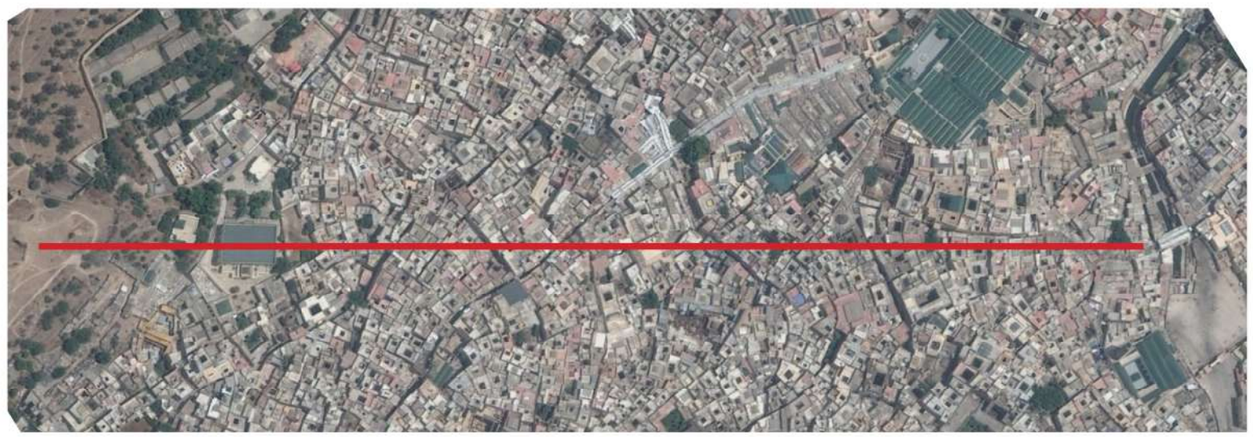
Preteen use and perception of public space in Utrecht in 1996, 2016 and into the future.

Revitalizing urban social structures by building on child-friendly spatial characteristics.

İhsan Deniz Kılıçoğlu - 1312596
First mentor: Machiel van Doorn
Second mentor: Akkelies van Nes
TU Delft - Dep. of Urbanism
August 2018

Fez, Morocco - An anecdote on unrestricted independen child mobility in high urban density



A tour of the city by a 10 year old 'faux guide' gave a more authentic experience than the commercial shop-ping-spree offered by the official guide, while it still included many of the same highlights.

1 . Problem definition : On boredom between the ‘toppled high-rises’

‘You try to make the first scratch in the varnish, because everything was sterile’
Joris van Casteren on growing up in new-town Lelystad, OVT, radio 1, 4 october 2015

Parkwijk-noord, Utrecht. Photo by Itsramon, 2007, Wikimedia Commons

Ypenburgse tieners vervelen zich stierlijk in Vinex-wijk

AD, 9 october 2015

Vinex: meer branden, meer inbraken

Door Marjan van den Berg
maandag 13 oktober 2014, 12:03

BNR, 13 october 2014

'Kinderen minder vaak buiten dan gevangenen'

RTL News, 25 march 2016

Kansarm en kansrijk kind spelen niet samen

Hanne Obbink – 27/05/16, 06:45

Trouw 27 may 2016

„ Als ik in een Vinex-wijk naar het schoolplein kijk zie ik een stéénwoestijn. Wat een ellende voor die kinderen", zegt Gjalt Jellesma, voorzitter van Boink, de vereniging die ouders in de

Leidsch Dagblad, 31 december 2003, p. 3

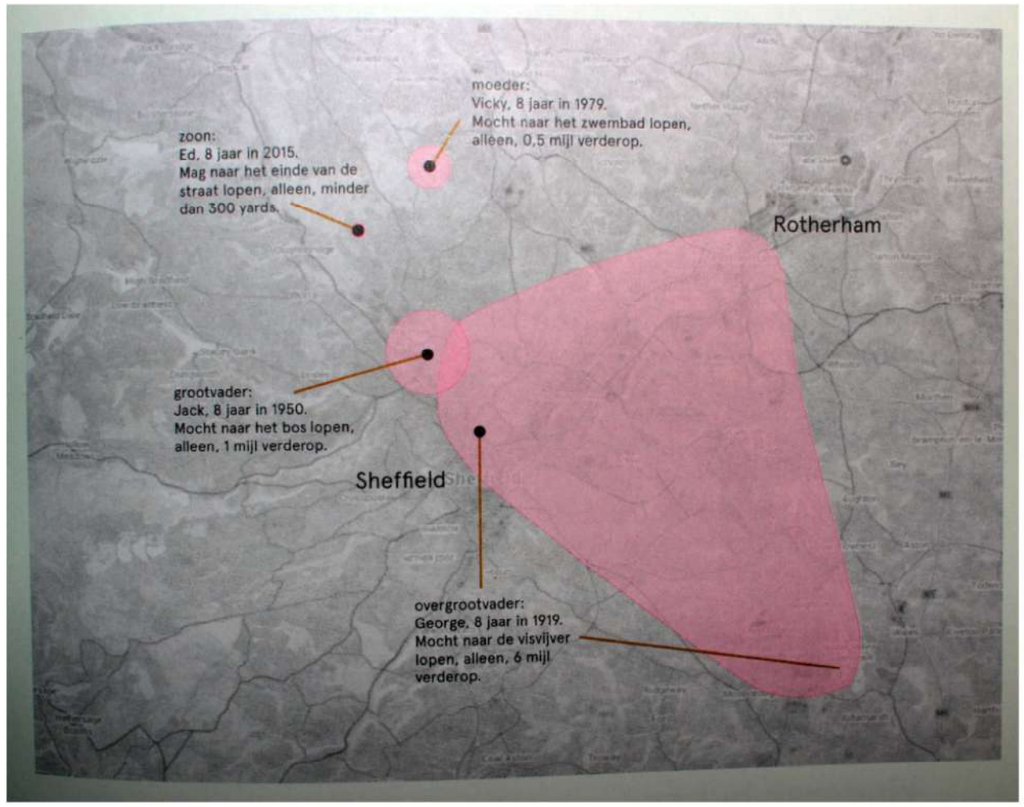
Spijt in Leidsche Rijn

Straatnieuws, juli 2008

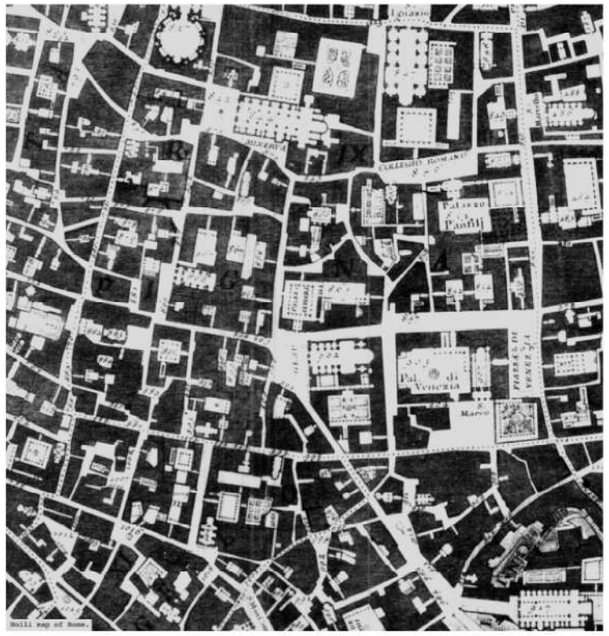
Dorps wonen in een vriendelijk buurtje volop ruimte en groen. Vlakbij de stad, maar ver weg van vandalisme en hangjongeren. Dat was de droom van Utrechters die naar Vleuterweide in Leidsche Rijn verhuisden. In hun nieuwe buurt komen ze de stadse ellende toch weer tegen.

Ditty Eimers in Straatnieuws, july 2008

1 . Problem definition : Shrinking childhoods



'The right to roam': Shrinking childhoods as presented in a 2013 article on Shefffield, UK, in the Independent, 2013, illustration taken from Karsten, 2016)



