urbanism / TU Delft.
Mentors: Birgit Hausleitner (TUD), Marcin Dabrowski (TUD), Joaquín Sabaté (UPC)



1. The city of the slopes
2. Looking for alternatives
3. Housing as a process to reduce socio spatial segregation in Lima, Peru
4. Reflection and conclusions

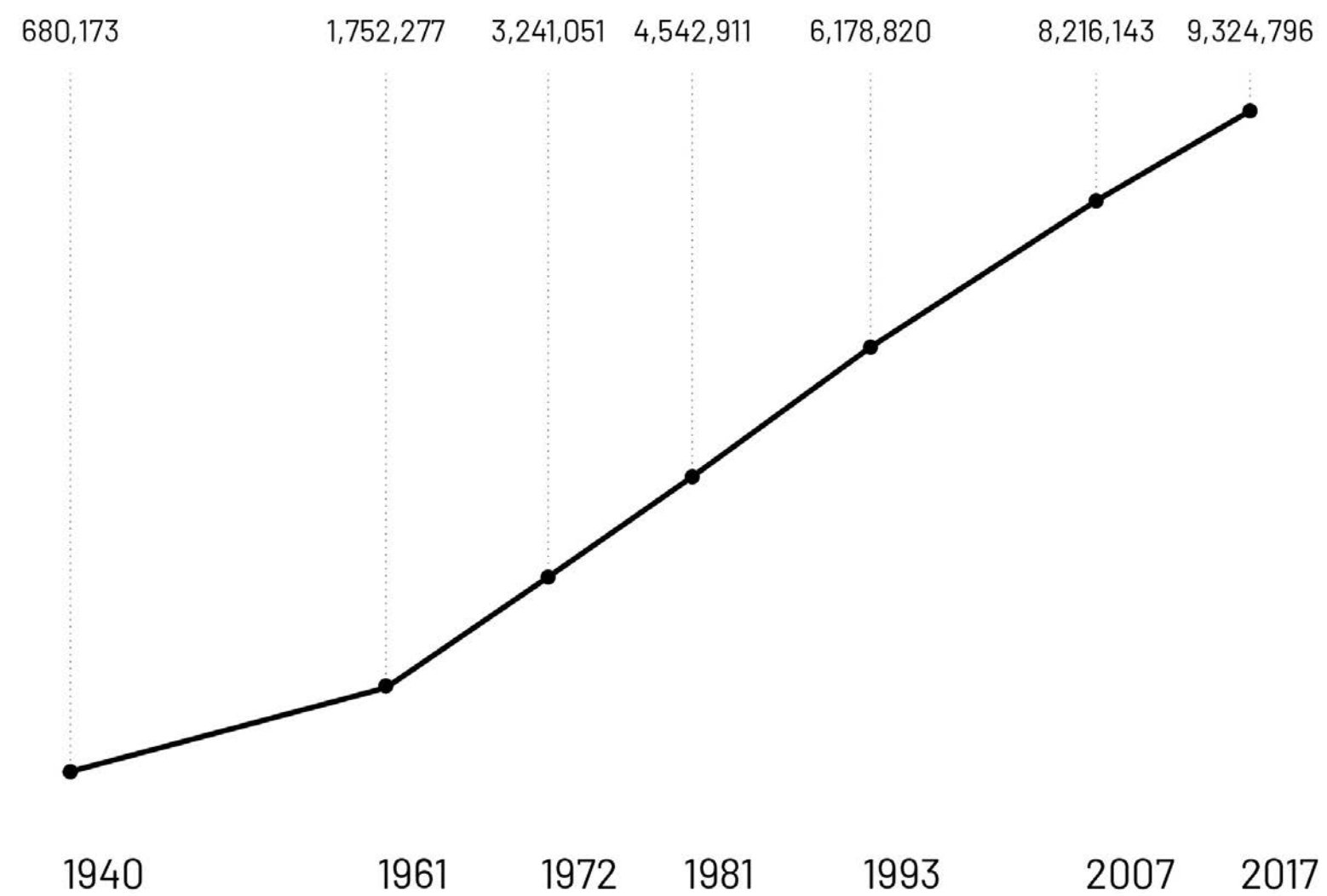
1. THE CITY OF THE SLOPES



Left: **Costa Verde (Miraflores), 2010.** Source: Cole Williams.

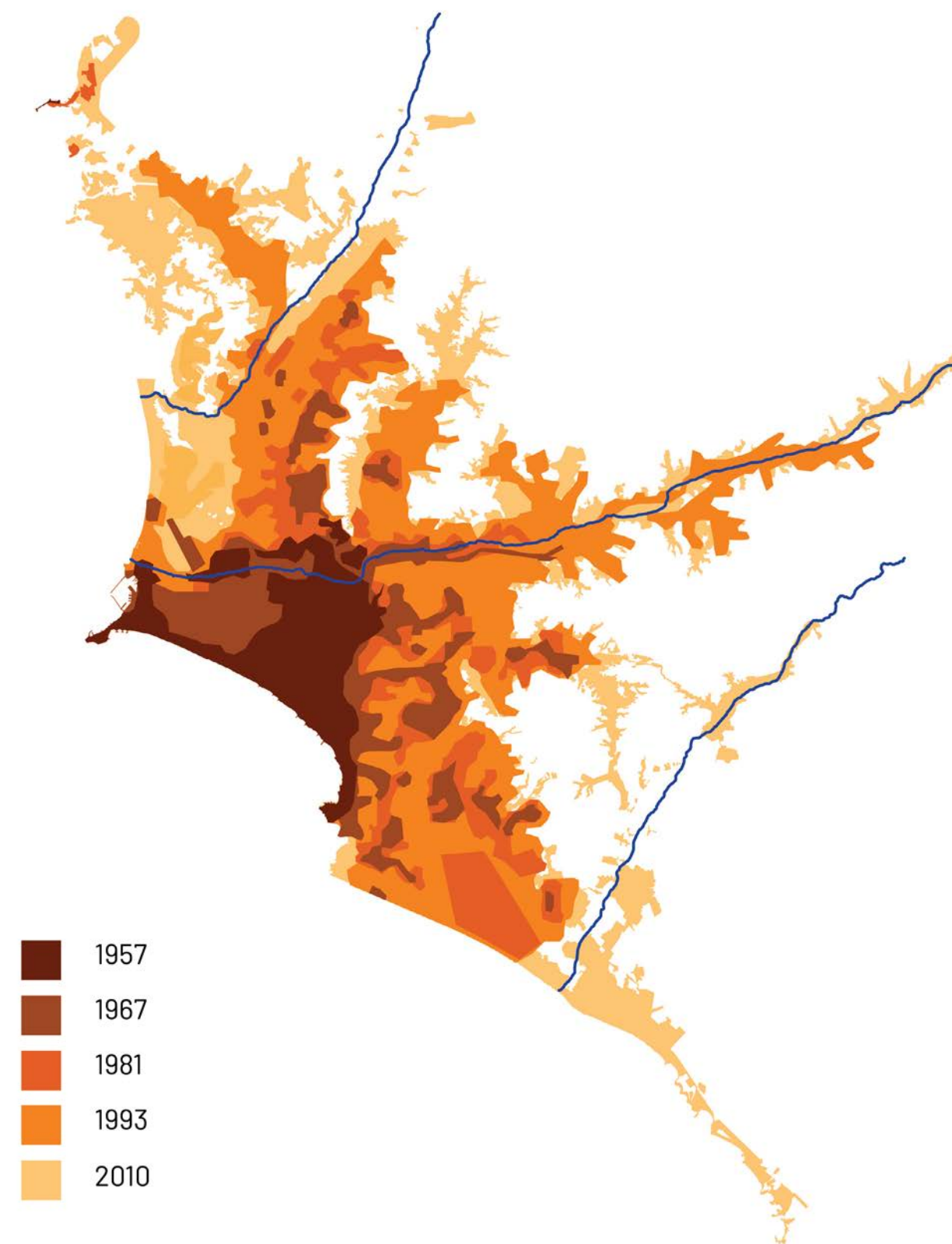
Right: **Urban settlements on the slopes and Atocongo cement factory (Villa María del Triunfo).** Source: BarrioMío, 2013.

Bottom: **Cross-section of the Andes mountains.** Done by the author, topographic data from google earth



Lima's population growth.

Done by the author with data from INEI (National Institute of Statistics and Informatic, Peru)



Urban expansion of Lima in the 20th century.

Developed by the author with data from Matos Mar, J. (2010) Estado Desbordado y Sociedad Nacional Emergente. Universidad Ricardo Palma.



Costa Verde. Lima, Peru. Source: Altavoz.pe (<https://altavoz.pe/2015/05/12/10067/historia-de-la-costa-verde>)



Violeta Correa settlement in the periphery of Lima.

Source: Matos Mar, J. (2010) Estado Desbordado y Sociedad Nacional Emergente. Universidad Ricardo Palma.



Housing developments in Lima. Source: [eleconomistaamerica.pe](https://www.eleconomistaamerica.pe/economia-eAm-peru/noticias/8224082/03/17/CL-Programa-de-viviendas-sociales-impulsara-la-economia.html)
<https://www.eleconomistaamerica.pe/economia-eAm-peru/noticias/8224082/03/17/CL-Programa-de-viviendas-sociales-impulsara-la-economia.html>



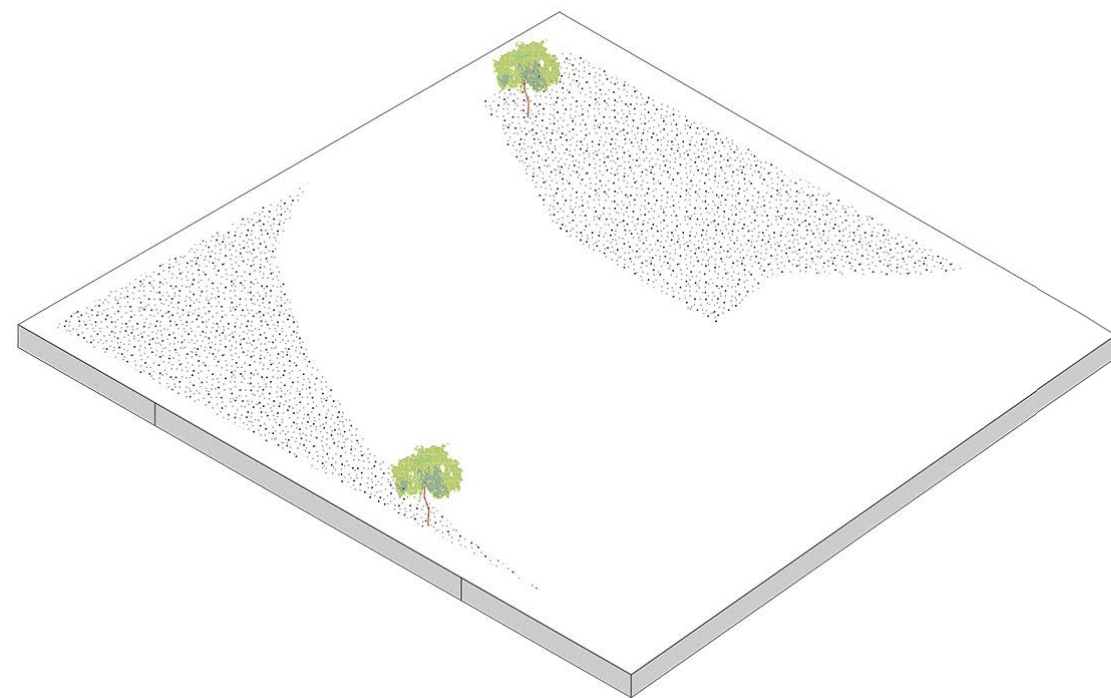
Unidad Vecinal 3 (1946-1949), Lima 1955. Source: © CNV



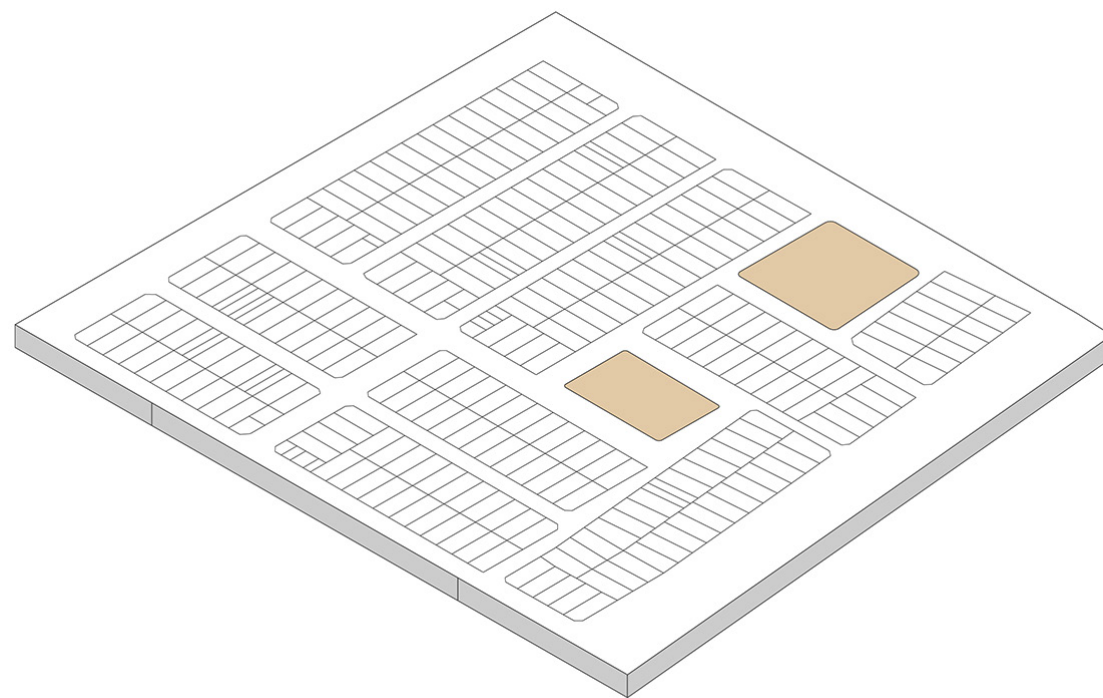
Slopes in Valle Amauta. Ate, Lima, Peru. Taken by the author.



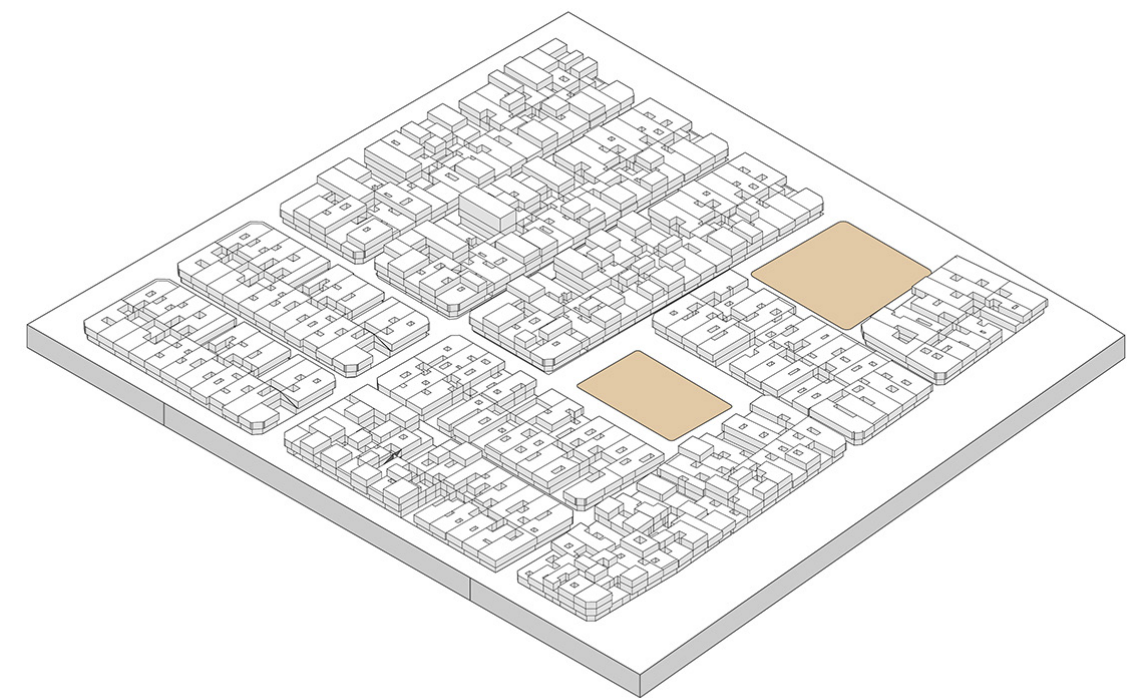
15th July Avenue in in Huaycán, 2012. Ate, Lima, Peru. Source: BarrioMio (Municipality of Lima, 2013)



ORIGINAL ENVIRONMENT



DECISION MAKING PROCESS



OUTCOME OF THE
TRANSFORMATION

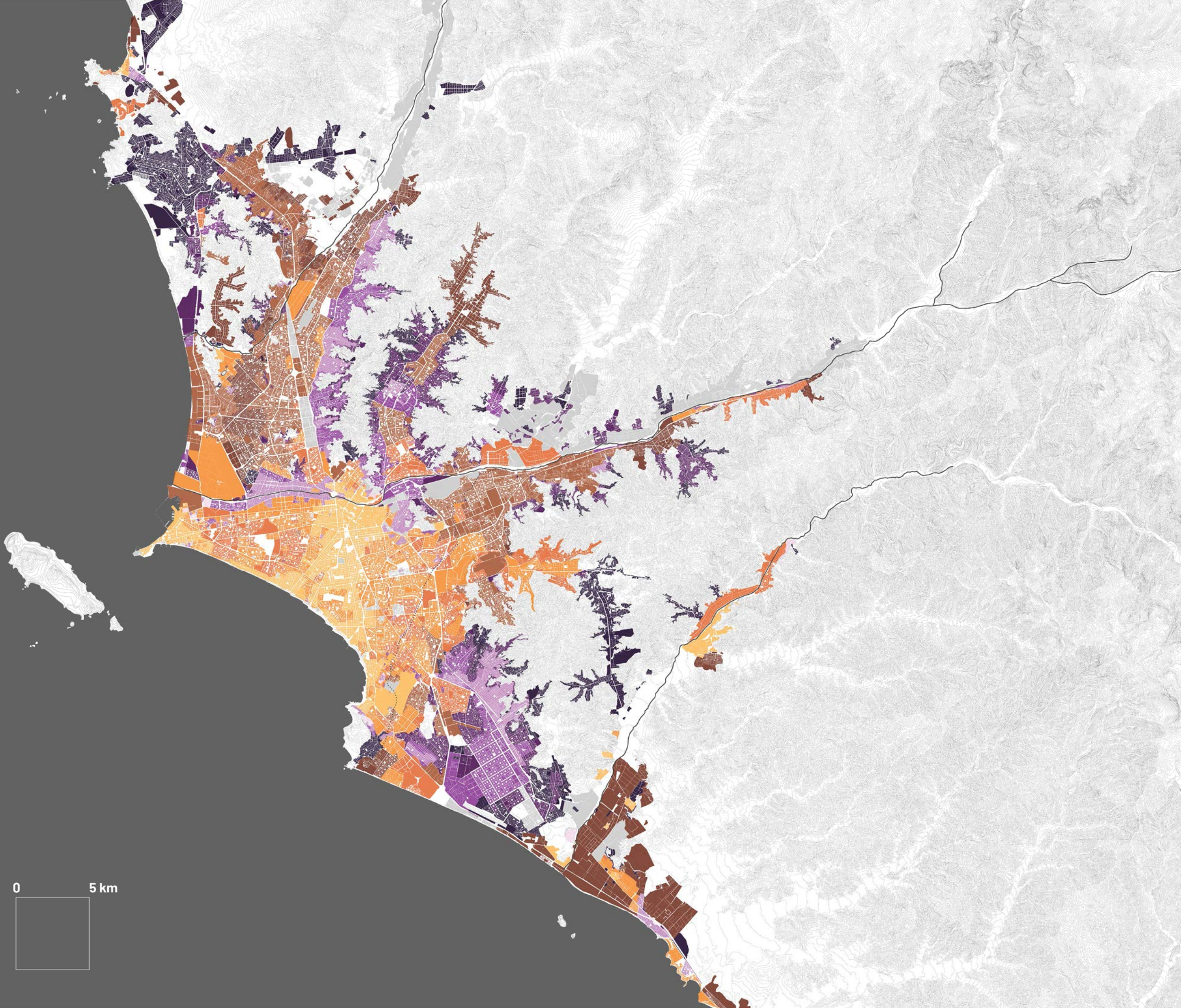
Problem statement

The process of urban development that has taken place in Lima, along with control of the space, has created a segregated city.

Control

“territorial control is the ability to close a space, to restrict entry”

(John Habraken, 2000)



Origin of development

Formal

- before 1940
- 1940 - 1963
- 1963 - 1975
- 1975 - 1990
- 1990 - 2013

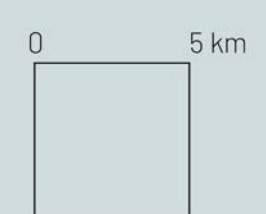
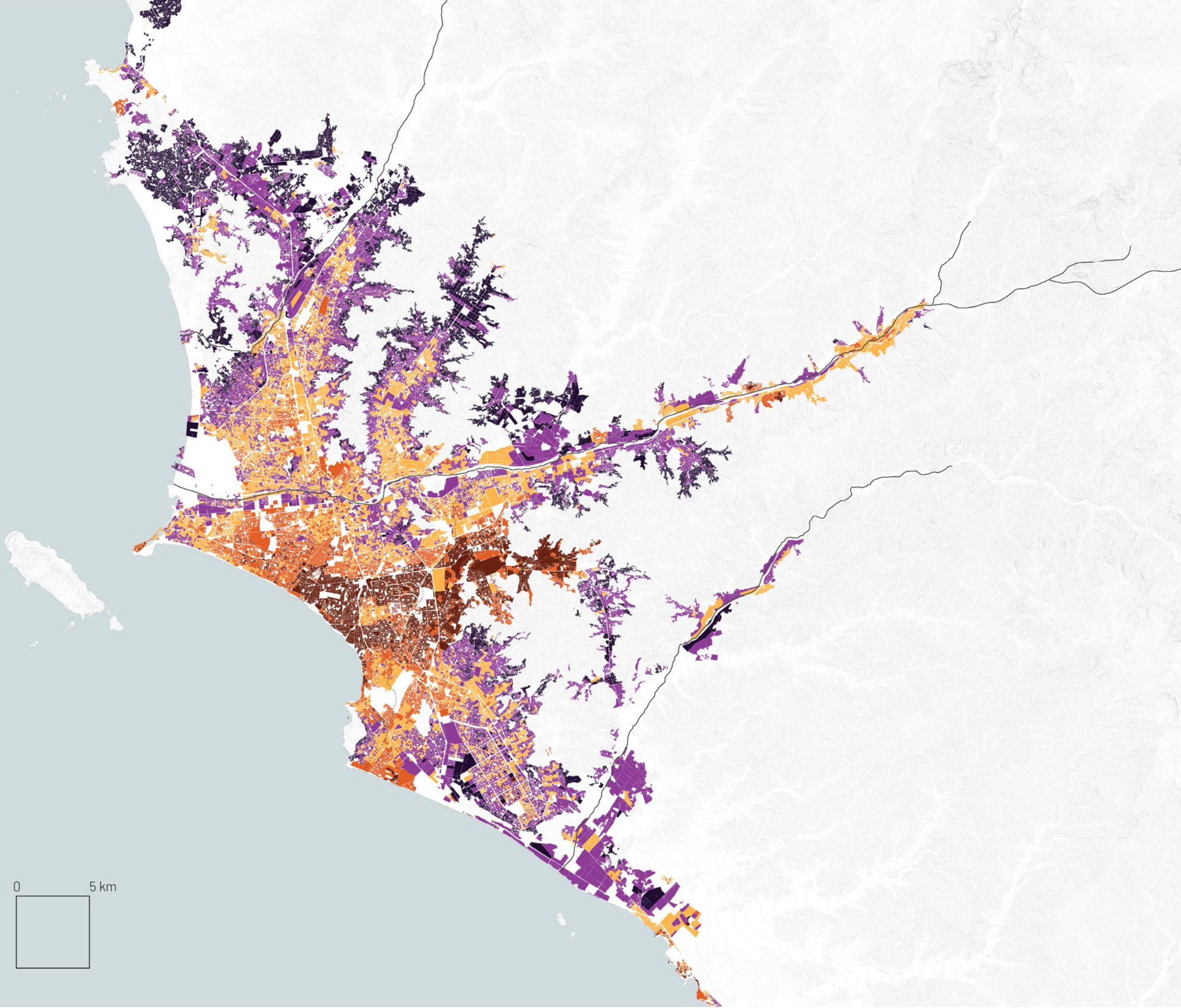
Informal

- before 1940
- 1940 - 1963
- 1963 - 1975
- 1975 - 1990
- 1990 - 2013

No data



Comas and El Ermitaño in 1962. Picture by John Turner
Source: Matos Mar, José (2012). Perú, Estado Desbordado y Sociedad Nacional Emergente. Universidad Ricardo Palma



Average income by person according to socio-economic classification 2013
(Nuevos Soles / USD)

Low	less than 575.70 / less than 205.61
Middle low	575.70 - 898.99 / 205.61 - 321.06
Middle	899.00 - 1,330.09 / 321.07 - 475.02
Middle high	1,330.10 - 2,192.19 / 475.03 - 782.93
High	more than 2,192.19 / more than 782.93

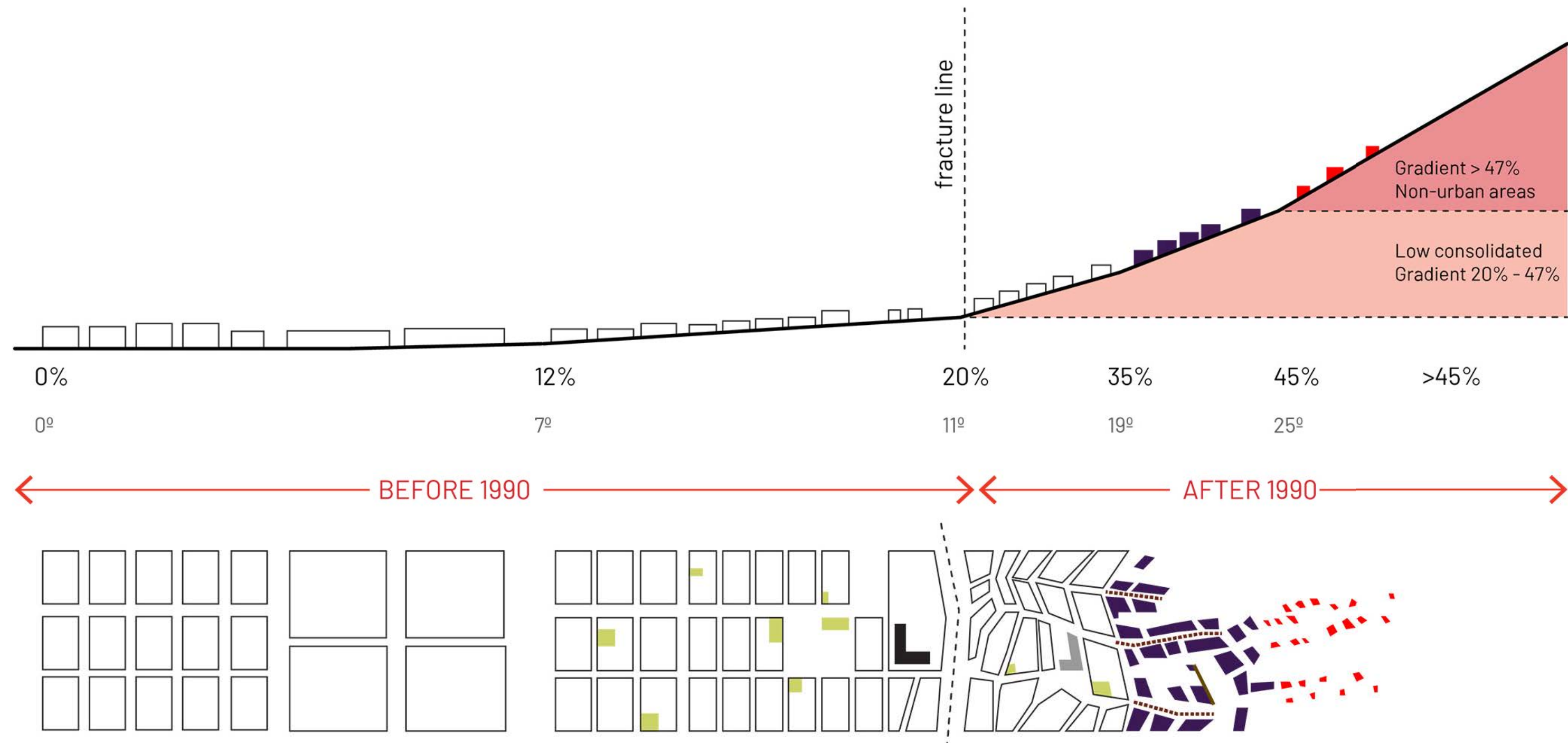
Developed by the author with data from INEI 2013

1. The city of the slopes



Parcellation and street drawn with chalk on the slopes of Pérez de Cuéllar, San Juan de Lurigancho (2014)

Photo taken by the Carolina Huamán. Source: Municipality of Lima, 2013



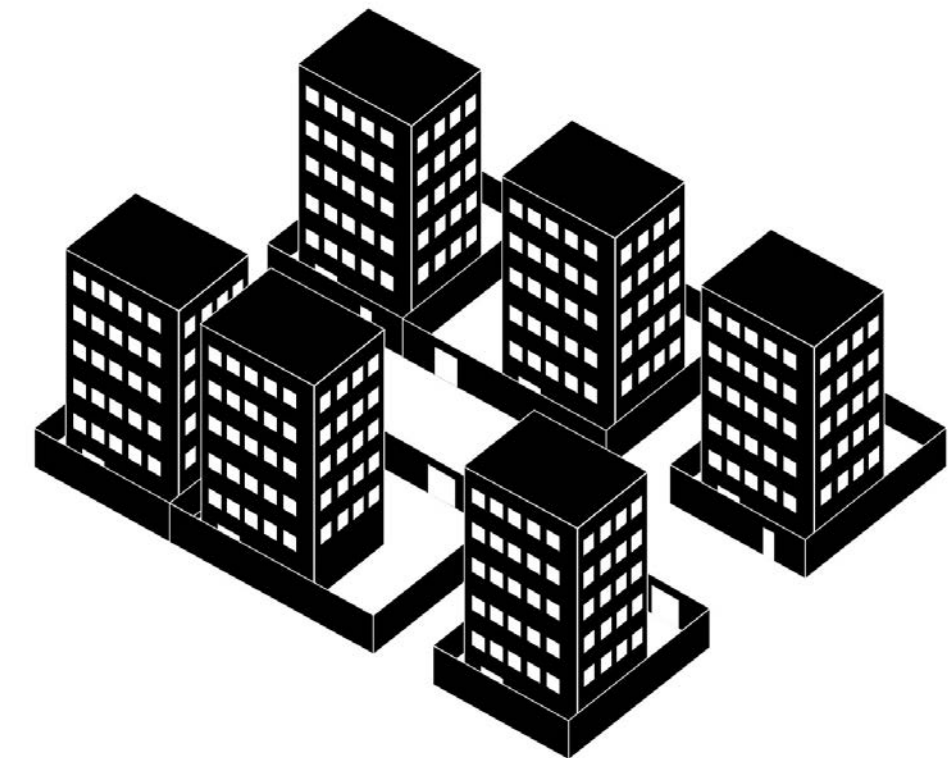
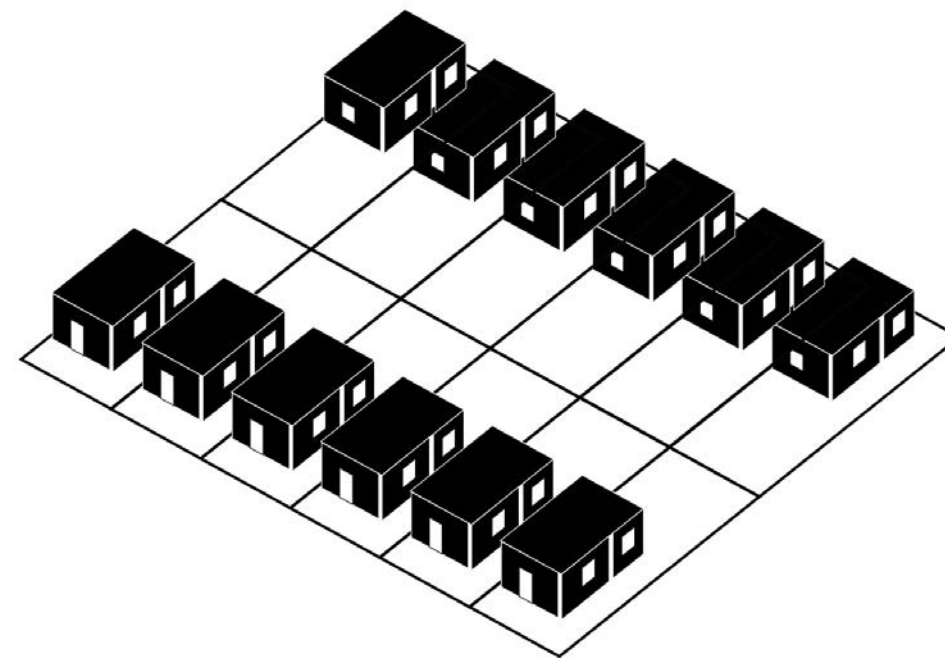
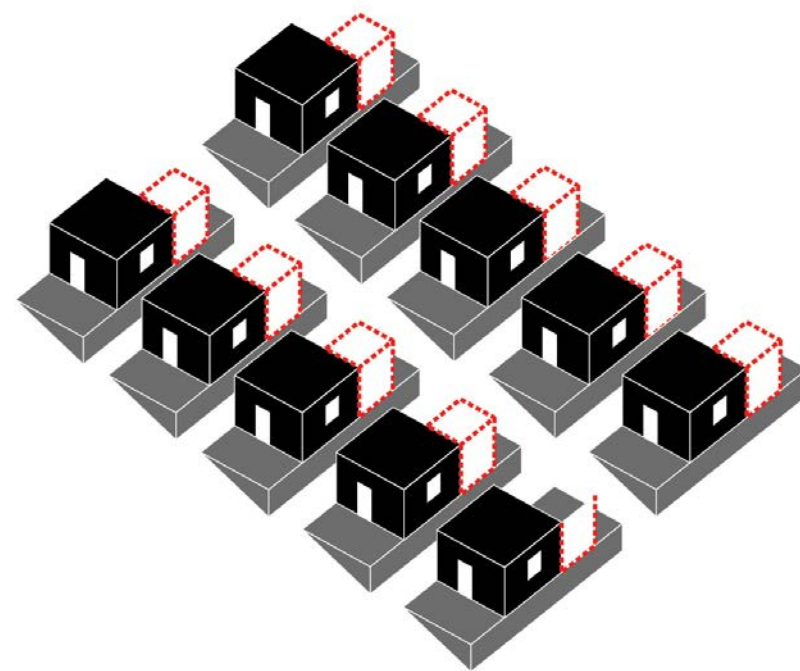
Classification of areas according to slopes gradients in Lima.
 Developed by the author, based on Municipality of Lima, 2013 and Conurb, 2016

The fracture line in El Ermitaño in Independencia district.
Picture taken by the author



1. The city of the slopes

Housing



Housing policies focus on the house, the plot or the building as an object

(1) Subsidies to structural reinforcement (Bono de reforzamiento estructural)

(2) Subsidies to buy or build a basic housing unit (Bono Techo Propio)

(3) Subsidies to access a mortgage (Nuevo crédito Mi Vivienda).