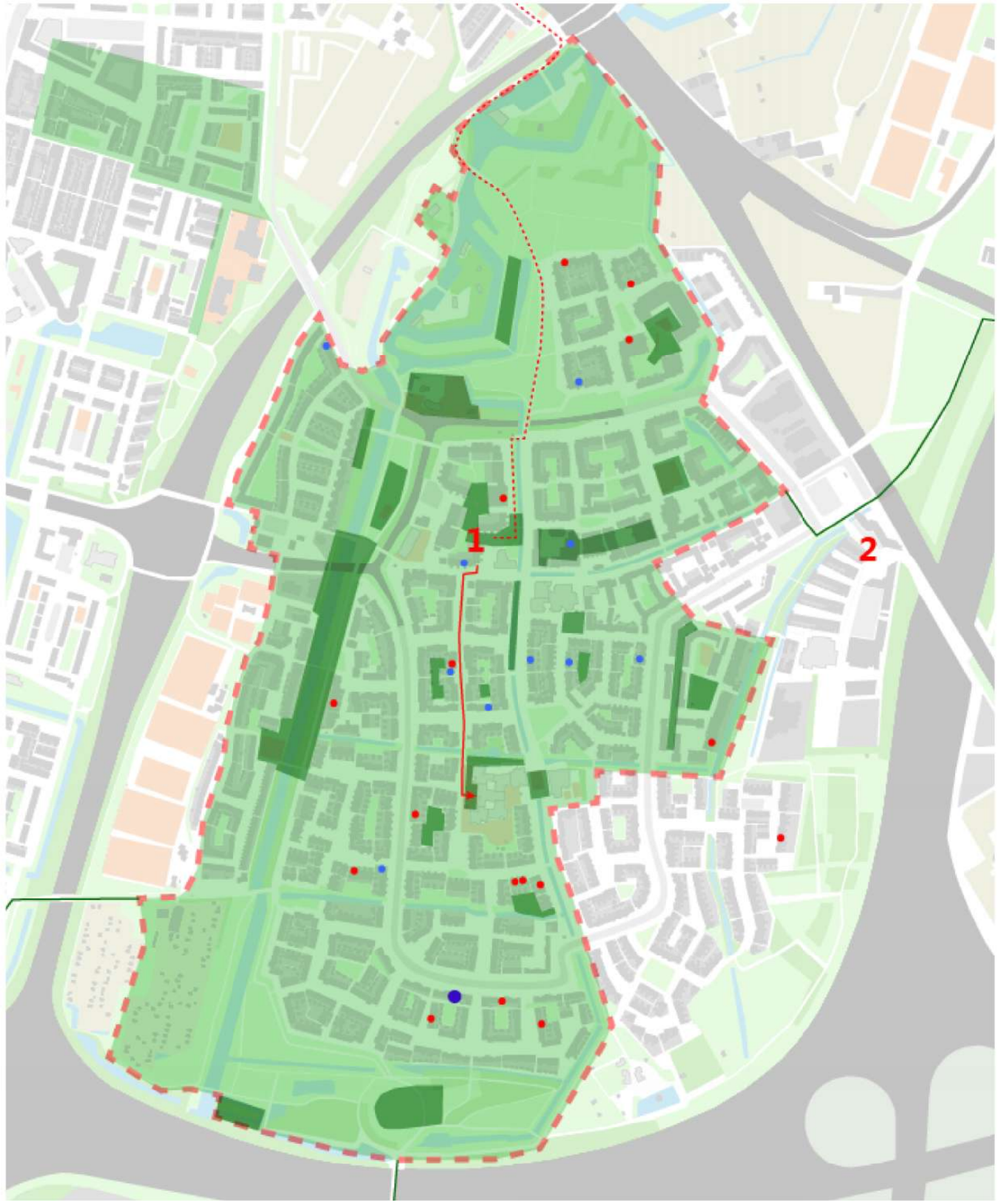
1748 map of Rome by G.Nolli

Experimental 'children's Nolli map' of the Oude Nooden, Rotterdam (2015)

Spatial freedom of children decreased sharply during the 20th century due to the growth of motorised transport.

According to current research childhoods are continuing to shrink, due to social and technological changes

The question for urban planners and designers is:
How can urban public space stimulate children to play outside, make more (diverse) friends, participate in a democratic society, and make contact with different aspects of the urban landscape?



My neighborhood at age 8-9: Lunetten, Utrecht; ‘village in the city’.

Me (right) and some of my friends from school and the neighbourhood on my 9th birthday.

In 1997 I got a pair of Roces Impala 62’s

2 . Research questions

so...

What is public space as children's space?

and,

How do children in Utrecht use and perceive public space?

How have socio-spatial "play patterns" changed in residential neighborhoods of Utrecht as compared with 1996?

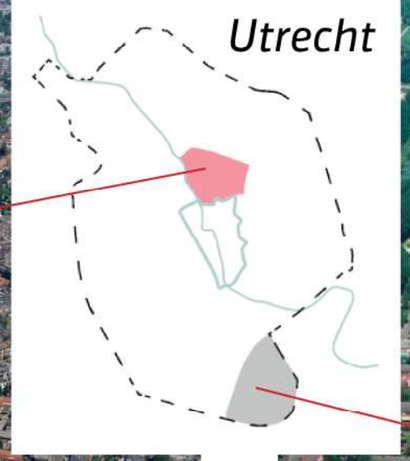
and,

(How) do the spatial particularities of these neighborhoods relate to these changes?

and finally:

What design patterns can we distil from these particularities to use in an urban regeneration plan to improve the sustainability of public space as children's space?

3 . Location

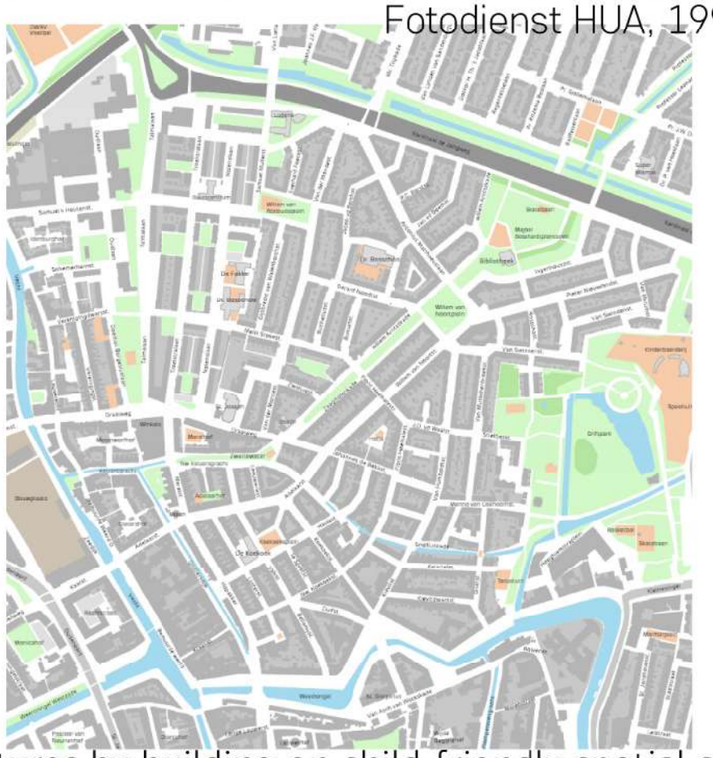


‘Votulast’

Lunetten

Fotodienst HUA, 1998, Utrechts Archief

Area: 1.1 km²
Inhabitants: 13082
Density: **289** dwellings/h
4-11 yo: 6.9%
Highly educated: 74%
Migrant background: 24%
Crime / 1000 inh. : 58
Single-family homes: 42%
Living space / inh. : 30m²
Owner-occupied: **56**%
Av. household income: 34.8 k
Trees / 1000 ihn. : 187
Sports facilities: 5



Area: 1.8 km²
Inhabitants: 11530
Density: 53 dwellings/h
4-11 yo: 7.8%
Highly educated: 60%
Migrant background: 26%
Crime / 1000 inh. : 43
Single-family homes: 38%
Living space / inh. : 33m²
Owner-occupied: 34%
Av. household income: 31.5 k
Trees / 1000 ihn. : 687
Sports facilities: 12

Votulast

Lunetten

Regenerating urban social structures by building on child-friendly spatial characteristics.

İhsan Deniz Kılıçoğlu - MSc5 P5 presentation - Aug 2018

4 . Methodology . Techniques to answer research questions

What is public space as children's space?

Theoretical understanding:
- Literature study

Personal understanding:
- Memories & photographs of childhood
- Conversations with old classmates & friends

How do children in Utrecht use and perceive public space?

On-site observation:
- Mapping play activity on wed. & sun.
- Photographic documentation
- Conversations with children

Social perspective:
- Social mapping workshops at 3 schools
- Questionnaire

(How) do the spatial particularities in these neighborhoods effect the use of public space by children

Urban space analysis:
- Typo/morphological study
- Mapping functions
- Space Syntax
- Mapping relation public/private

Desk analysis:
- Statistical analysis of social maps
- Qualitative analysis of social maps

How have socio-spatial "play patterns" changed in residential neighborhoods of Utrecht as compared with 1996?

Historical understanding:
- In-depth interviews with former residents resulting in maps. (snowball)
- Qualitative analyis of these maps in comparison to those of current children.

Other research:
- Collecting data from municipality
- Collecting data from Utrechts Archief

(How) do the spatial particularities of these neighborhoods relate to these changes?

Empirical research:
- Qualitative analysis of the relations between changes in use to changes in urban structure.

Other research:
- Literature research on sustainability of public space as a social medium.

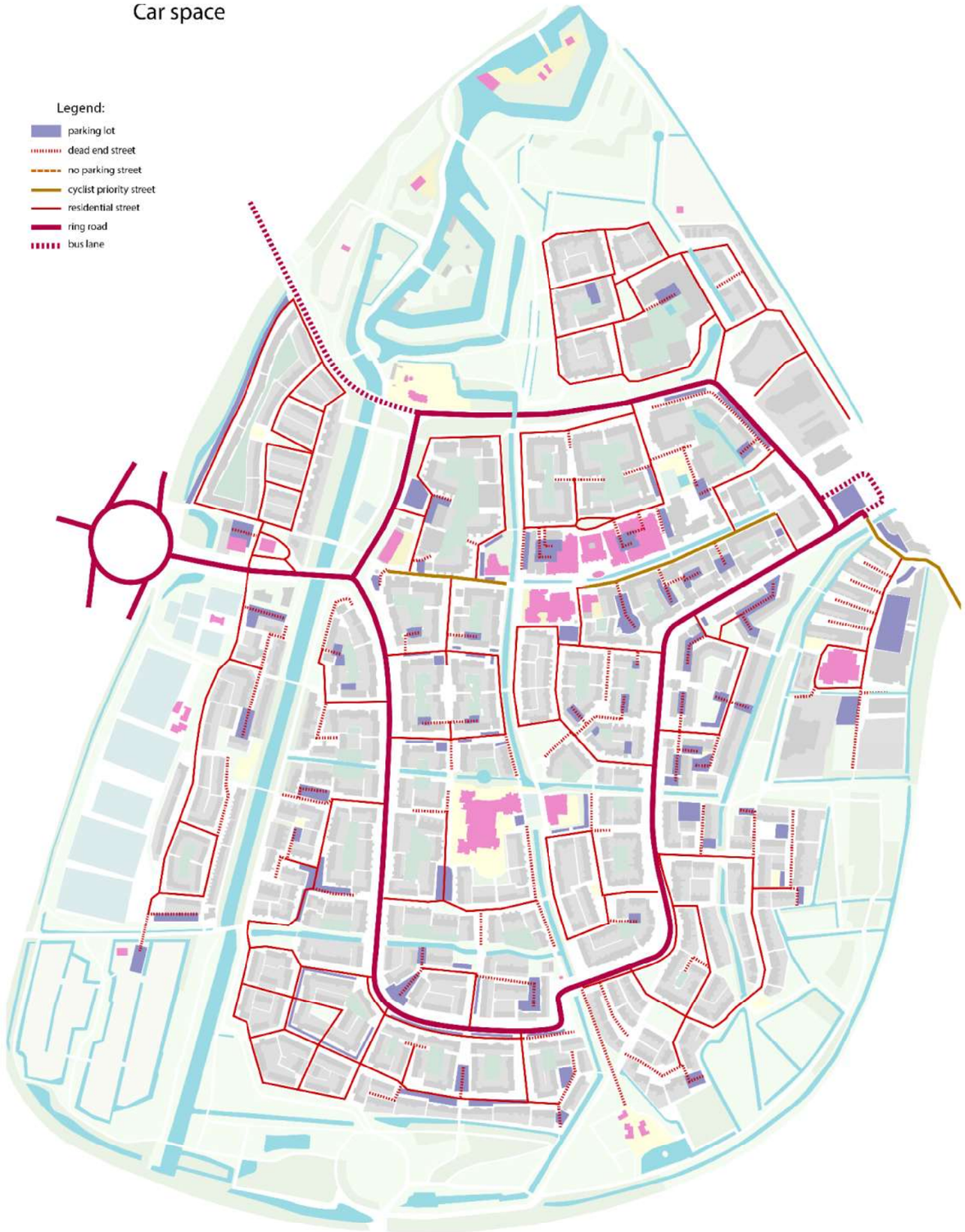
What design patterns can we distil from these particularities to use in an urban regeneration plan to improve the sustainability of public space as children's space

Planning strategy:
- Collecting patterns and guidelines from previous research questions
- Visualizing patterns and guidelines

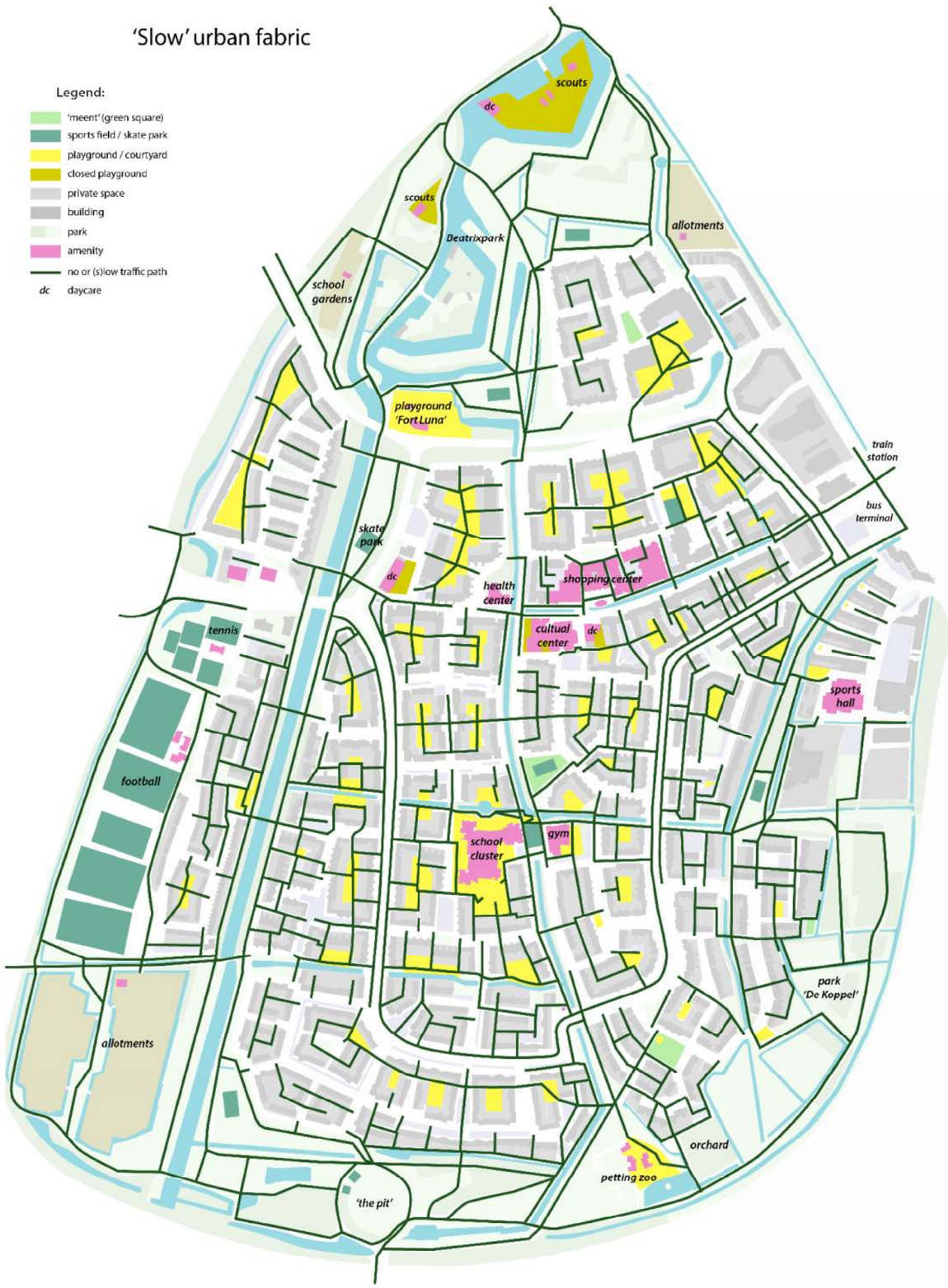
Design strategy:
- Desinging small-scale interventions to test the patterns and guidelines