Source: Developed by the author



Commercial visualization of Santa Clara Housing Complex in Ate. Lima, Peru. Source: Madrid Ingenieros, 2019.
<http://www.madridingenieros.com/proyectos-en-venta/residencial-santa-clara/>



Panamericanos: departamentos de Villa de Atletas son ecoamigables

Publicado: enero 11, 2019 — en: Construcción/Noticias

Athletes residences for Lima's Panamerican Games, 2019. They will be sold under Mi Vivienda housing credit after the games

Source: DIPRIMIN, 2019. Diario Digital de Minería, Energía y Construcción

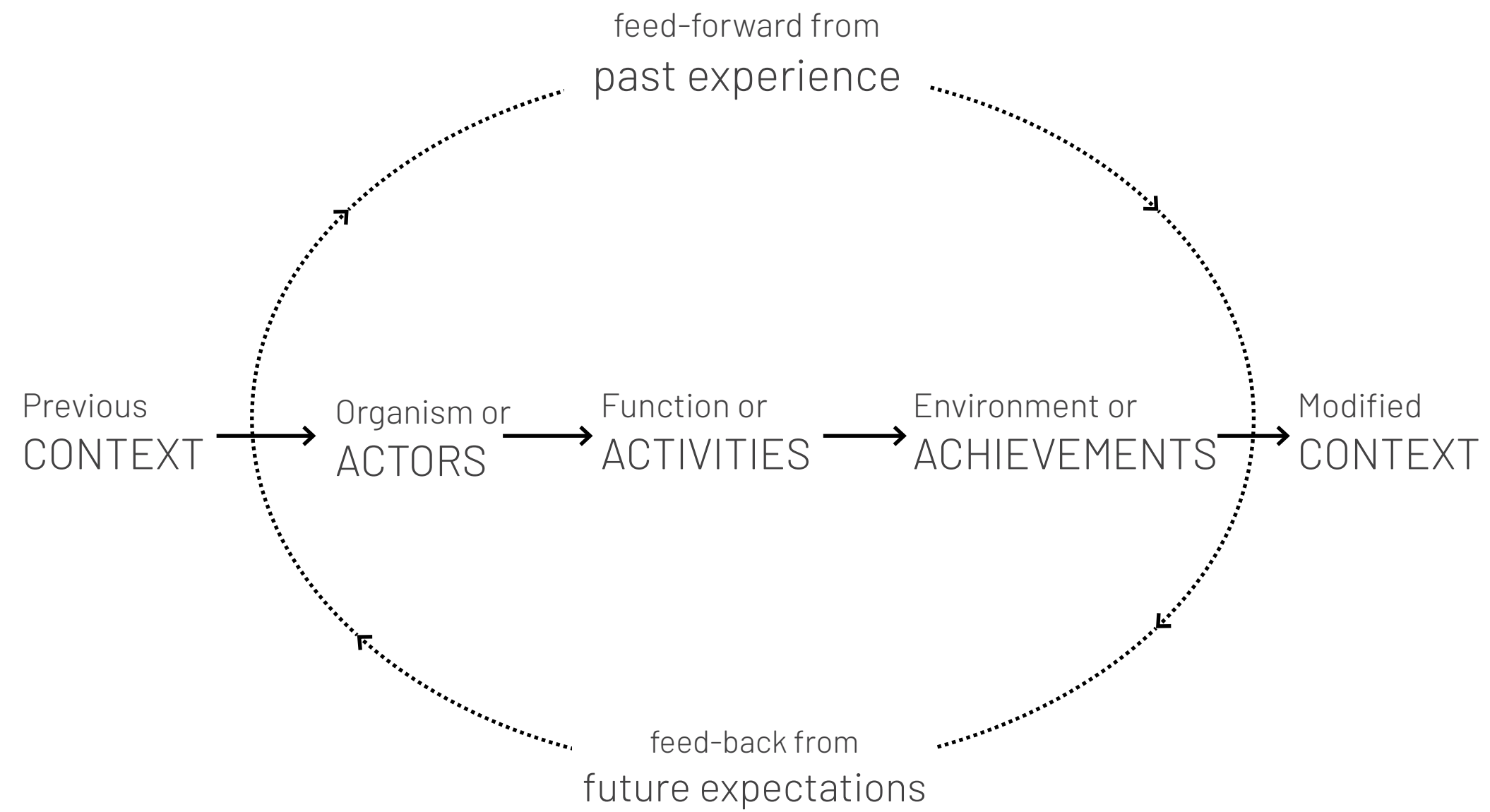
<https://www.dipromin.com/noticias/panamericanos-departamentos-de-villa-de-atletas-son-ecoamigables/>



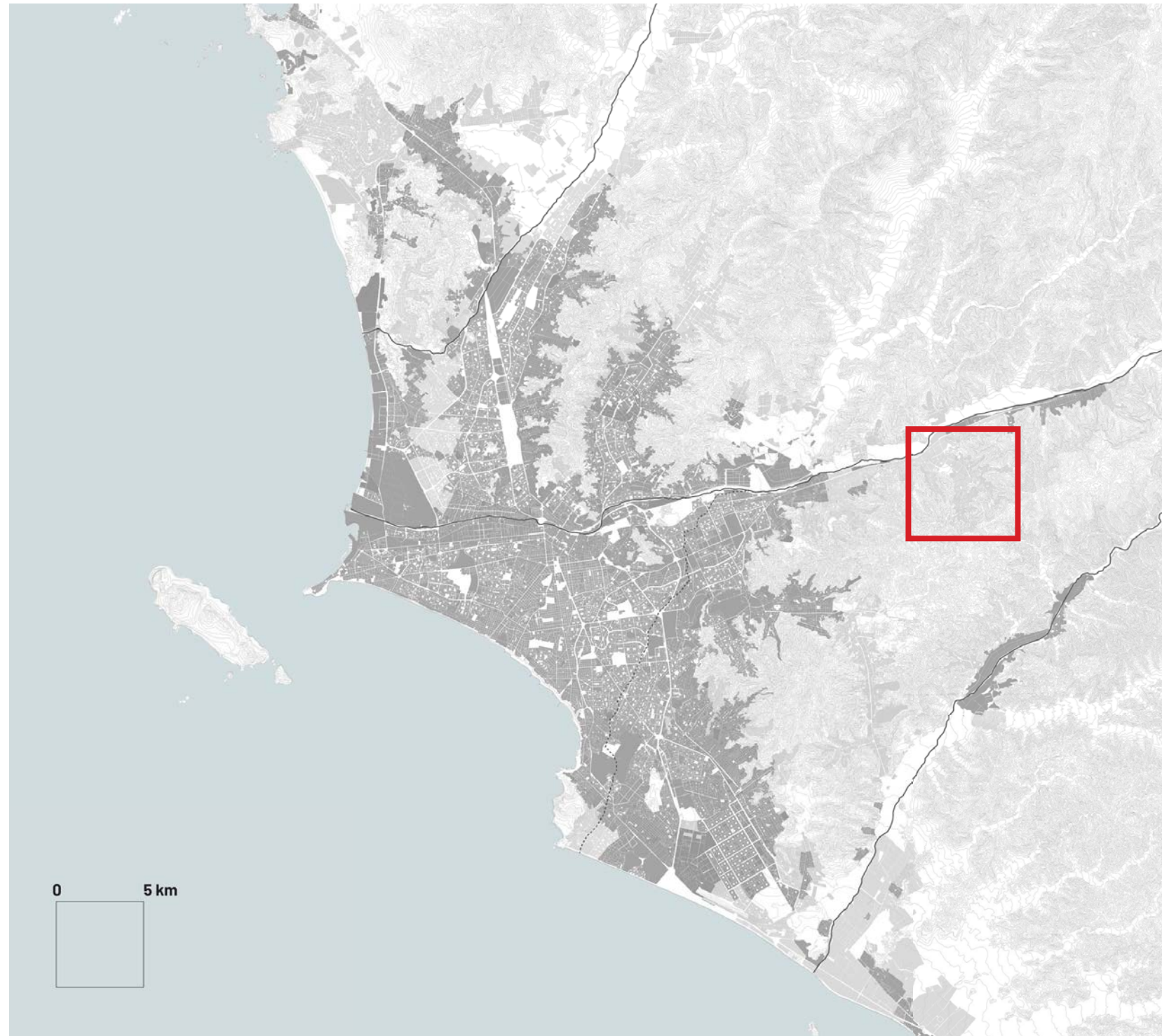
Social housing modules built in Peru under *Techo Propio* subsidy scheme. Source: Andina, 2016.
<https://andina.pe/agencia/noticia-quienes-pueden-acceder-a-techo-propio-actualmente-y-cuanto-es-subsidio-605205.aspx>

What is the potential of housing to reduce socio-spatial segregation and produce a more just city in Lima?

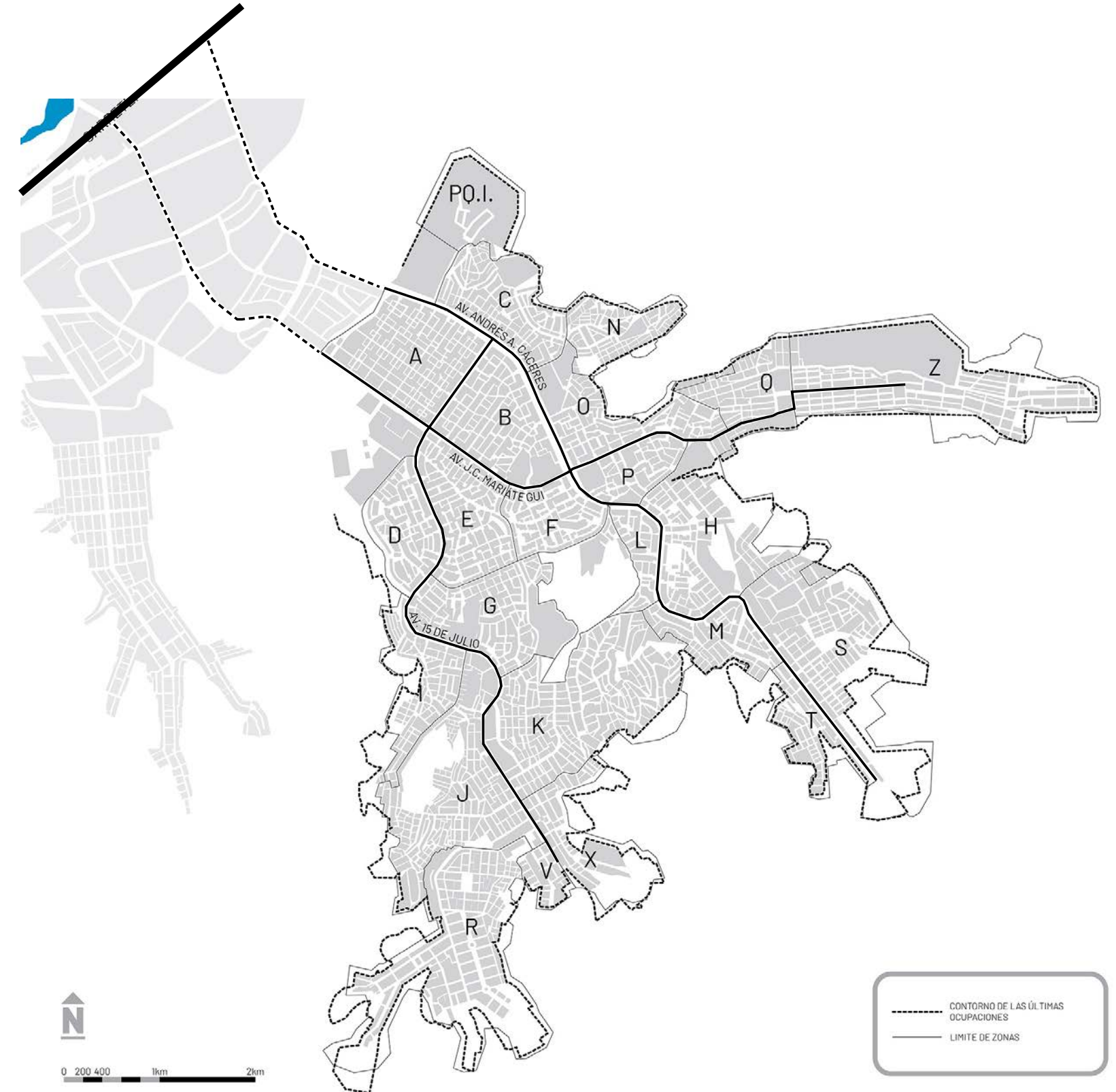
2. LOOKING FOR ALTERNATIVES



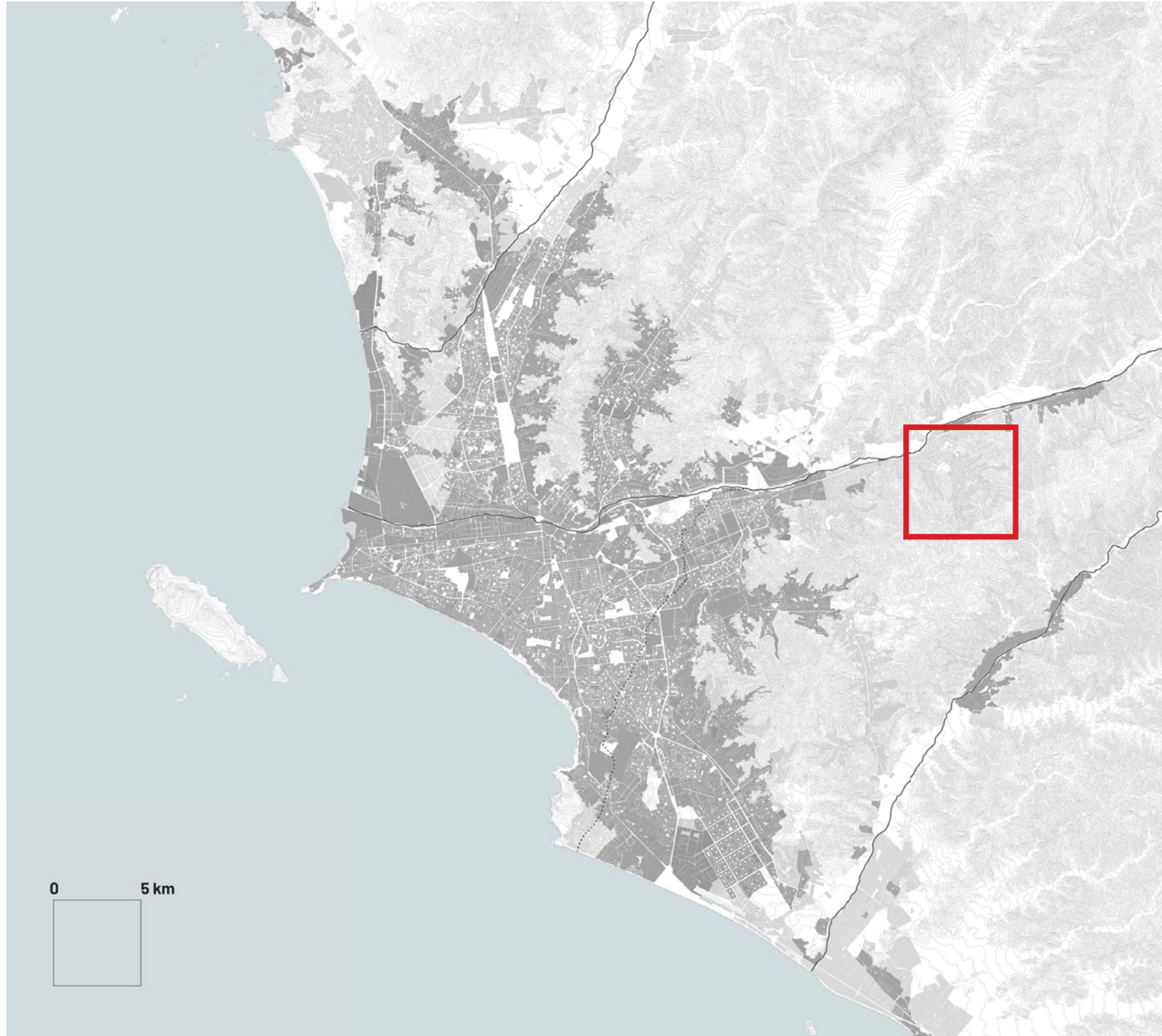
A simplified model for the housing process based on Geddes and Bertalanffy.
Source: Turner, J. (1976) Housing by people.