5 . Analysis . 1 . Urban fabric - Lunetten

Car space



'Slow' urban fabric



5 . Analysis . 1 . Urban fabric - Votulast

Car space

'Slow' urban fabric

5 . Analysis . 2 . Plinths

n fence
ce or hedge
d plinth
cing

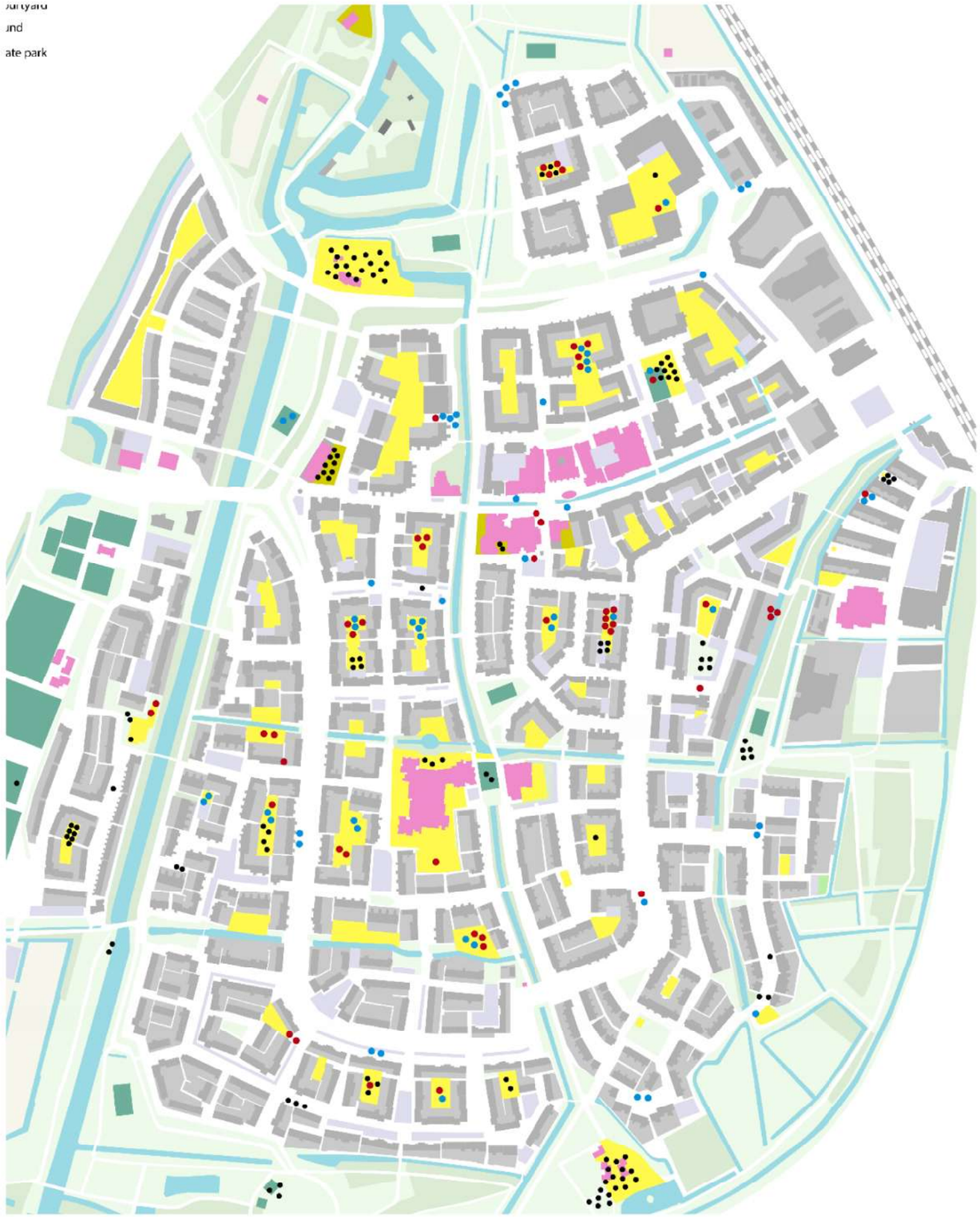
Open garden

Closed garden

Parking garage

Blind plinth

5 . Analysis . 3 . Observation + Plinth - Lunetten



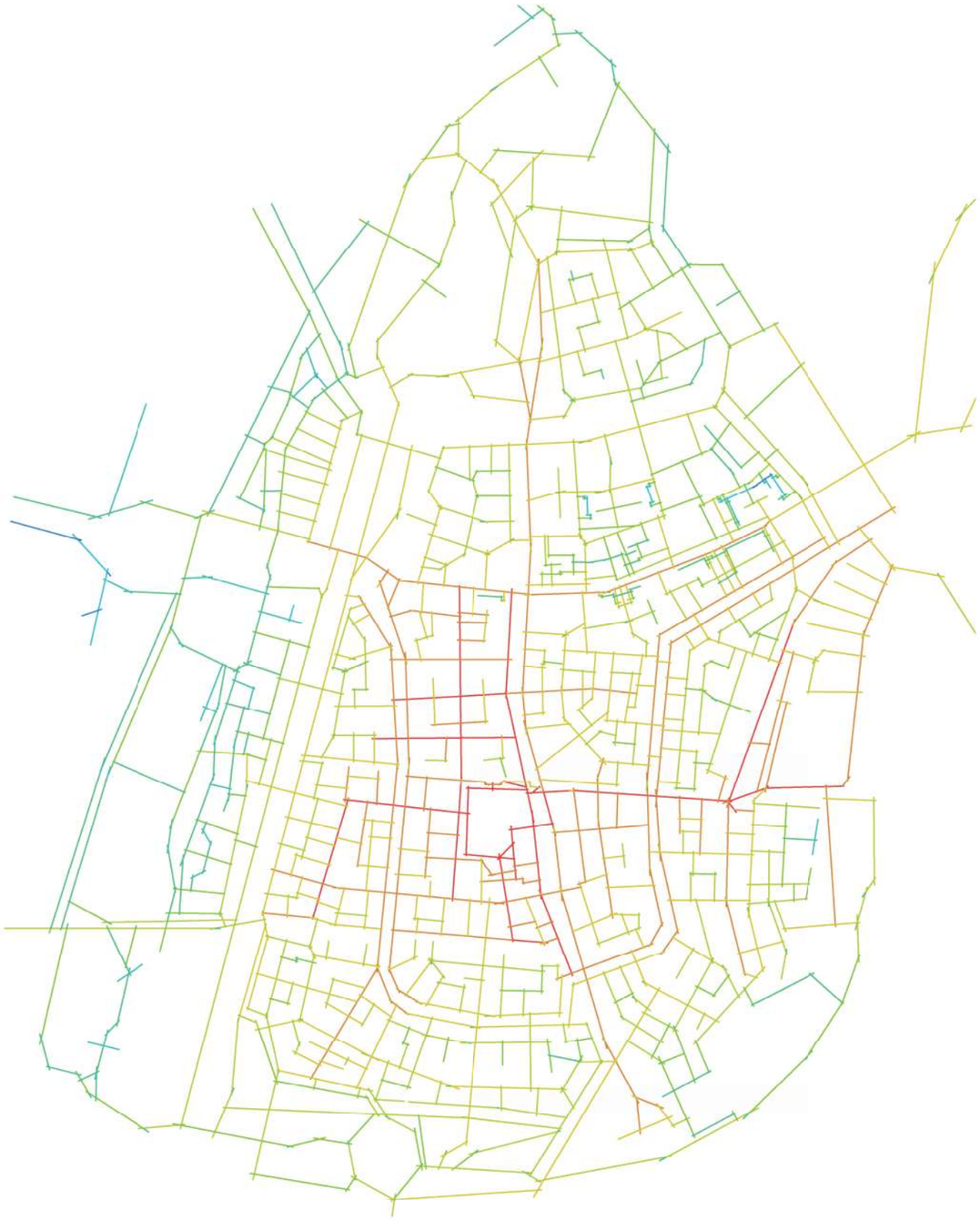
Observation + Plinth - Votulast

Midrise / lowrise

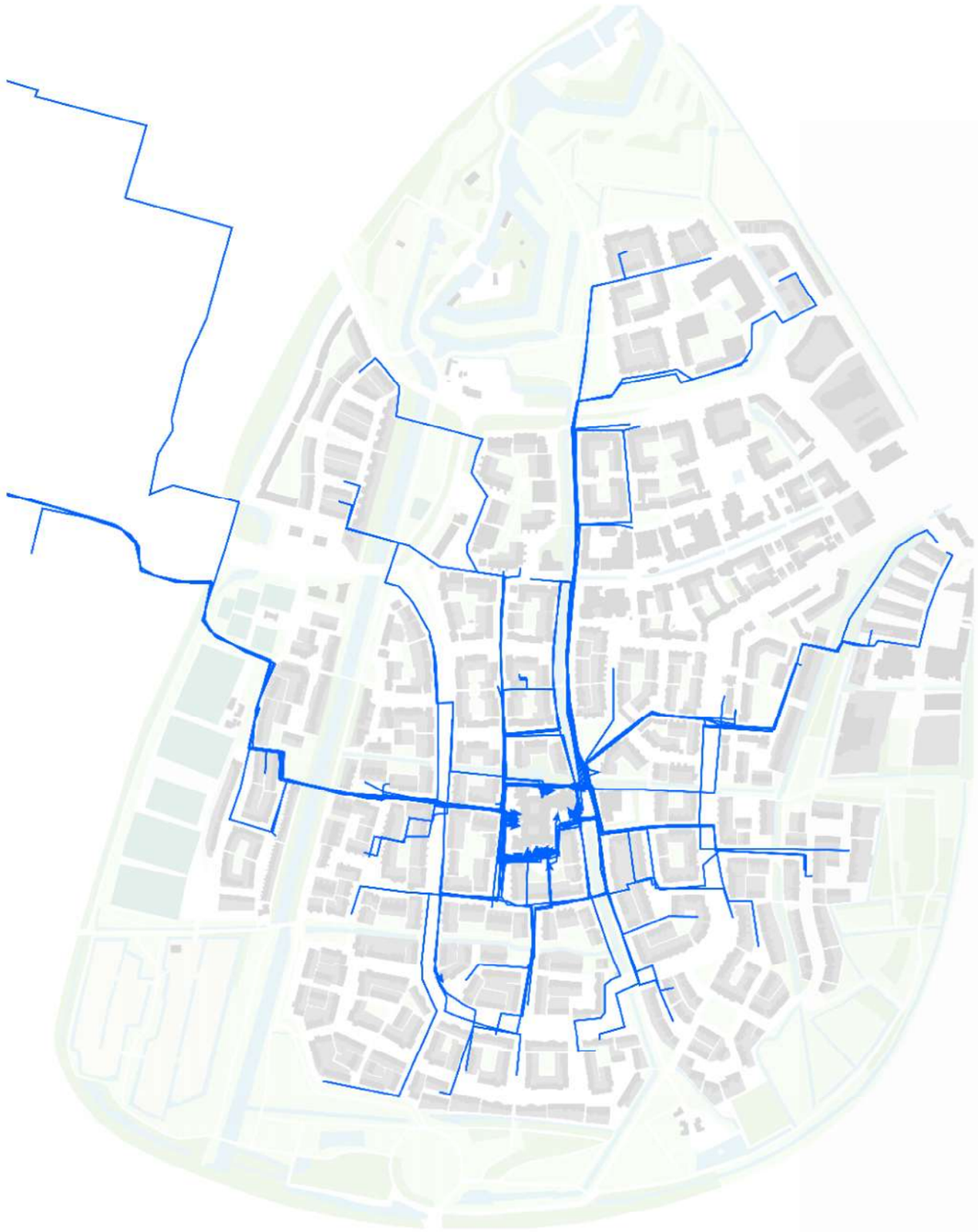
Courtyards

Google Maps

Google Maps



Angular step depth from school cluster

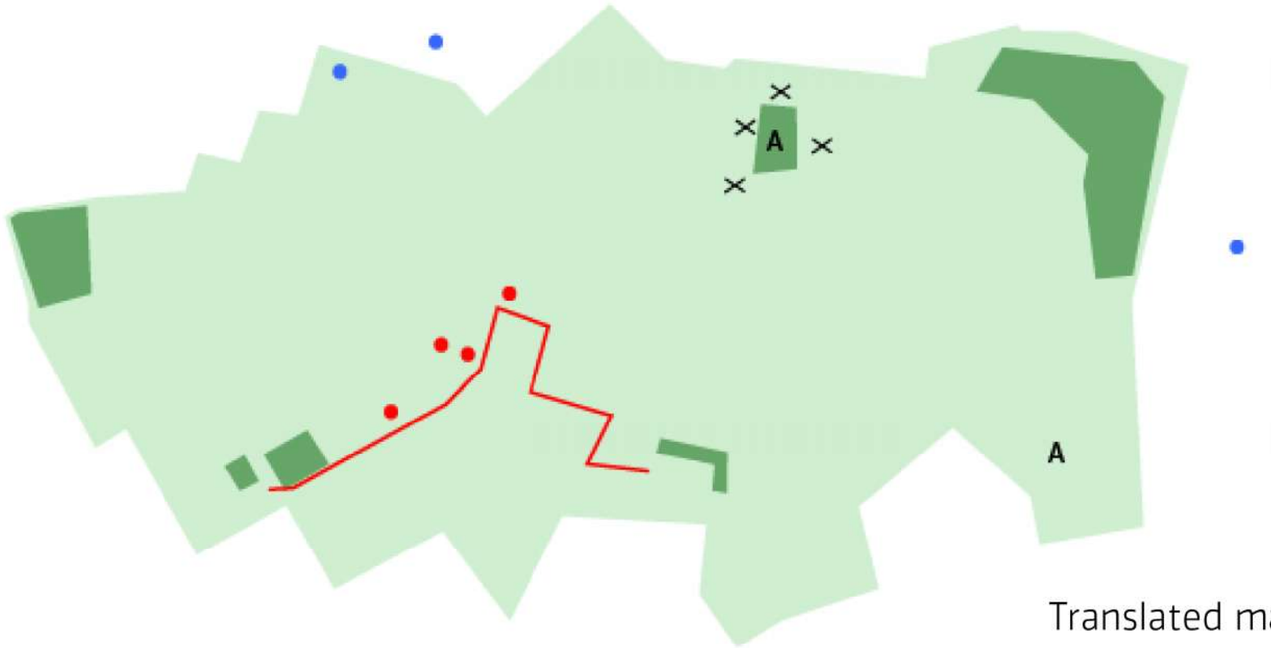


Routes to school indicated by children

T1024 Choice R34 (1996)

T1024 Choice R34 (2016)

6 . School mapping workshops



Independent play area

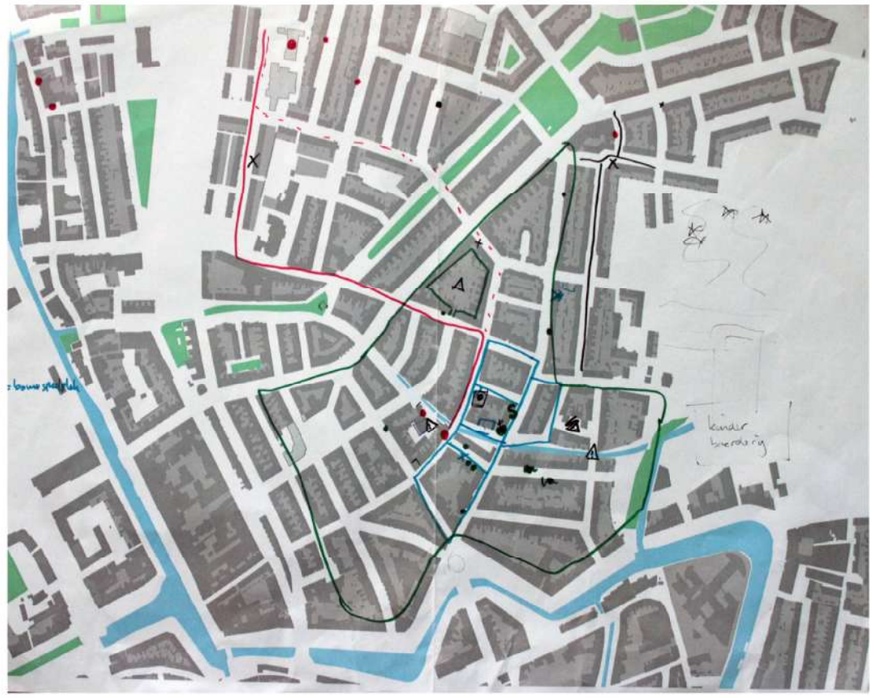
Favourite play spots

Route to school

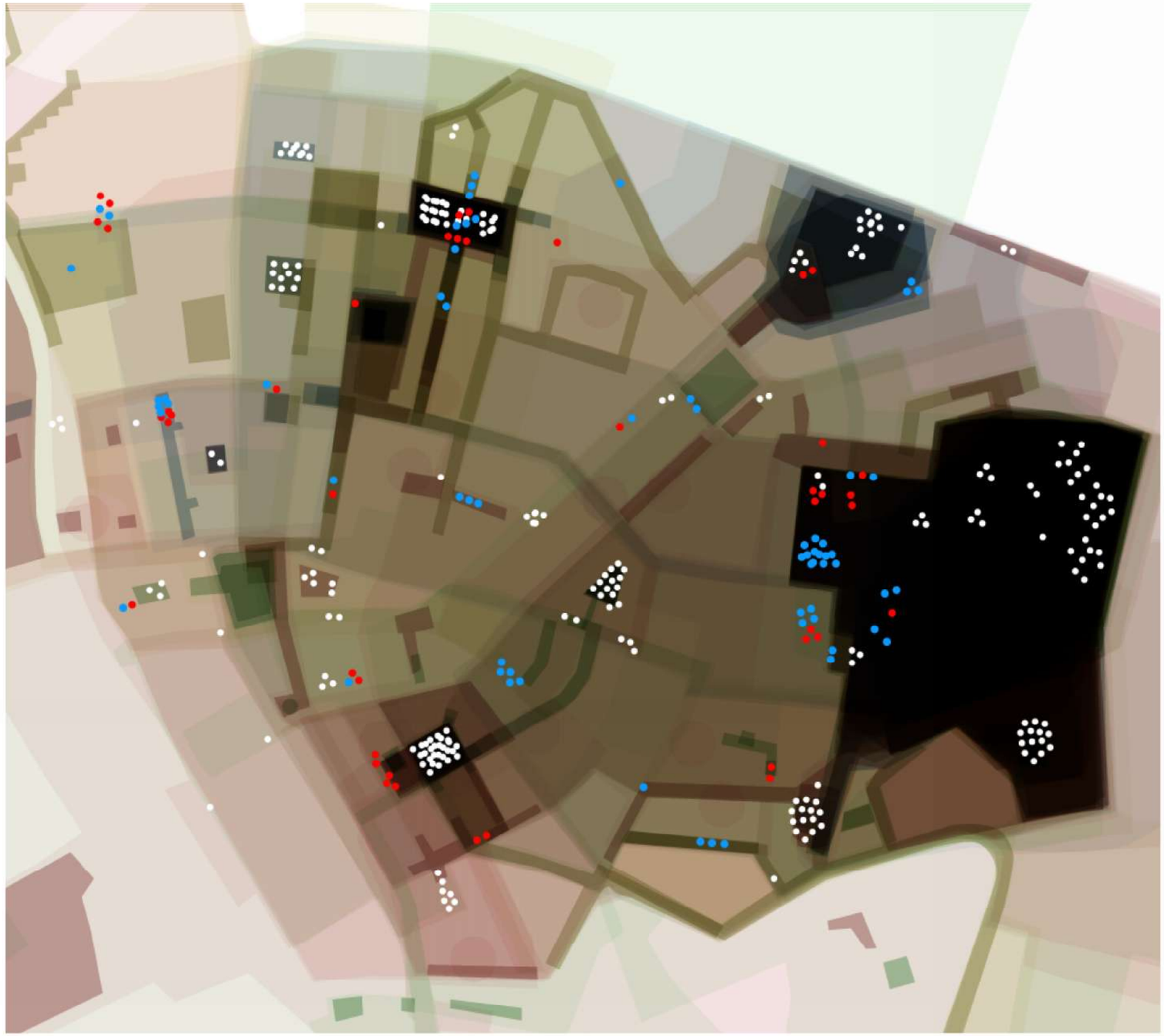
Friend from schoool

Friend from neighbourhood

Negative connotation



Example of an individual map.



Reach & favourite play areas + observations

7 . Results . **2** . Statistical analysis : Sexes

	School	sibling	e. sibling	y. sibling	to schoo	shops	Mode	No. home	mean d	length route (m	Indep.reach (ha	school friend	neigh.friend	concentration	large par	courtyard squar	typology	neighb.	% under 14
2	Koek	< 8y dif	< 5 yo	< 5 yy	indep.				school (m)									v/g/t/s/l	near residenc
3	Girls																		
4	v_M1	2	0	1	no	yes	bike	1		748	40.3	7	7	medium	yes	no	no	"garden	g	20-25
5	v_M2	2	0	1	yes	no	foot	1		580	57.7	5	4	high	yes	no	no	historic	g	15-20
6	v_M3	1	0	1	yes	yes	foot	2		670	82	6	6	medium	no	no	yes	historic	g	15-20
7	v_M4	1	0	1	yes	yes	foot	1		94	106	5	4	medium	no	no	yes	historic	v	15-20
8	v_M5	1	0	1	yes	yes	f/b	1		405	129	11	2	medium	yes	no	no	historic	v	15-20
9	v_M6	2	0	2	yes	yes	bike	1		813	99	11	8	high	yes	no	no	"garden	g	20-25
10	v_M7	0	0	0	yes	yes	f/c	2		1351	46.5	9	4	high	no	no	no	historic	v	15-20
11	v_M8	1	0	1	yes	yes	foot	1		77	41.4	10	0	-	no	no	yes	historic	v	7 – 10
12	v_M9	2	1	1	yes	yes	foot	1		87	11.5	6	3	medium	no	no	yes	historic	v	10-15
13	v_M10	3	1	2	yes	yes	bike	2		1249	242	6	11	low	yes	no	no	postm/h	p/w	2 – 4
14	v_M11	0	0	0	no	yes	b/c	1		1410	23.8	11	5	high	no	no	yes	historic	p	2 – 4
15	v_M12	1	0	1	yes	yes	foot	1		631	44	15	3	medium	no	no	yes	"garden	t	15-20
16	v_M13	1	0	1	no	yes	bike	1		563		6	1	-	no	yes	no	postm	l	7 – 10
17	v_M14	1	1	0																10-15
18	v_M15	2	1	1																7 – 10
19	v_M16	1	1	0																10-15
20	v_M17	2	0	2																7 – 10
21	Av																			
22	Boys																			
23	v_J1	2	0	2																15-20
24	v_J2	0	0	0																10-15
25	v_J3	0	0	0																2 – 4
26	v_J4	1	1	0																7 – 10
27	v_J5	1	1	0																10-15
28	v_J6	0	0	0																2 – 4
29	v_J7	1	0	1																10-15
30	v_J8	1	1	0																7 – 10
31	v_J9	2	0	2																4 – 7
32	v_J10	1	1	0																7 – 10
33	v_J11	0	0	1																10-15
34	v_J12	0	0	0																7 – 10
35																				
36	Fakkel	sib tot	e. sibling	y. siblir															b.	% children ne
37	Girls																			
38	v_M19	2	0	2																15-20
39	v_M20	0	0	0																10-15
40	v_M21	2	0	2																15-20
41	v_M22	1	1	0																15-20
42	v_M23	2	1	1																15-20
43	v_M24	1	1	0																7 – 10
44	v_M25	0	0	0																15-20
45	v_M26	0	0	0																15-20
46	v_M27	2	2	0	yes		bike	1		936	104	12	5	medium	yes	no	no	historic	v	10-15
47	v_M28	0	0	2	yes		bike	1		978	30.1	14	13	medium	no	no	no **	historic	v	10-15
48	v_M29	1	0	1	yes		f/b	1		298	16	0	2	medium	no	no	yes	"garden	t	15-20
49	v_M30	0	0	0	yes		bike	1		1044	14.7	3	5	high	no	yes	no	historic	p	10-15
50	v_M31	1	0	1	no		car	1		1955	4	0	3	medium	no	no	yes	"garden	on	15-20
51	v_M32	2	0	2	yes		bike	1		840	9	6	0	-	no	no	no	historic	p	15-20
52	v_M33	1	0	1	no		f/b	2		771.5		9	1	-	no	no	yes	"garden	on	10-15
53	v_M34	1	1	0	no		bike	1		1347	6.1	8	0	-	no	no	no	historic	p	7 – 10
54	v_M35	1	1	0	yes		bike	1		1285	93.2	3	1	-	no	no	yes	historic	p	10-15
55	Av									761.91	36.21	7.25	2.19							