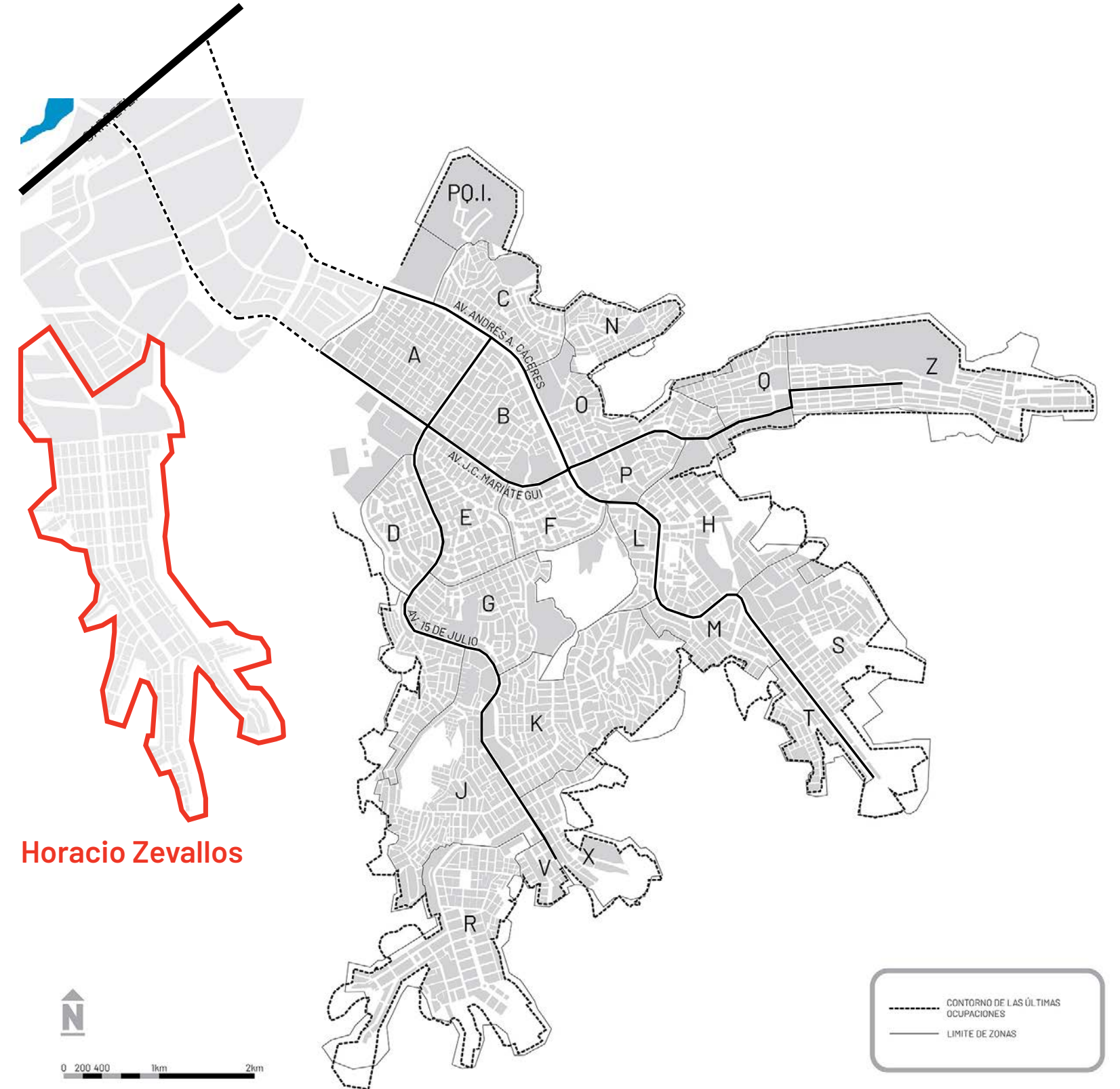
Lima urban areas in 1984 (dark grey) and location of Huaycán
 Developed by the author



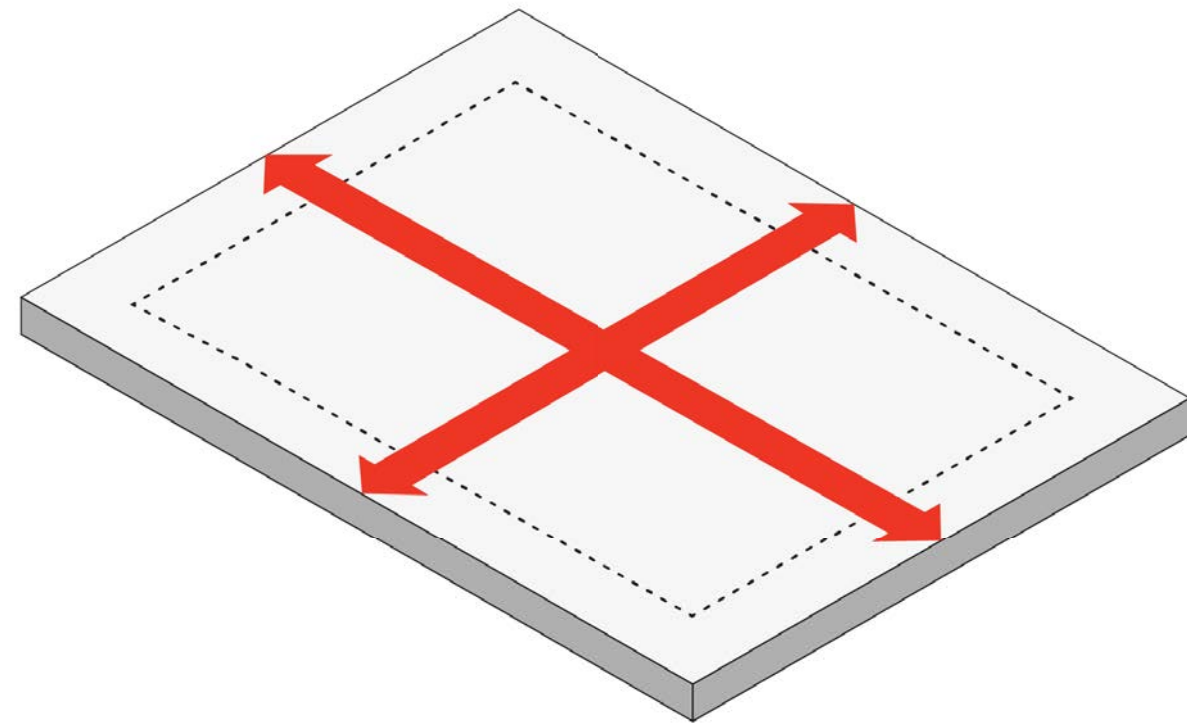
Urban and social structure of Huaycán
 Based on a map by Jitka Molnarova. Source: Municipality of Lima, 2013



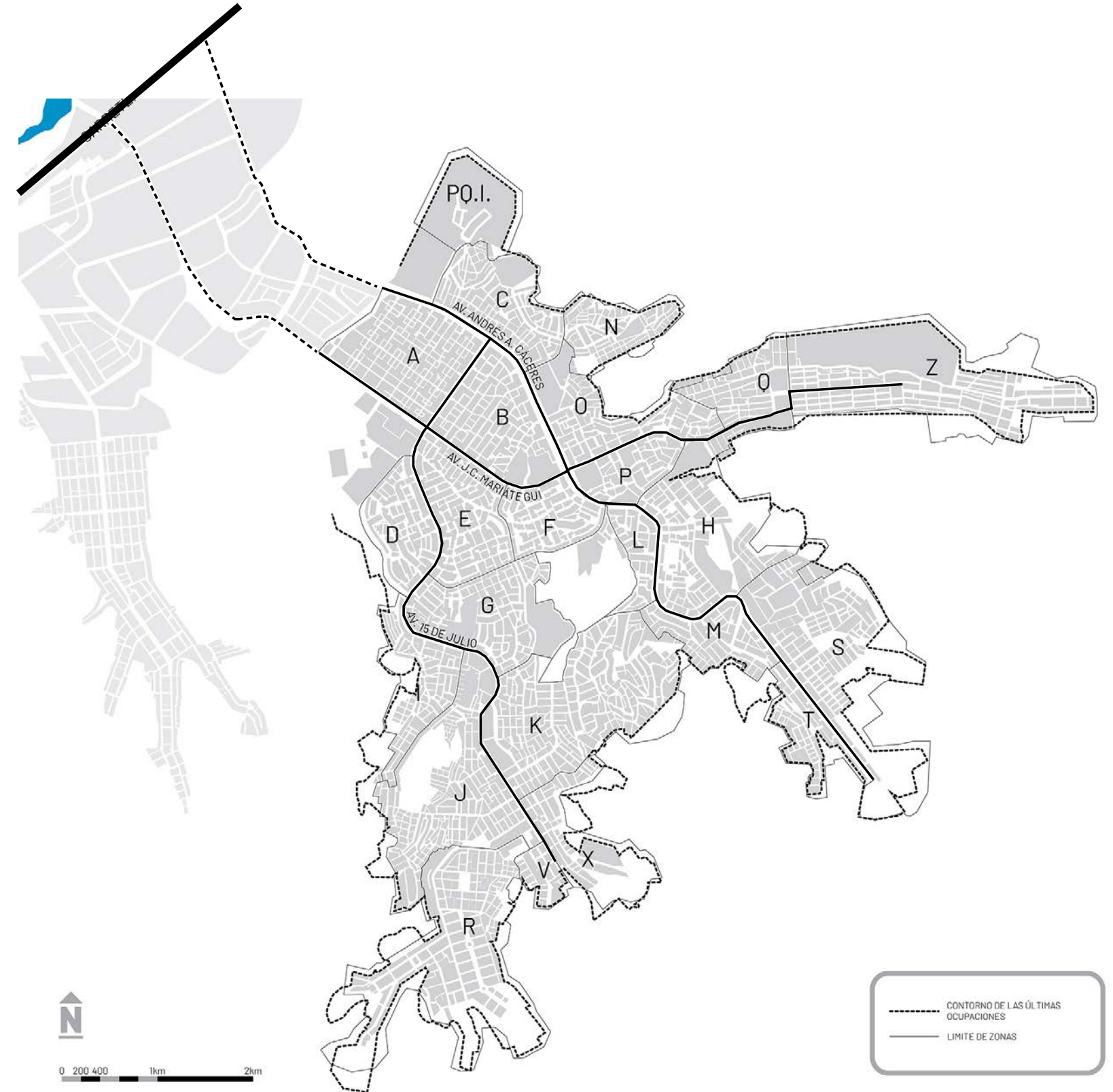
Lima urban areas in 1984 (dark grey) and location of Huaycán
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Urban and social structure of Huaycán
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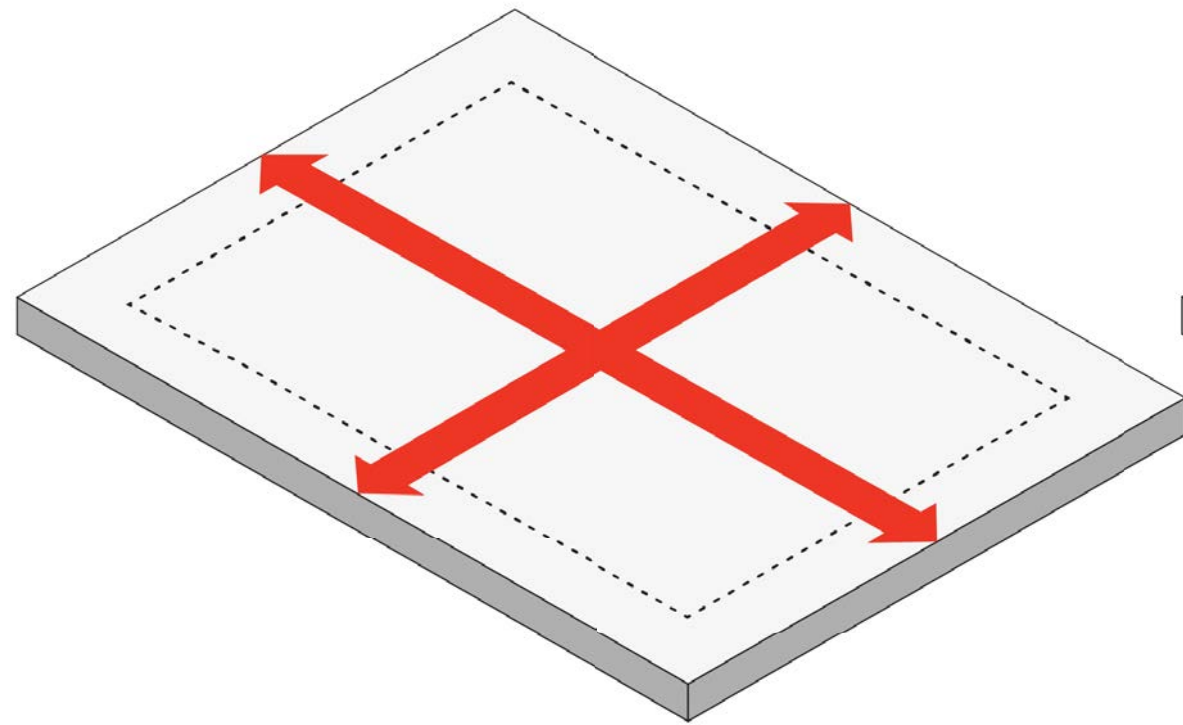


1 hectare - 60 families

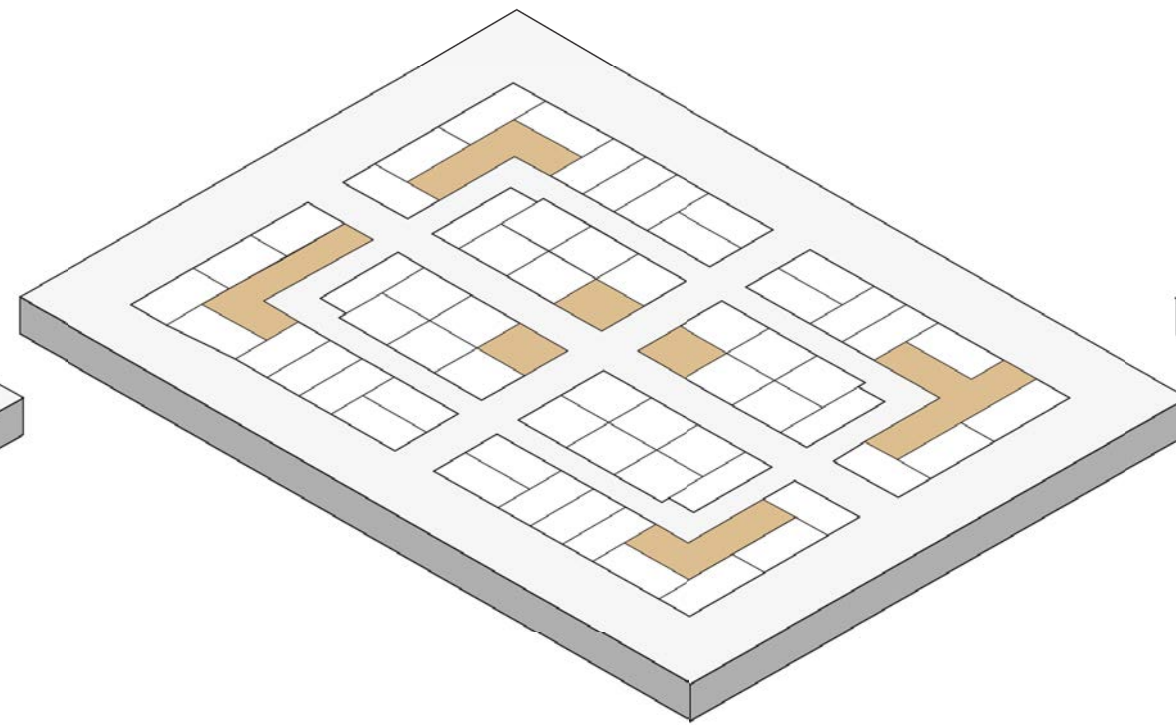


Urban and social structure of Huaycán

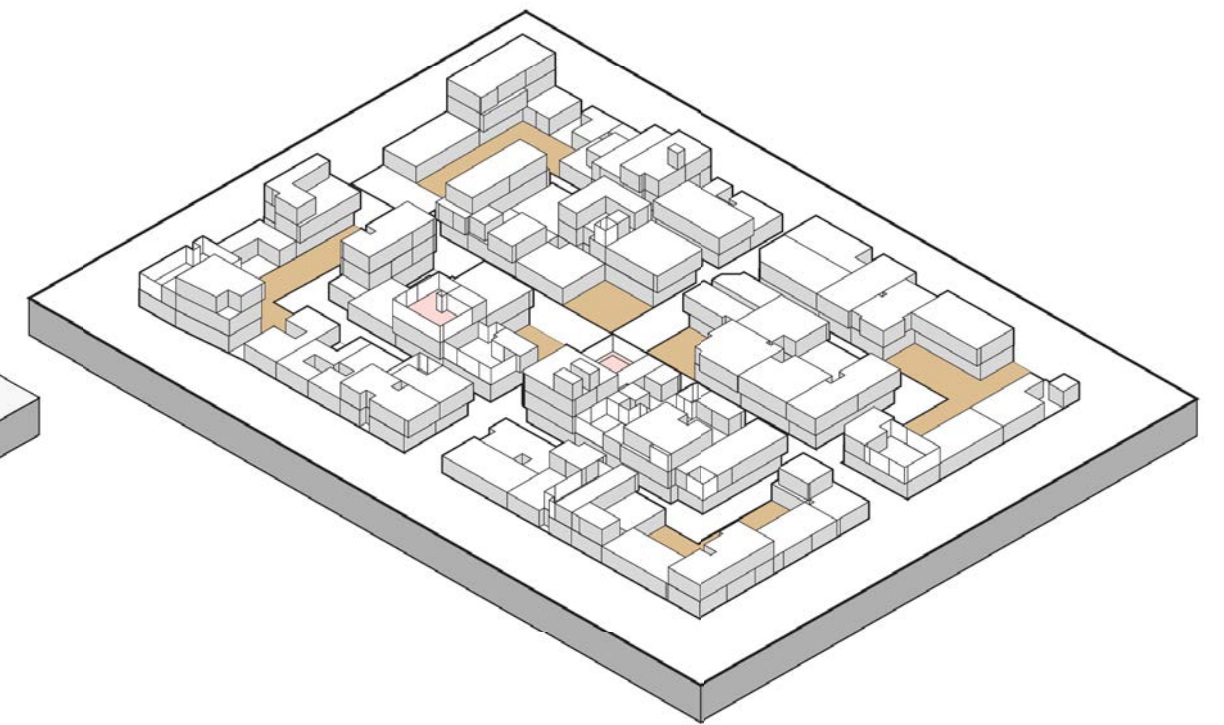
Based on a map by Jitka Molnarova. Source: Municipality of Lima, 2013



1 hectare - 60 families



90 sqm





UCV under construction in Huaycan, 1984
 Source: Personal file Eduardo Figari



Picture of Huaycan in the first year of development
 Source: Personal file Eduardo Figari



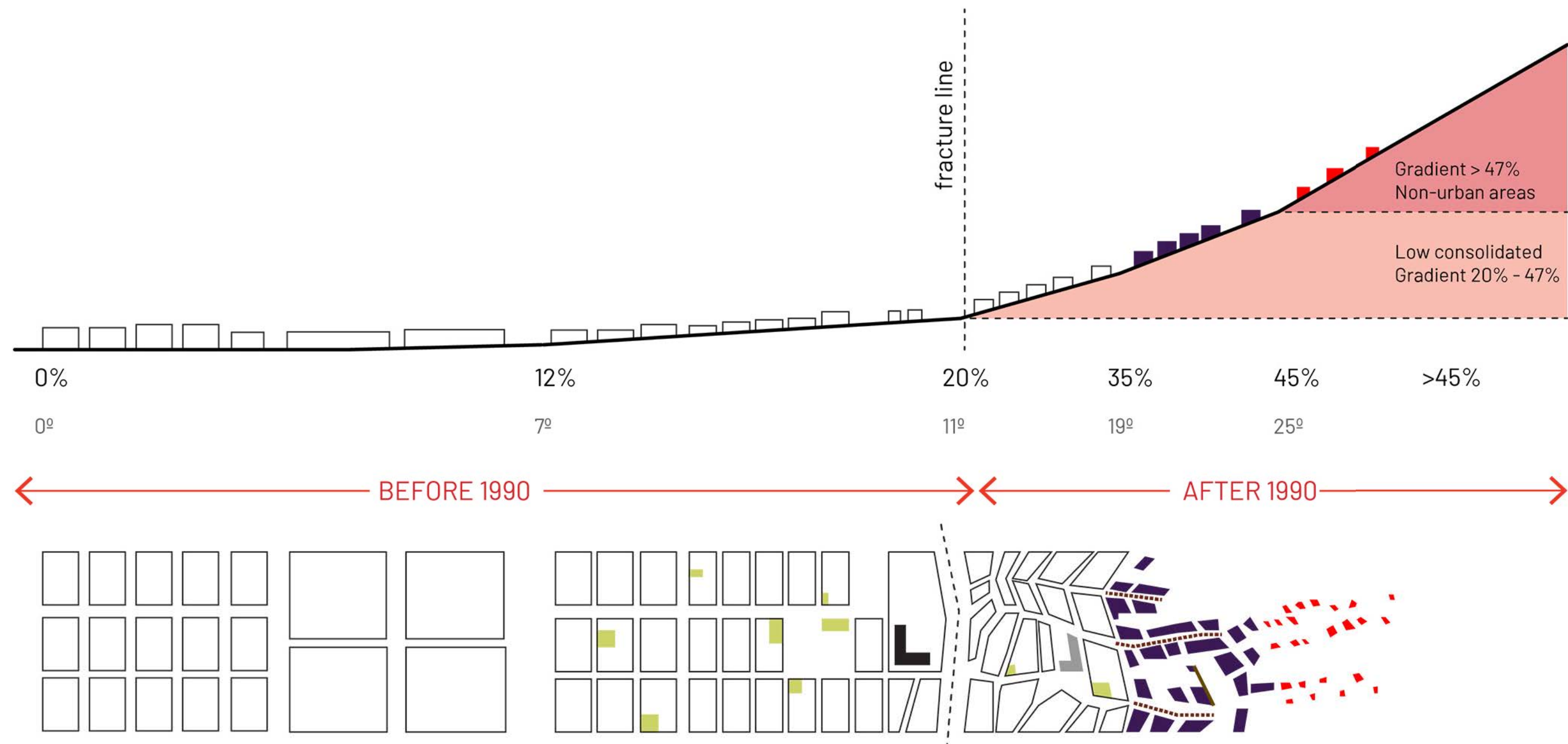
Floor space index (FSI) in central areas of Huaycán
Sources: Municipality of Lima, 2013 & Google Street View, 2019



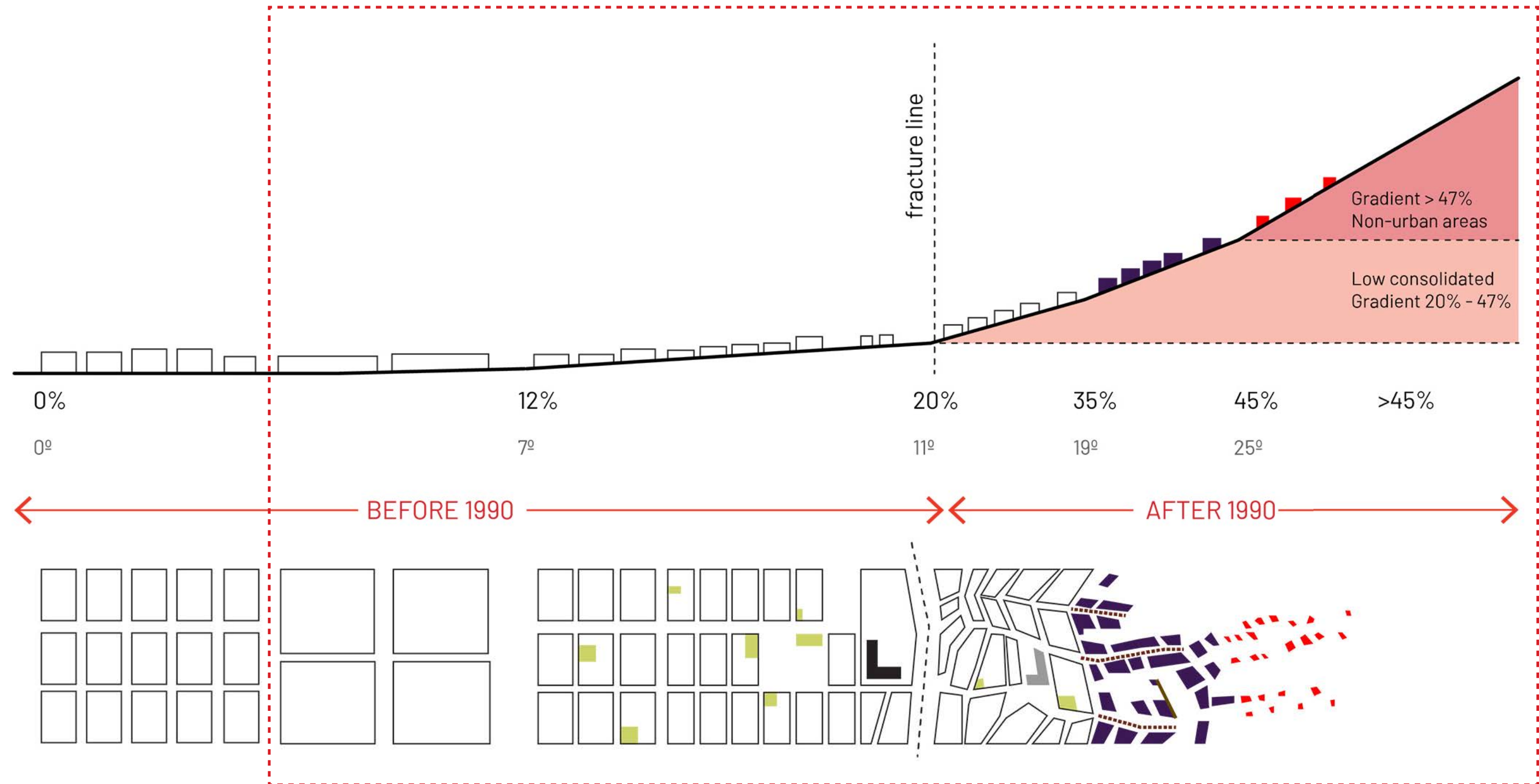
Floor space index (FSI) in central areas of Horacio Zevallos
Developed by the author

“Theories of modernity (...) have often reserved experiences of dynamism and innovation for a privileged few, and especially for those wealthy cities and their citizens who have laid claim to originating modernity. In the process, poorer cities and marginal citizens have been profoundly excluded from the theoretical imaginary of urban modernity.”

(Jennifer Robinson, 2006)

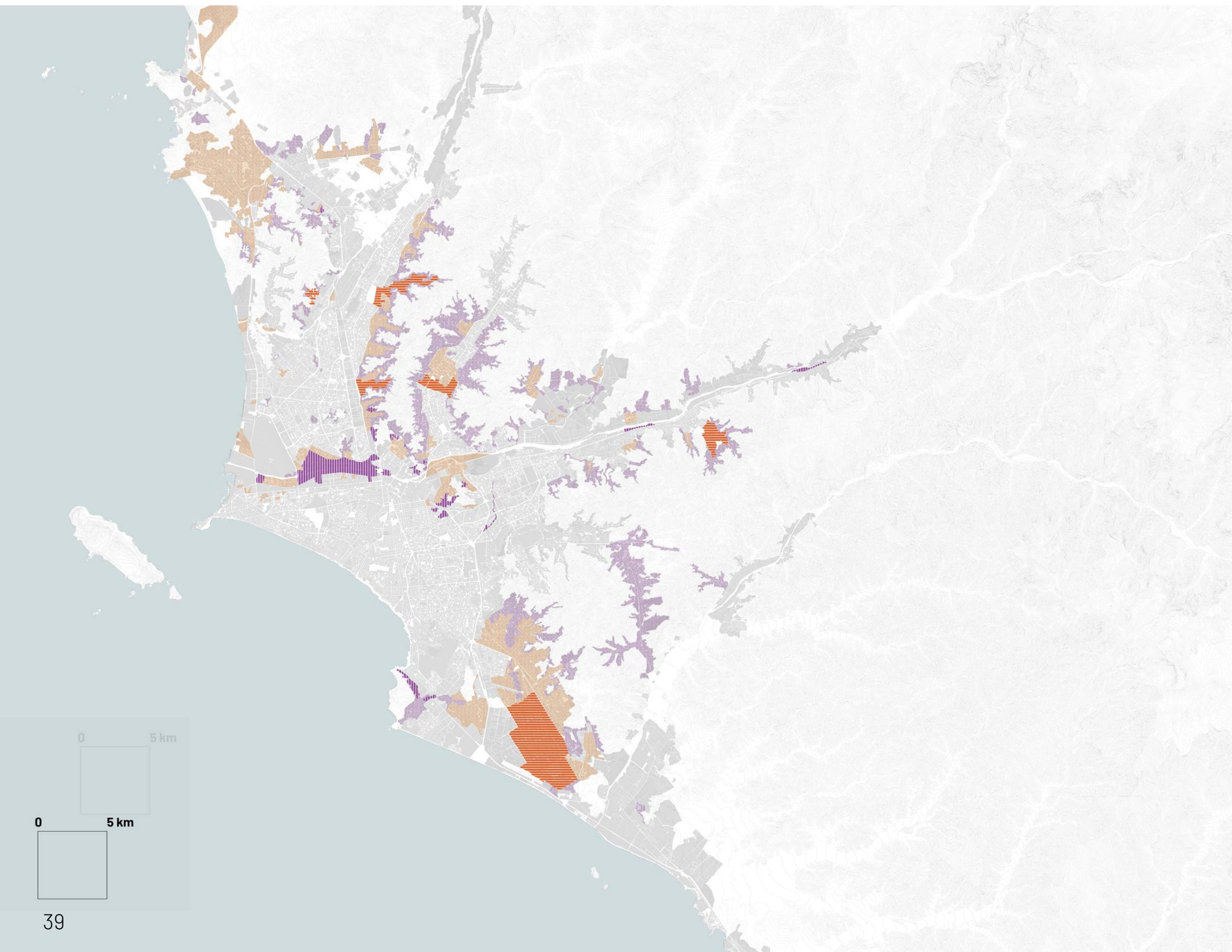


Classification of areas according to slopes gradients in Lima.
 Developed by the author, based on Municipality of Lima, 2013 and Conurb, 2016



Classification of areas according to slopes gradients in Lima.

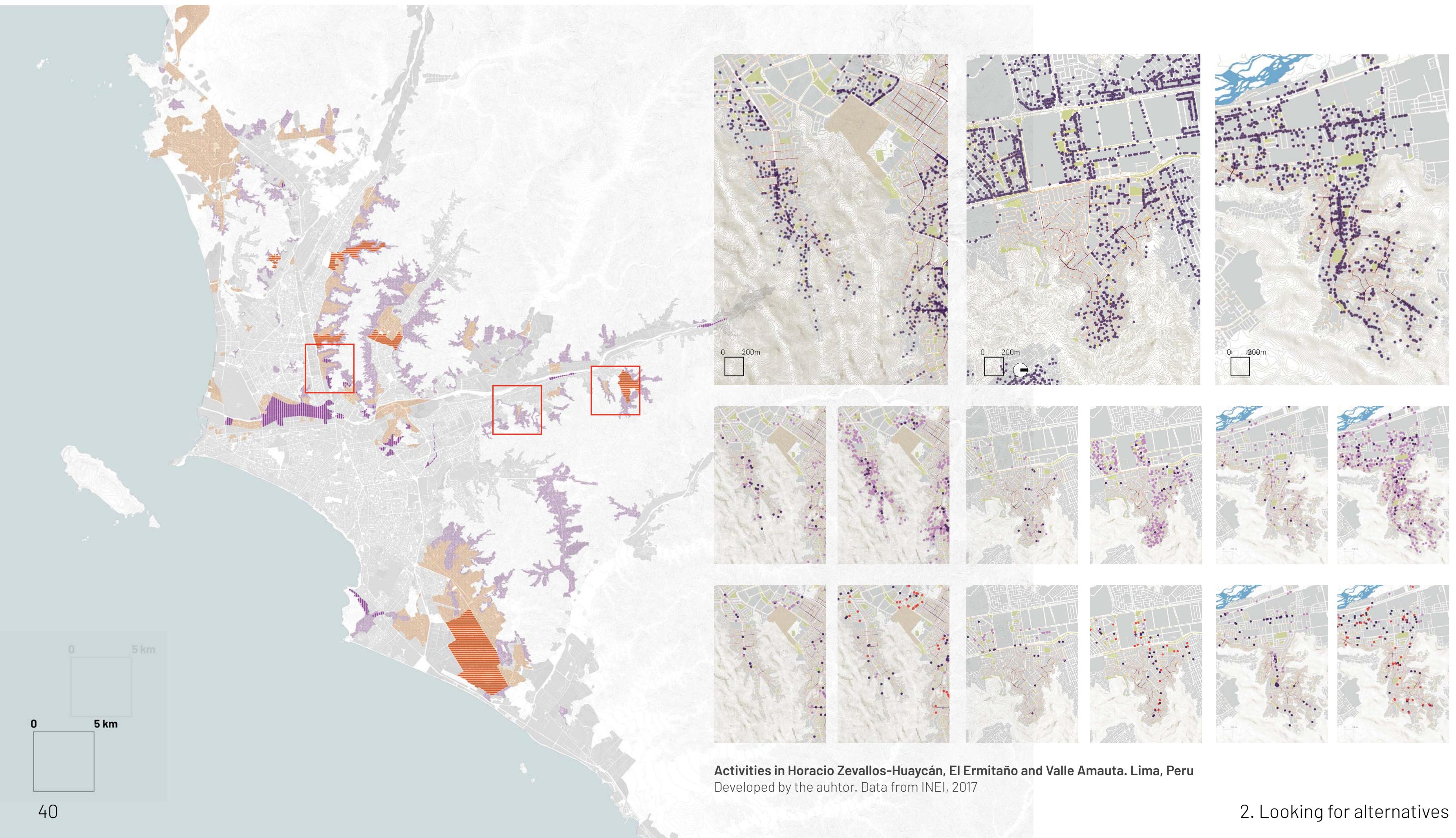
Developed by the author, based on Municipality of Lima, 2013 and Conurb, 2016



Settlement types

- Type 1: Organic settlements
- Type 2: Grid patterns
- Type 3: Communal urban units
- Type 4: Hybrid settlements on slopes

2. Looking for alternatives



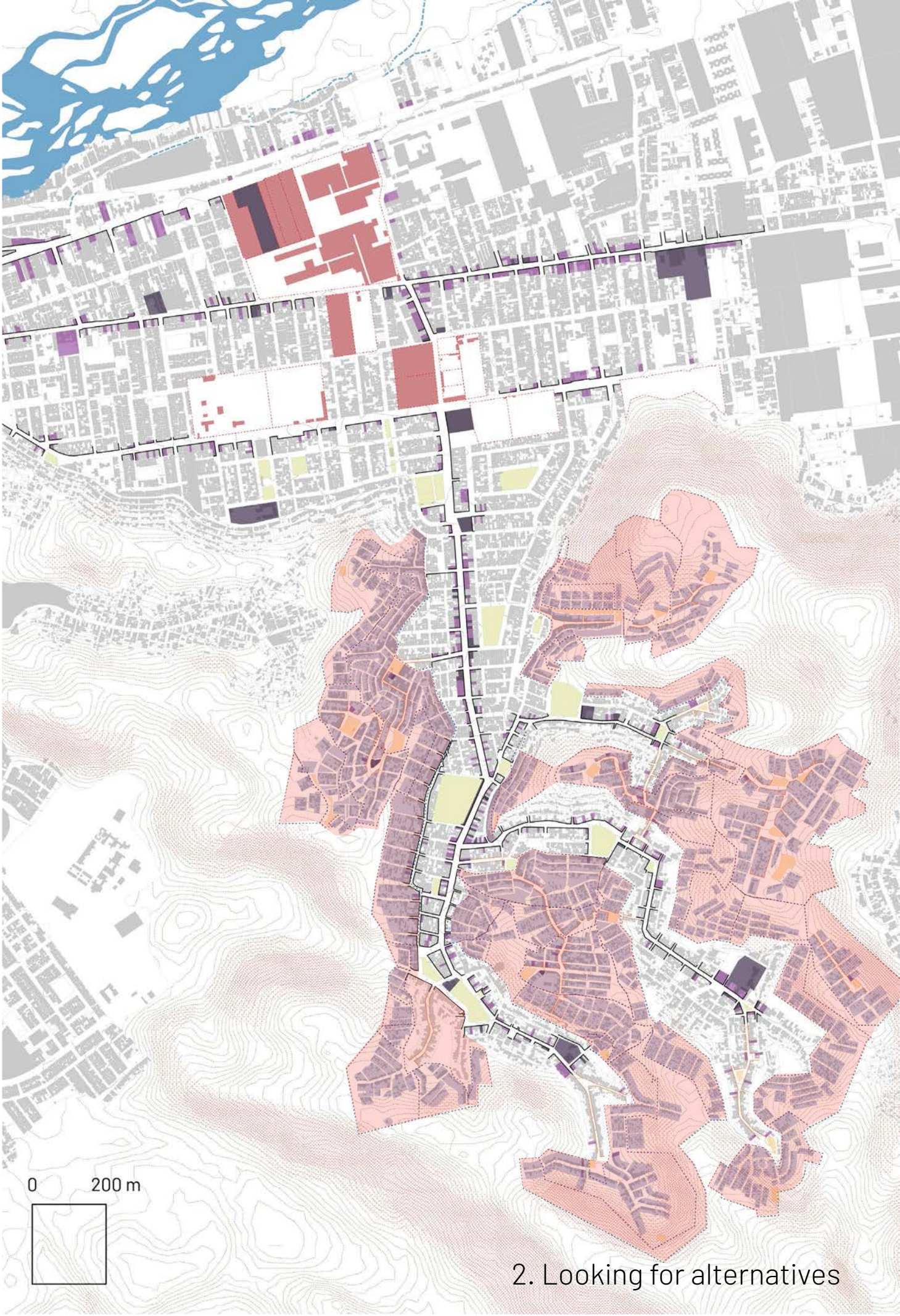




Slopes in Valle Amauta. Ate, Lima, Peru.
Picture taken by the author.