		length route (m)	Indep.reach (ha)	school friends	neigh.friends
n101	Total av	**696.78**	**63.52**	**7.12**	**3.02**
	median	**551**	**37.6**	**6**	**2**
	variance	**273435.93**	**5386.03**	**14.63**	**9.72**
	sd	**522.91**	**73.39**	**3.82**	**3.12**
n46	Boys av	**697.82**	**72.17**	**6.11**	**2.7**
	median	**555.5**	**42.1**	**5**	**2**
	variance	**305556.33**	**6196.58**	**12.72**	**6.31**
	sd	**552.77**	**78.72**	**3.57**	**2.51**
n55	Girls av	**695.92**	**56.36**	**7.96**	**3.29**
	median	**517**	**27.3**	**8**	**2**
	variance	**251730.89**	**4708.82**	**14.89**	**12.58**
	sd	**501.73**	**68.62**	**3.86**	**3.55**

7 . Results . **2** . Statistical analysis : Siblings

	School	sibling	e. sibling	y. sibling	to schoo	shops	Mode	No. home	mean d school (m)	length route (m	Indep.reach (ha	school friend	neigh.friend	concentration	large par	courtyard squar	typology	neighb. v/g/t/s/l	% under 14 near residenc
2	Koek	< 8y dif	< 5 yo	< 5 yy	indep.														
3	Girls																		
4	v_M1	2	0	1	no	yes	bike	1		748	40.3	7	7	medium	yes	no	no	"garden	g	20-25
5	v_M2	2	0	1	yes	no	foot	1		580	57.7	5	4	high	yes	no	no	historic	g	15-20
6	v_M3	1	0	1	yes	yes	foot	2		670	82	6	6	medium	no	no	yes	historic	g	15-20
7	v_M4	1	0	1	yes	yes	foot	1		94	106	5	4	medium	no	no	yes	historic	v	15-20
8	v_M5	1	0	1	yes	yes	f/b	1		405	129	11	2	medium	yes	no	no	historic	v	15-20
9	v_M6	2	0	2	yes	yes	bike	1		813	99	11	8	high	yes	no	no	"garden	g	20-25
10	v_M7	0	0	0	yes	yes	f/c	2		1351	46.5	9	4	high	no	no	no	historic	v	15-20
11	v_M8	1	0	1	yes	yes	foot	1		77	41.4	10	0	-	no	no	yes	historic	v	7 – 10
12	v_M9	2	1	1	yes	yes	foot	1		87	11.5	6	3	medium	no	no	yes	historic	v	10-15
13	v_M10	3	1	2	yes	yes	bike	2		1249	242	6	11	low	yes	no	no	postm/h	p/w	2 – 4
14	v_M11	0	0	0	no	yes	b/c	1		1410	23.8	11	5	high	no	no	yes	historic	p	2 – 4
15	v_M12	1	0	1															t	15-20
16	v_M13	1	0	1															l	7 – 10
17	v_M14	1	1	0															/c	10-15
18	v_M15	2	1	1															v	7 – 10
19	v_M16	1	1	0															p	10-15
20	v_M17	2	0	2															v	7 – 10
21	Av																			
22	Boys																			
23	v_J1	2	0	2															g	15-20
24	v_J2	0	0	0															v	10-15
25	v_J3	0	0	0															c	2 – 4
26	v_J4	1	1	0															v	7 – 10
27	v_J5	1	1	0															l	10-15
28	v_J6	0	0	0															c	2 – 4
29	v_J7	1	0	1															v	10-15
30	v_J8	1	1	0															c	7 – 10
31	v_J9	2	0	2															v	4 – 7
32	v_J10	1	1	0															v	7 – 10
33	v_J11	0	0	1															o	10-15
34	v_J12	0	0	0															:d	7 – 10
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36	Fakkel	sib tot	e. sibling	y. sibl															ghb.	% children ne
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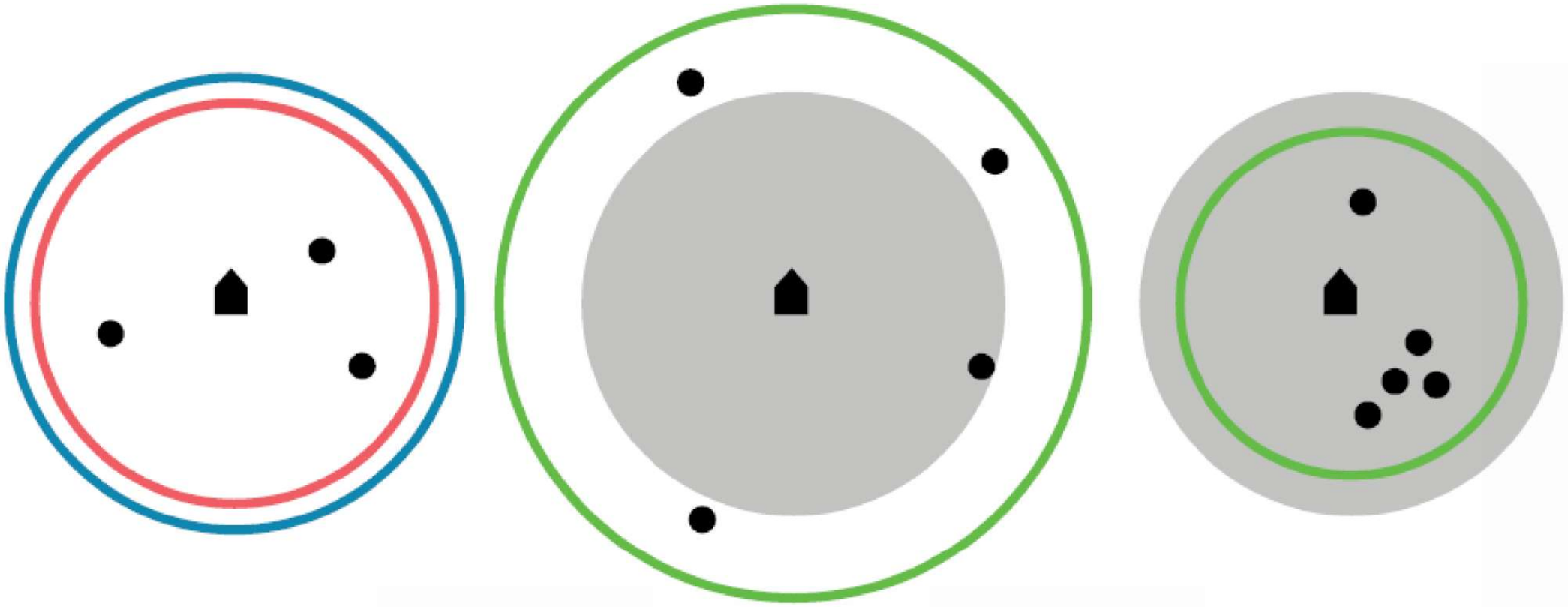
45	v_M26	0	0	0															t	15-20
46	v_M27	2	2	0															v	10-15
47	v_M28	0	0	2															v	10-15
48	v_M29	1	0	1															t	15-20
49	v_M30	0	0	0															p	10-15
50	v_M31	1	0	1															on	15-20
51	v_M32	2	0	2	yes		bike	1		840	9	6	0	-	no	no	no	historic	p	15-20
52	v_M33	1	0	1	no		f/b	2		771.5		9	1	-	no	no	yes	"garden	on	10-15
53	v_M34	1	1	0	no		bike	1		1347	6.1	8	0	-	no	no	no	historic	p	7 – 10
54	v_M35	1	1	0	yes		bike	1		1285	93.2	3	1	-	no	no	yes	historic	p	10-15
55	Av									761.91	36.21	7.25	2.19							

n24	no siblings	817.46	50.74	7.5	2.46
median		560.5	30.1	7.5	2
variance		420109.04	5101.1	13.74	8.17
sd		648.16	71.42	3.71	2.86
n21	2 or 3 sib.	516.76	55.87	7.81	3.71
median		408	40.3	7	3
variance		87922.89	3763.88	13.76	13.81
sd		296.52	61.35	3.71	3.72
	y. sib	639.99	59.91	6.57	3.69
median		519	40.3	6	3
variance		269737.72	4604.87	13.57	13.06
sd		519.36	67.86	3.68	3.61
	o. sib	700.9	75.89	8.25	3.22
median		524	38.7	7.5	2
variance		213825.08	6849.68	17.74	10.69
sd		462.41	82.76	4.21	3.27