Church on the slopes of a low consolidated area in Horacio Zevallos.
Source: Google street view, 2019.





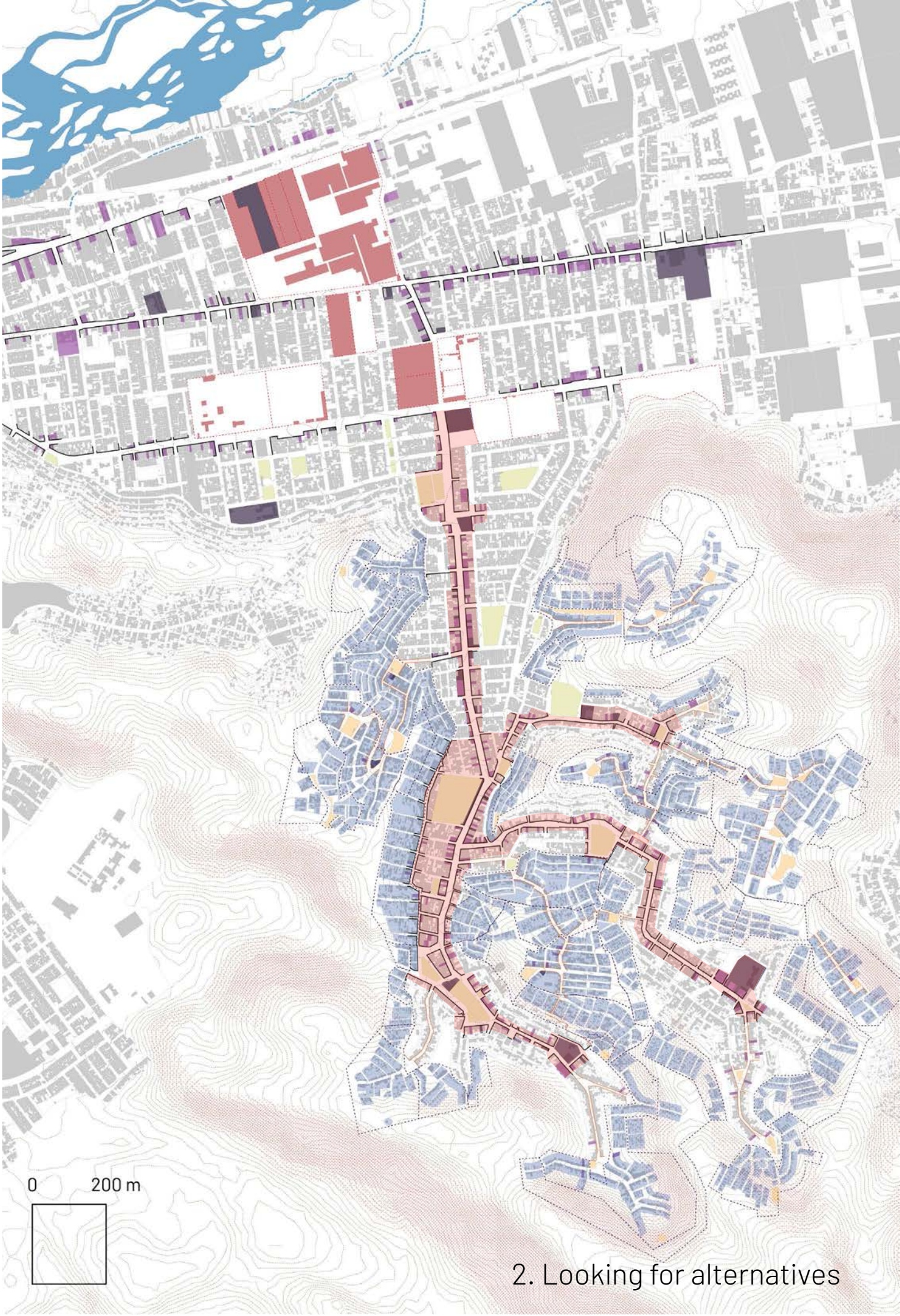
School as centrality of activity cluster in low consolidated areas in Valle Amauta

Source: Google street view, 2019



Hardware shop in high integrated street in Valle Amauta

Source: Google street view, 2019.



2. Looking for alternatives

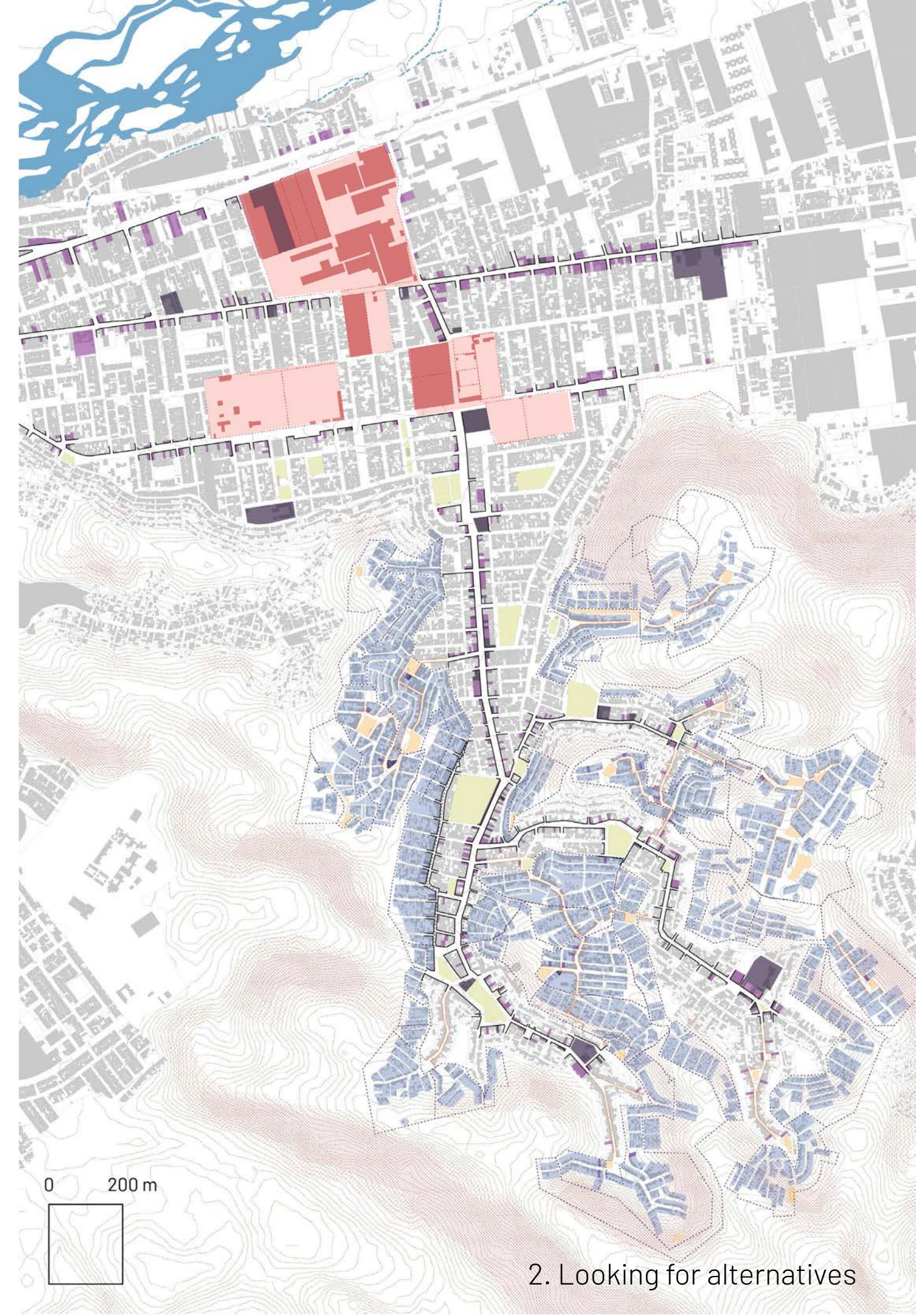


High integrated avenues next to big plots where hotels are located, attracting in turn other business, such as pharmacies or restaurants. Independencia, Lima.

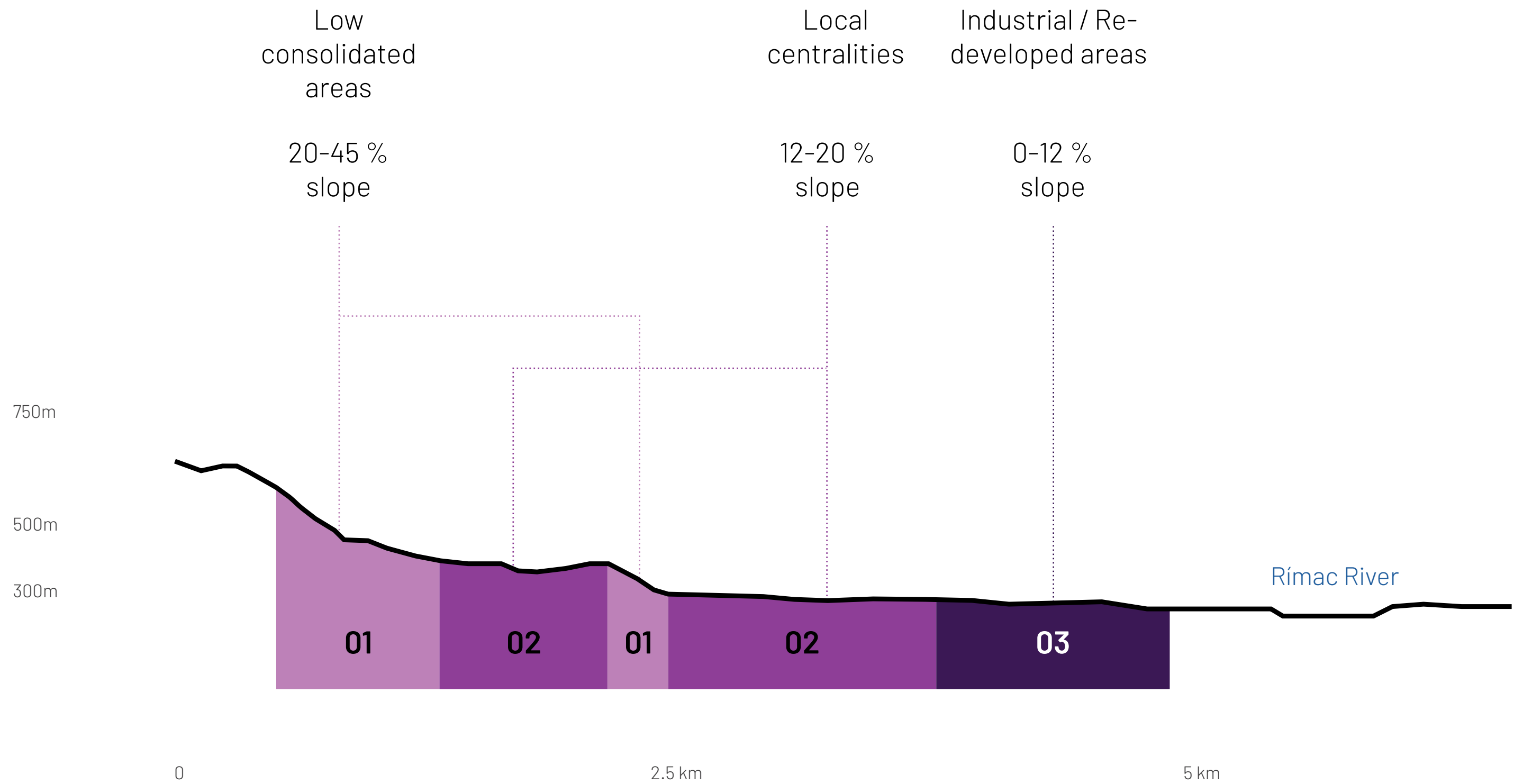
Source: Google street view, 2019



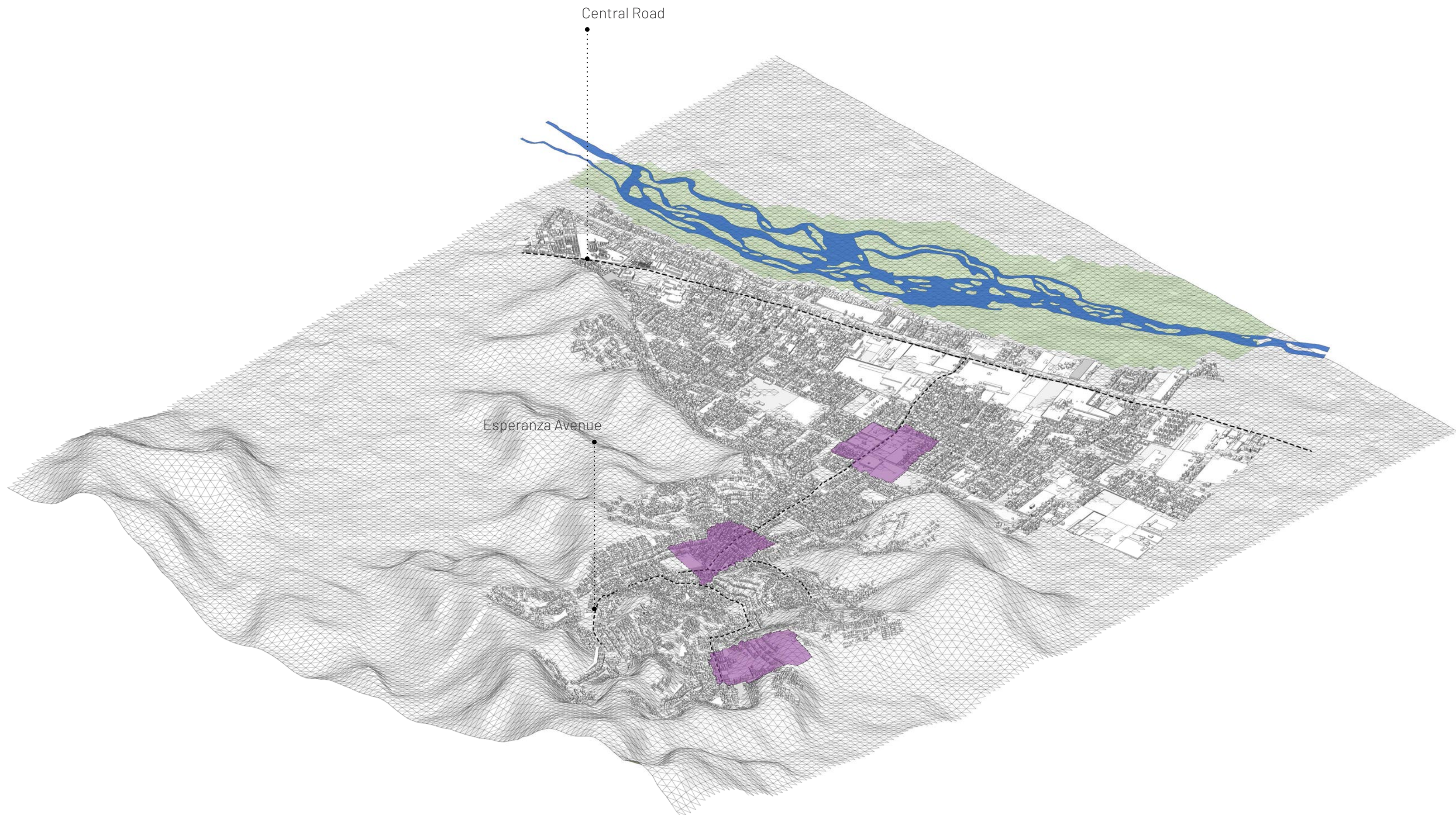
Santa Clara Housing Complex in the former industrial land close to Valle Amauta. Source: Google Street View, 2019

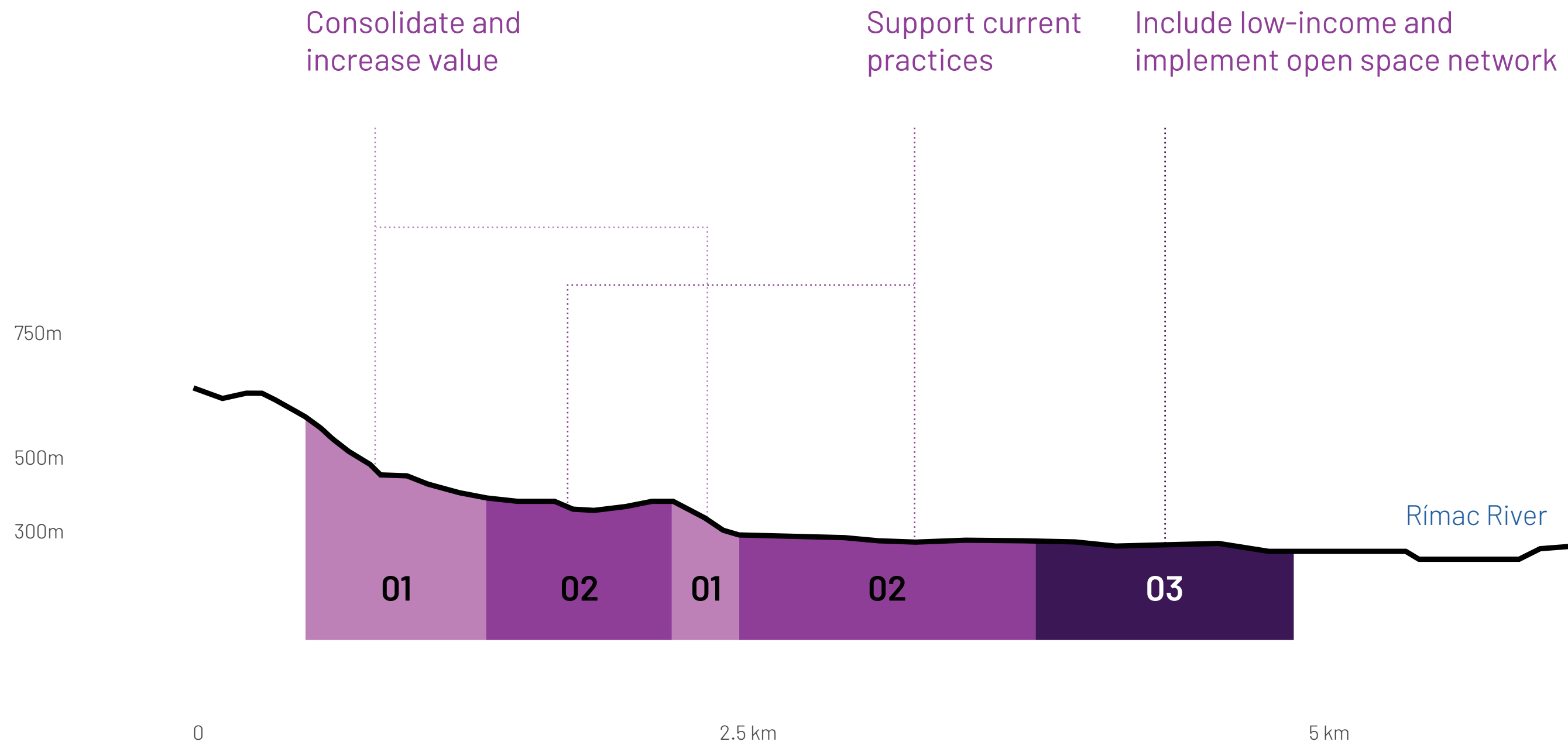


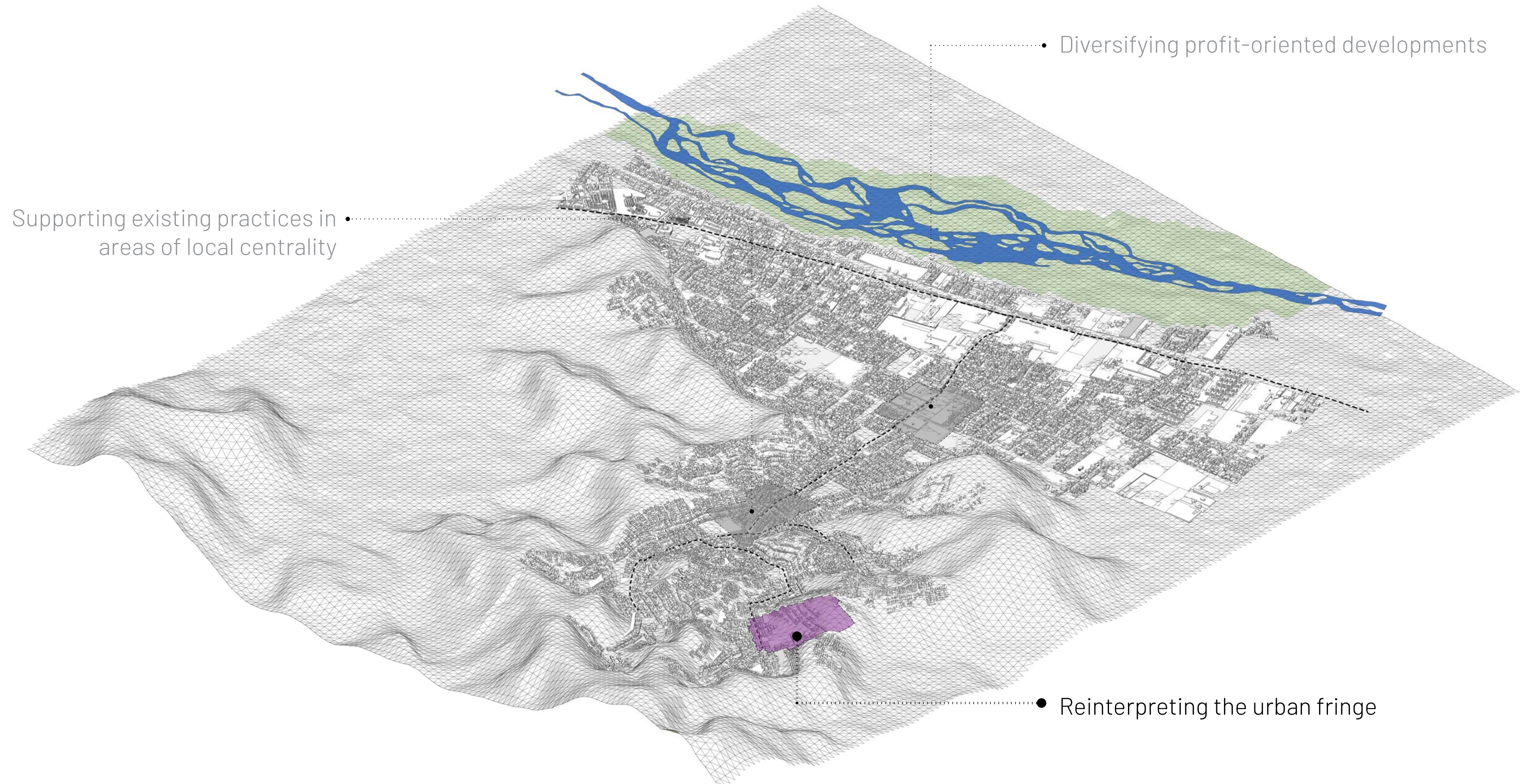
2. Looking for alternatives



3. HOUSING AS A PROCESS TO REDUCE SOCIO SPATIAL SEGREGATION IN LIMA, PERU











Non-coordinated public investment: Stairs that end nowhere, patches of contention walls, isolated public facilities.

Valle Amauta, Ate, Lima, Peru. Picture taken by the author, 2016.



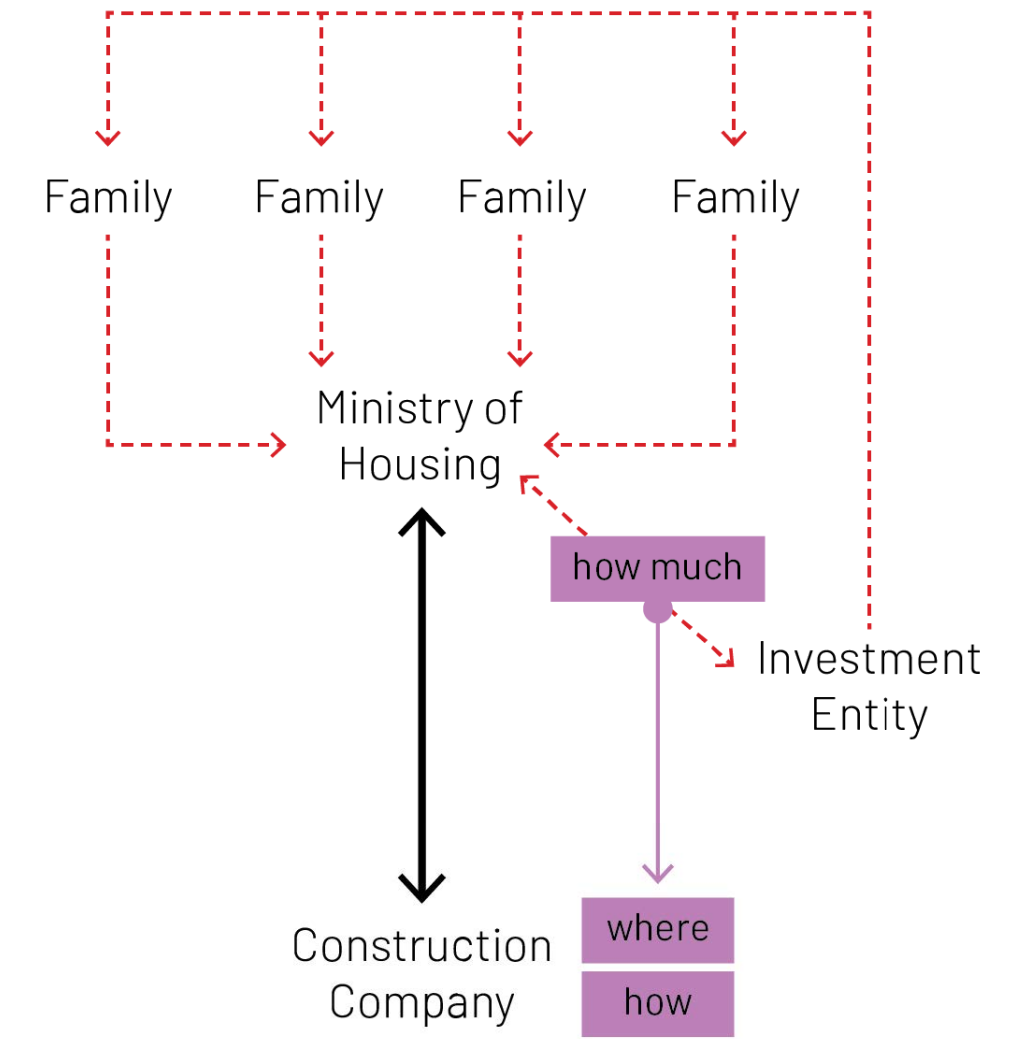
Non-coordinated public investment: Stairs that end nowhere, patches of contention walls, isolated public facilities.
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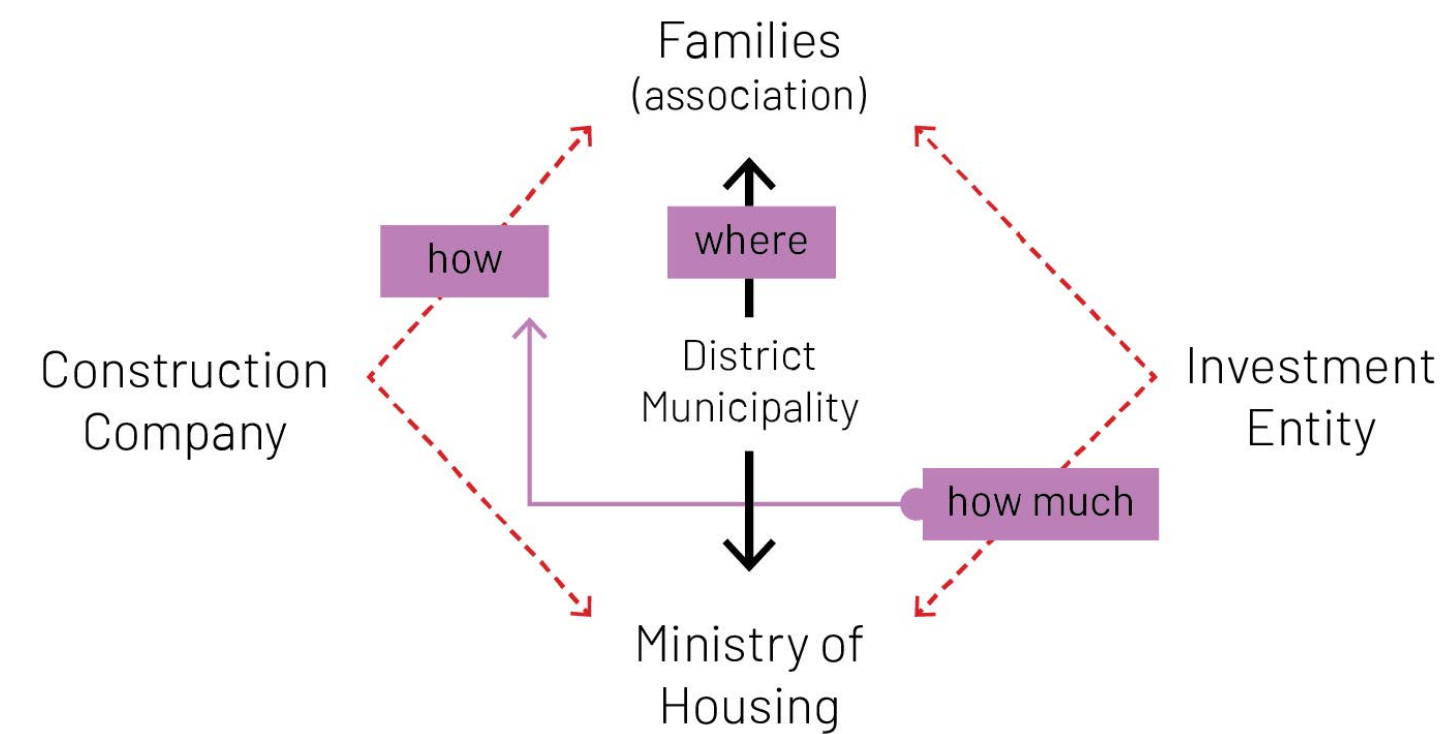
Stairs as urban structure that provides public space and safe zones to the whole settlement.
Cerro Esmeralda, Nievería, Lurigancho Chosica, Lima. Source: CESAL. Picture by Pilar Vásquez.



Stairs as urban structure that provides public space and safe zones to the whole settlement.
Cerro Esmeralda, Nievería, Lurigancho Chosica, Lima. Source: CESAL. Picture by Pilar Vásquez.

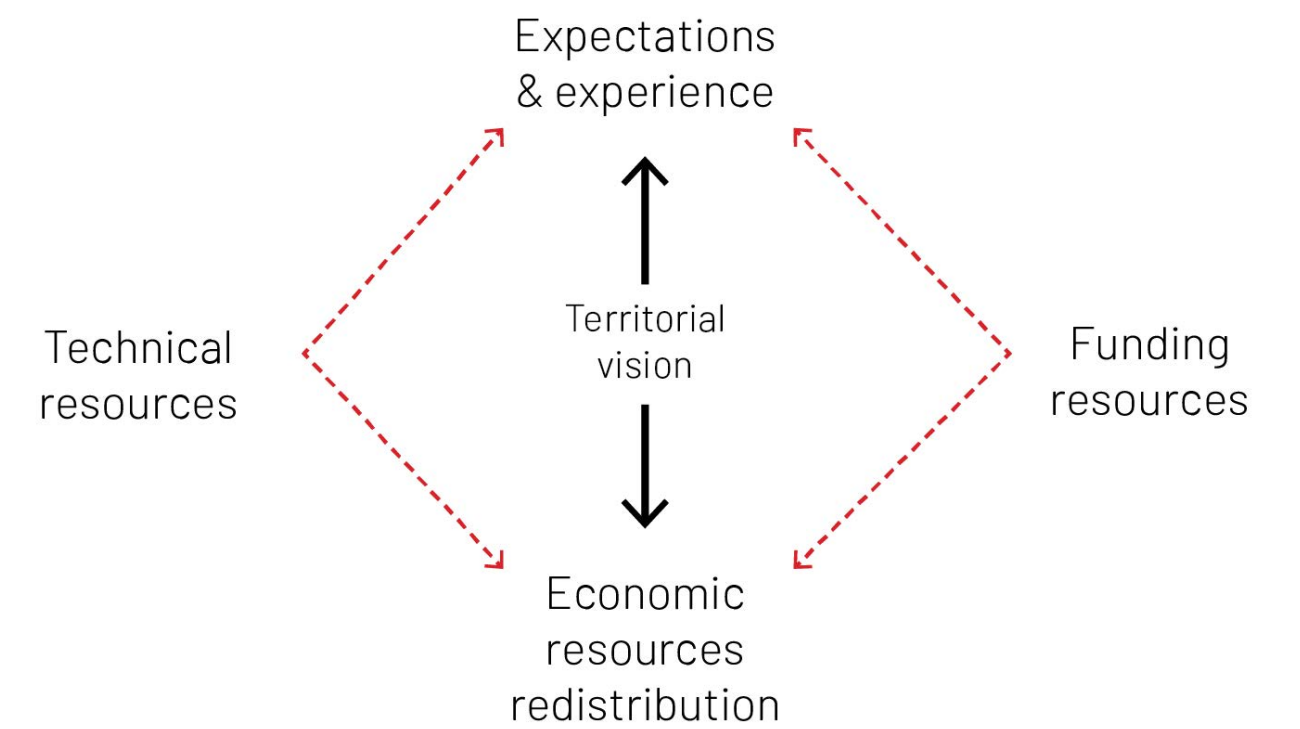
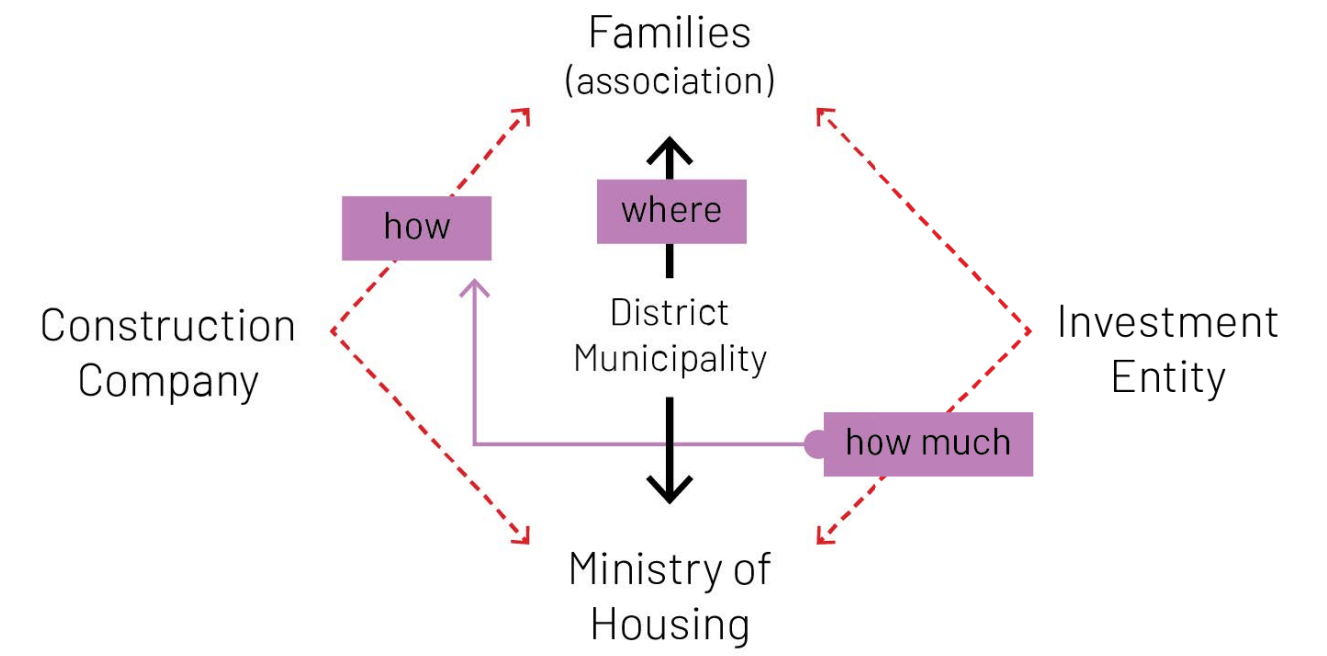


Social housing modules built in Peru under Techo Propio subsidy scheme. Source: Andina, 2016.