	>15% child	629.73	55.06	7.45	3.09
median		440	34.9	8	3
variance		244167.6	5006.41	14.21	7.85
sd		494.13	70.76	3.77	2.8
n43	school ind.	612.86	67.49	6.95	3.12
median		514	36.7	6	2
variance		168445.36	5480.58	13.76	10.06
sd		410.42	74.03	3.71	3.17
n18	school ind.	926.55	43.24	6.48	3.05
median		748	20.9	6	3
variance		548428.5	3267.8	12.36	7.35
sd		740.56	57.16	3.52	2.71
n26	large park	875.73	122.68	7.46	4.08
median		780.5	101.5	7	4
variance		167792.44	7662.94	14.34	9.83
sd		409.62	87.54	3.79	3.14
n28	courtyard	480.76	57.23	7.34	4.66
median		452	14.6	6	4
variance		51987.12	6557.07	17.52	13.45
sd		228.01	80.98	4.19	3.67
n26	square	833.24	42	6.41	2.93
median		587	30.3	5	3
variance		588164.67	1620.11	19.18	5.14
sd		766.92	40.25	4.38	2.27

Spatial characteristics have more influence on the number of friends and independent mobility than going to school alone or living in an area with a high concentration of children!

Neighbourhood friends and independent reach



Girls (n=55)
Average Area = 56.4 ha (r = 425m)
Median Area = 27.3 ha (r = 295m)
Neighbourhood friends = 3.3

Boys (n=46)
Average Area = 72.1 ha (r = 480 m)
Median Area = 41.1 ha (r = 366m)
Neighbourhood friends = 2.7

Living near a large park (n=26)
Average Area = 122.7 ha (r = 625m)
Median Area = 101.5 ha (r = 570m)
Neighbourhood friends = 4.1

Living near a large park doubles the independent reach and adds one neighbourhood friend on average.

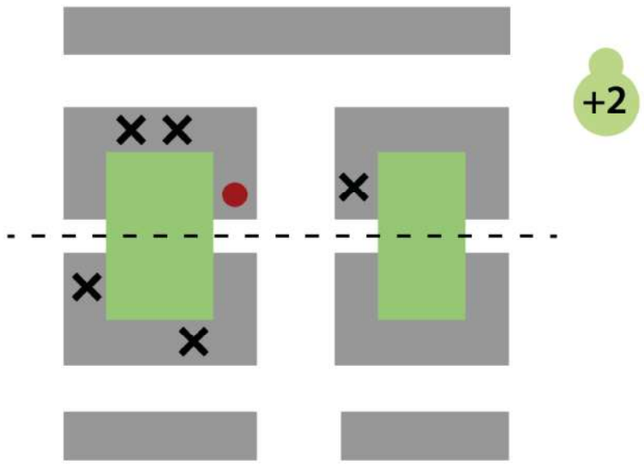
Living near a courtyard (n=28)
Average Area = 57.2 ha (r = 425m)
Median Area = 14.6 ha (r = 215m)
Neighbourhood friends = 4.6

Living near a courtyard reduces independent reach, but adds two neighbourhood friends on average.

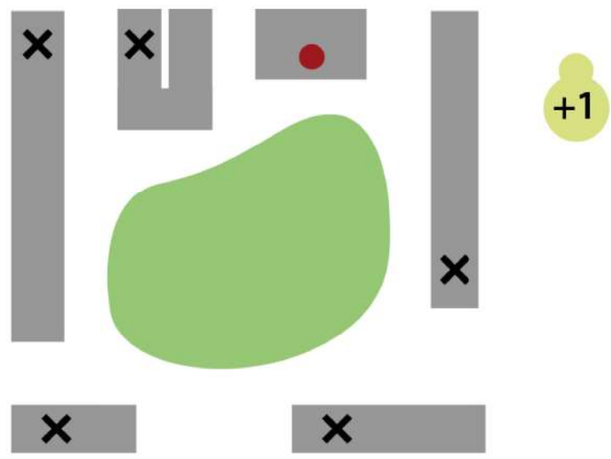
Not living on a courtyard (red) and non-school friends (blue)

Living on a courtyard (red) and non-school friends (blue)

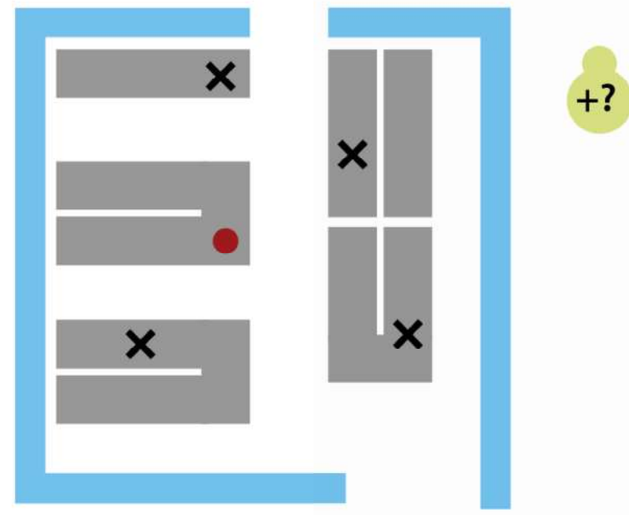
Living on a courtyard adds two friends from the neighborhood on average !