Collective work "faena" in Cerro Esmeralda, Nievería.
 Lurigancho Chosica District, Lima). Source: CESAL. Picture taken by the author.





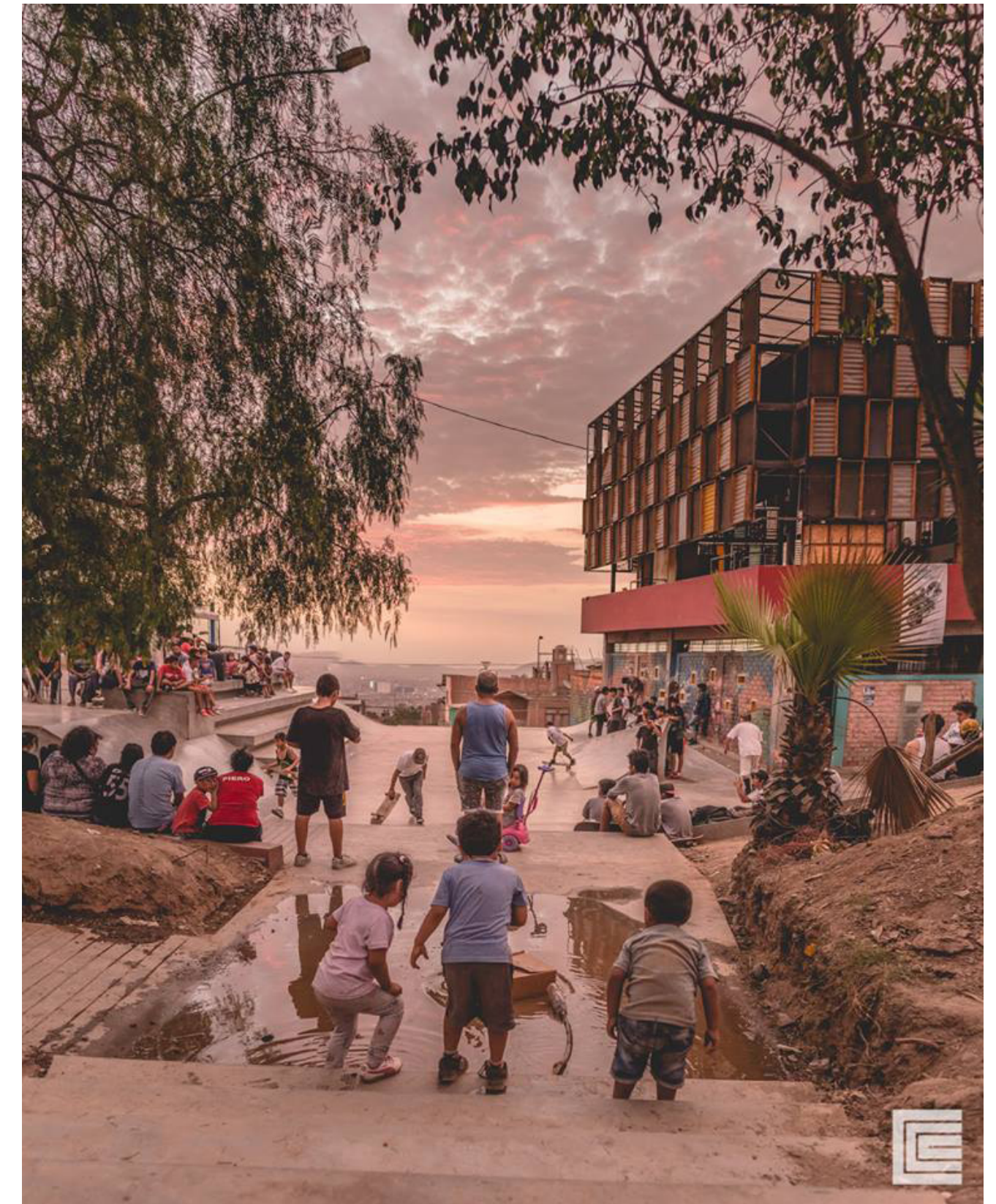
Houses on top of a hill in Huaycán (Ate, Lima) in an area defined as risk area by Municipality.
 Picture taken by the author. Source: Municipality of Lima, 2013



Housing cooperatives in Uruguay.
Source: Junta de Andalucía, 1999



Juan Bobo gorge after the intervention by EDU. Medellín, Colombia, 2004
 Source: Montoya, 2016 (Limapolis 2016 presentation)



Multi-purpose space and public space implemented in community dining room.
La Balanza, Comas. Source: Picture by Eleazar Cuadros, 2019
<https://www.instagram.com/p/Bvtti48B9ix/>



Access stairs implemented by local community in Santa Isabel, 2012.
Huachipa, Lurigancho Chosica, Lima, Peru. Picture taken by the author



Public space implemented by local community in Santa Isabel, 2012.
Huachipa, Lurigancho Chosica, Lima, Peru. Picture taken by the author





A ilusao da orden. Project by Hector Vigliecca. Source: Archdaily Brazil
<https://www.archdaily.com.br/br/868604/a-ilusao-da-orden-hector-vigliecca/58e533c-fe58eceb811000359-a-ilusao-da-orden-hector-vigliecca-imagem>



A ilusao da orden. Project by Hector Vigliecca. Source: Archdaily Brazil
<https://www.archdaily.com.br/br/868604/a-ilusao-da-orden-hector-vigliecca/58e533c-fe58eceb811000359-a-ilusao-da-orden-hector-vigliecca-imagem>

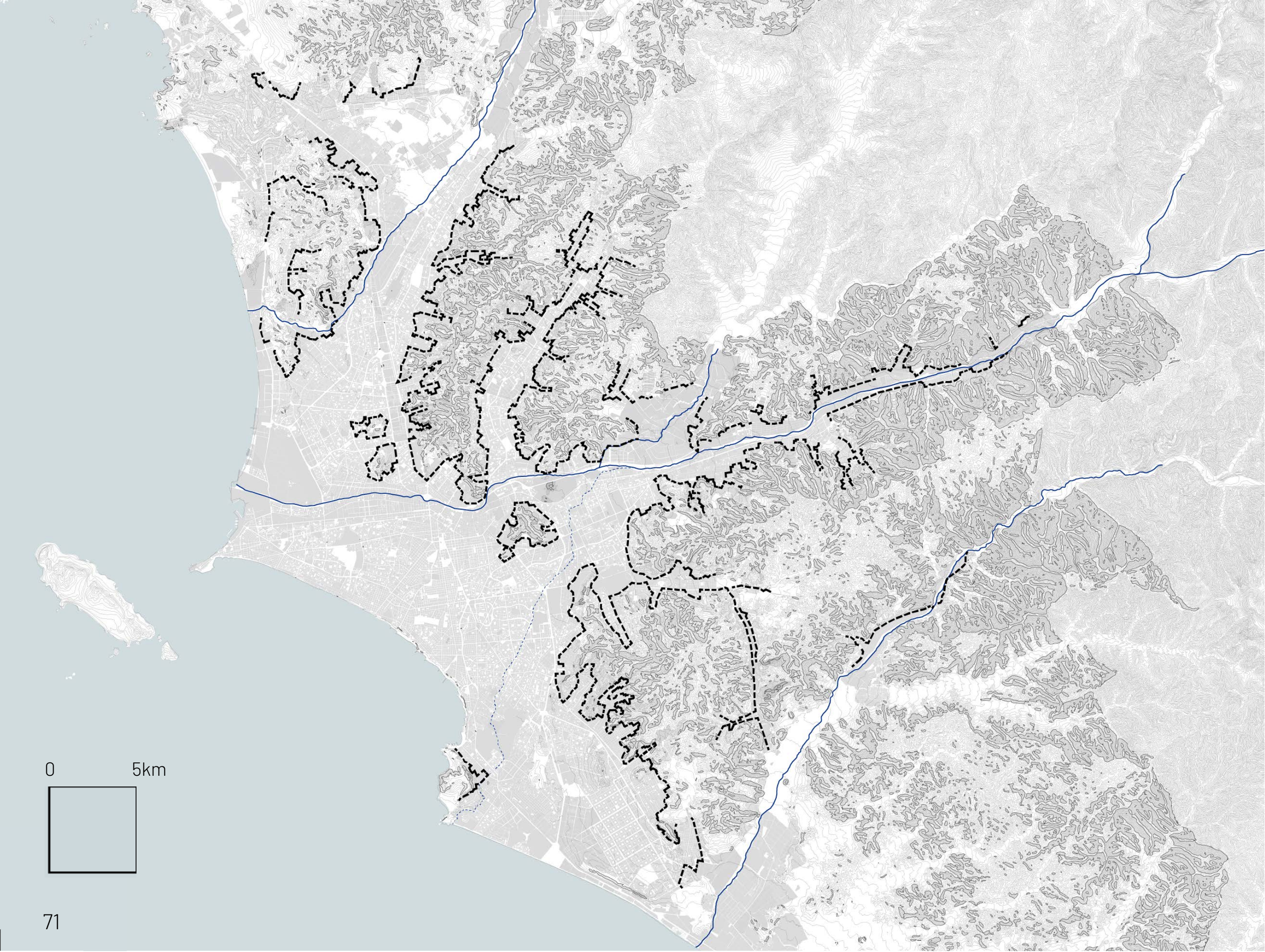


-  Civil society investment / responsibility
-  Public sector investment / responsibility

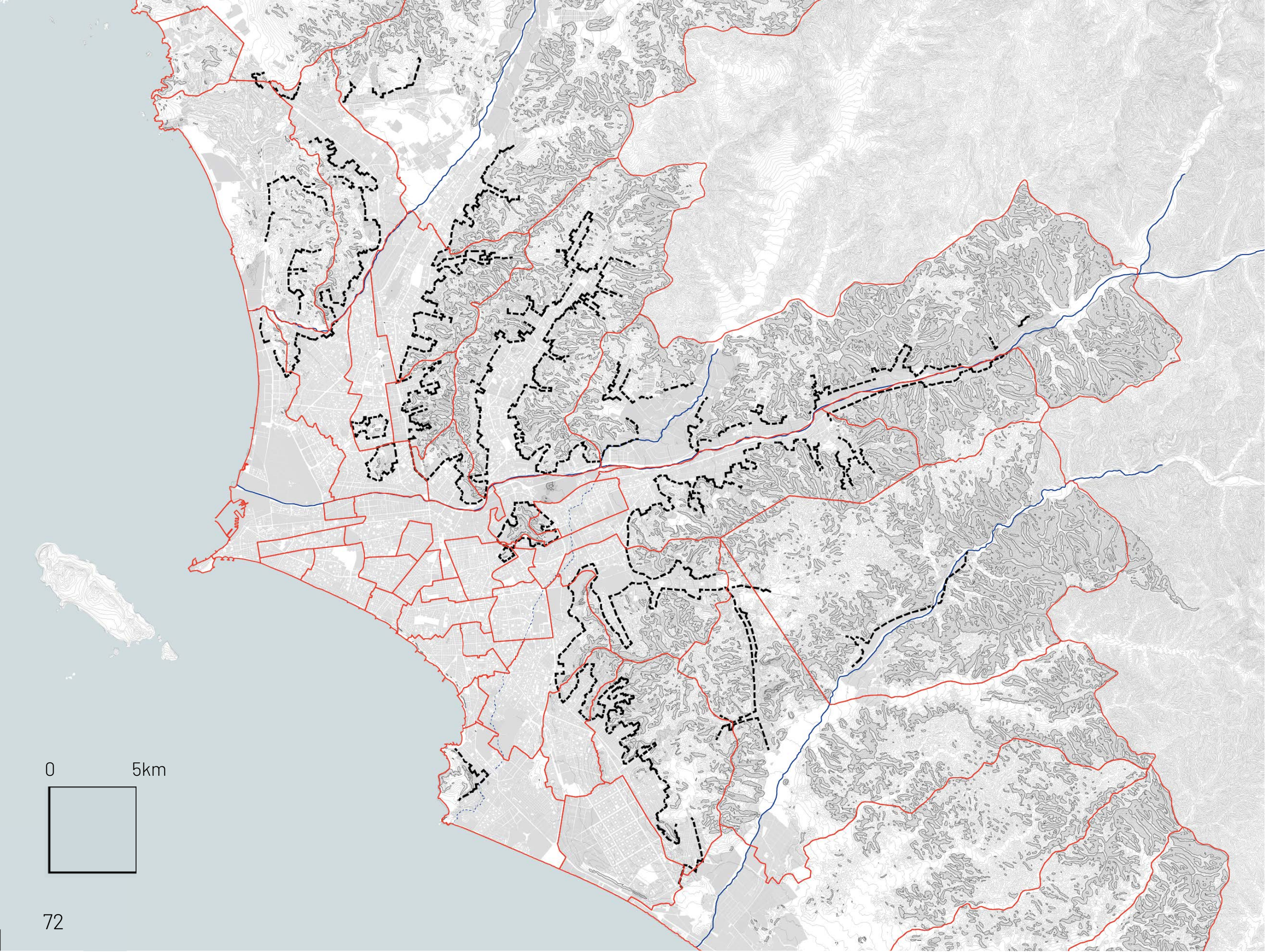


- Shared investment / responsibility
- Civil society investment / responsibility
- Public sector investment / responsibility
- Private sector investment / responsibility

4. REFLECTION AND CONCLUSIONS



----- Fracture line



0 5km

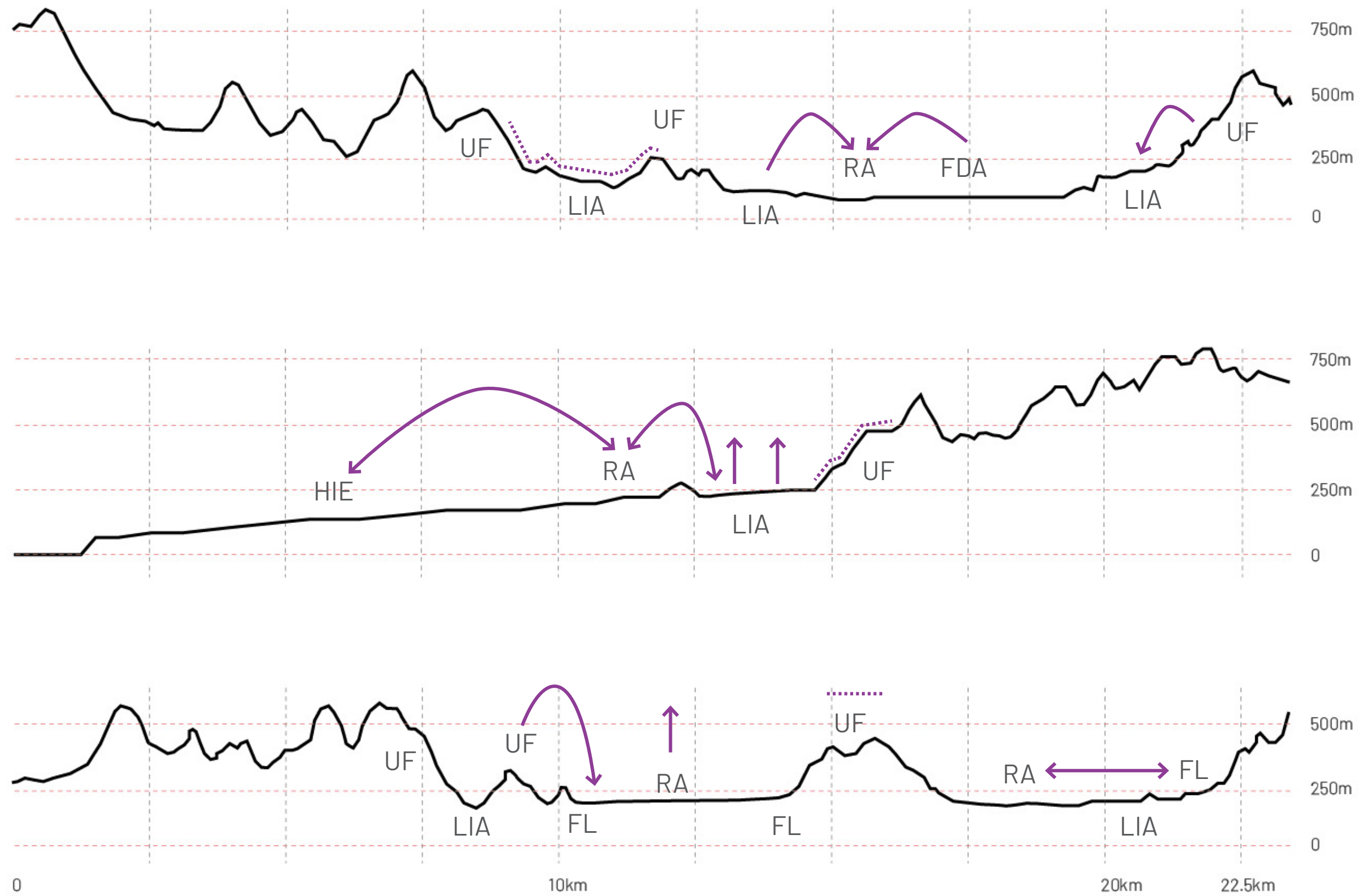


72

———— Districts borders

----- Fracture line

4. Reflection and conclusions



- HIE High Income Enclave
- UF Urban Fringe
- FL Fracture Line
- FDA Formally Developed Area
- RA Redevelopment Areas
- LIA Local Integration Areas

“control is the ability to transform some part of the environment”

(John Habraken, 2000)

Thanks!