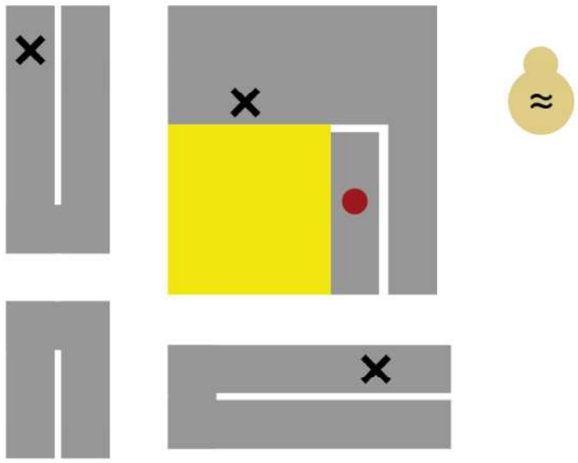
Courtyard:
high concentration



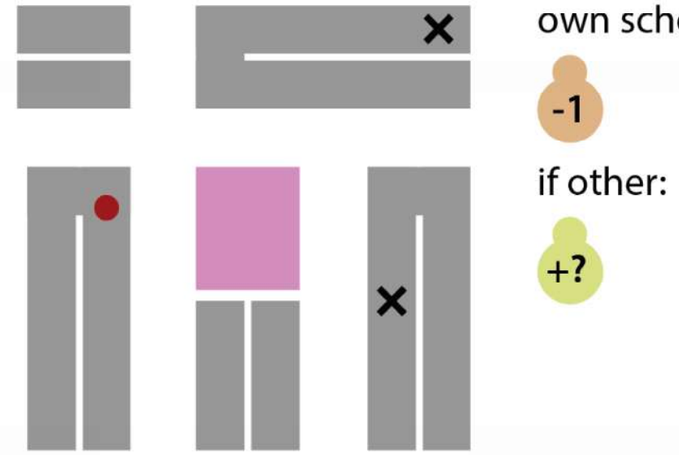
Park:
low/medium concentration



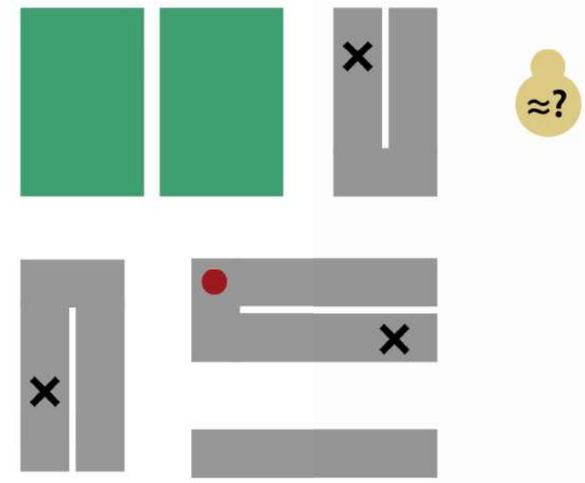
'Island':
high concentration



Square:
medium concentration

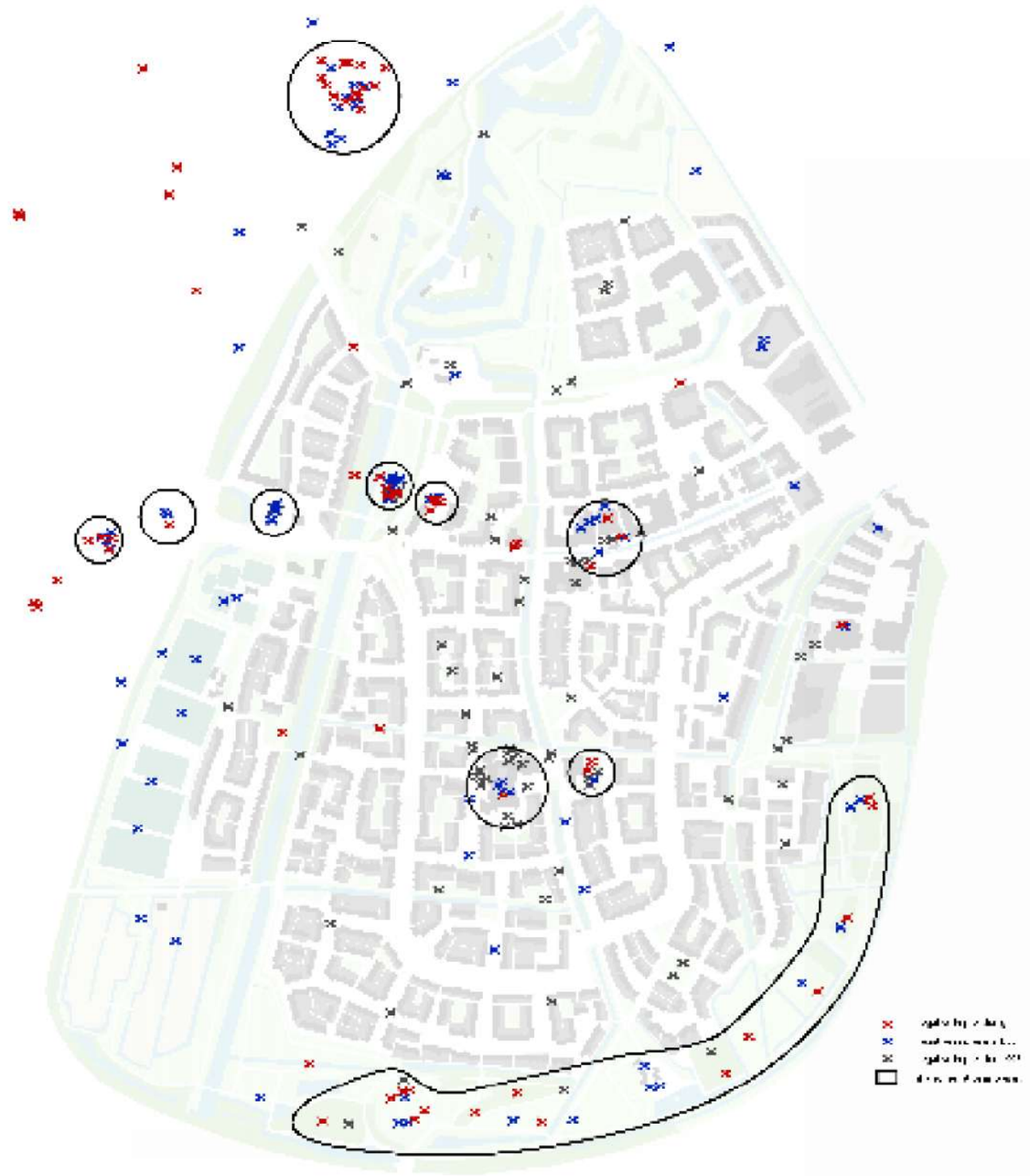


School:
medium concentration



Sports fields/club:
low/medium concentration

Popular play spaces. red = girls, green = boys, purple = 1996



Negative spaces in Lunetten

block / courtyard
~75m radius

play
- swing & slide
- functional (motor) play
- fantasy play
- imitation play

social
- semi-public enclosed space
- 'front door' for neighbours
- high inter-visibility public-private
- audible connection public-private
- co-ownership with residents
- "furnishing for togetherness"
- diverse housing typologies

space
- play space at least 300m²
- at least 15m wide
- adequate light entrance
- multi-chambered
- high visual depth
- places to hide
- (bridged) height differences
- place to gaze at the sky

nature
- non-toxic plants: ground cover, shrubs, vines, climbable trees
- fauna: insects, worms, spiders, birds, bats, cats, dogs, chickens
- spice / vegetable garden
- greenhouse
- water source
- fire pit

material
- yard: grass, sand, earth, wood chip
- path: compacted gravel, stone
- play material; sand, clay, pebbles twigs, cones, leaves, nuts, shells
- re-using household 'waste'
- shared storage shed

'buurt'
~200m radius

play
- functional (motor) play
- fantasy play
- exploration, emplaced knowledge
- (informal) sports

social
- small (play) square or 'meent'
- front door for visitors
- some inter-visibility public-private
- local legends, emplaced knowledge
- co-maintenance with municipality
- corner store, icecream van
- mixed-use with small workshops

space
- pluriformity of 'play stretches'
- shared space or wide sidewalks
- minimized through traffic
- unprogrammed spaces
- sport pitch for 2-8 players
- spaces to meet friends
- vantage point(s)
- access to public transport

nature
- diverse micro-climates
- diverse plants at eye level children
- fauna; fish, amphibians, squirrels
- allotment gardens
- collecting flowers, berries, nuts
- play or fish in ditches, ponds
- trees to climb, build tree huts in
- place to let the dog off the leash

material
- squares: mix of hard & soft material
- bike paths: asphalt, concrete
- sidewalk detailing : stoops, alcoves, stairs, canopies, corners
- storage box at play squares / streets
- collecting 'waste': paper, glass jars
- 'free little library'

neighb. / village
~800m radius

play
- exploration, formal knowledge
- functional (motor) play
- (competitive) sports

social
- (market) square as "totem pole"
- community center, library, theater
- clear boundary public / private
- participation of children in civic life
- organized clean-up activity
- shopping street with local trades
- diverse urban landscape

space
- network of play stretches & spots
- separation of traffic by speed
- safe pedestrian crossings
- open school yards
- space for organized group activities
- isolated spaces for privacy
- spaces for teens, adolescents
- extensive cycle network

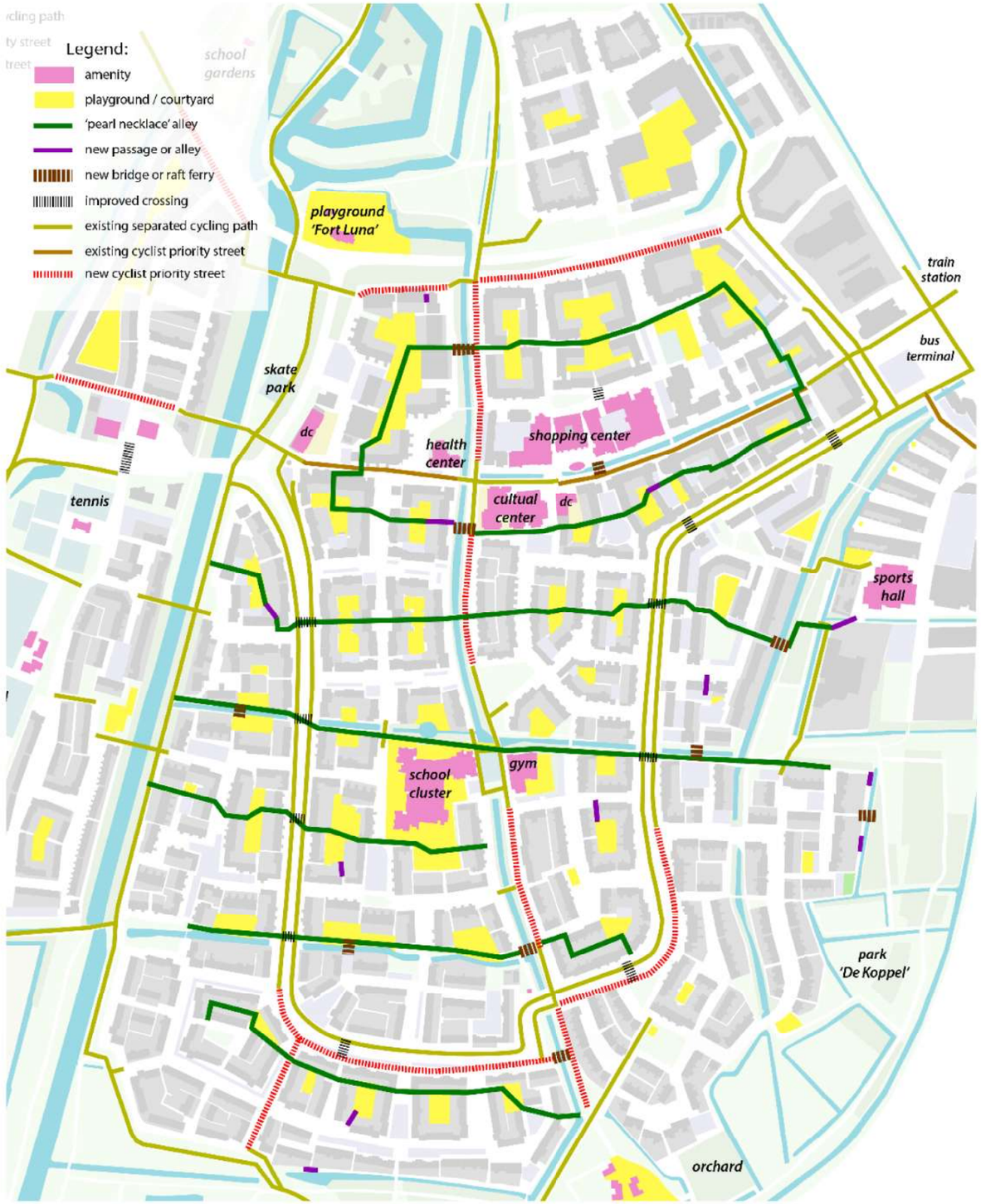
nature
- access to natural environments
- diverse environments to explore; forrests, fields, dunes, lakes, streams
- fauna; farm animals, mammals in natural habitat, meadow birds
- experience transhumance
- farmers market
- petting zoo

material
- squares: (natural) stone, brick
- street & bike path: asphalt
- toy library or sharing group
- geocaches
- children's street market

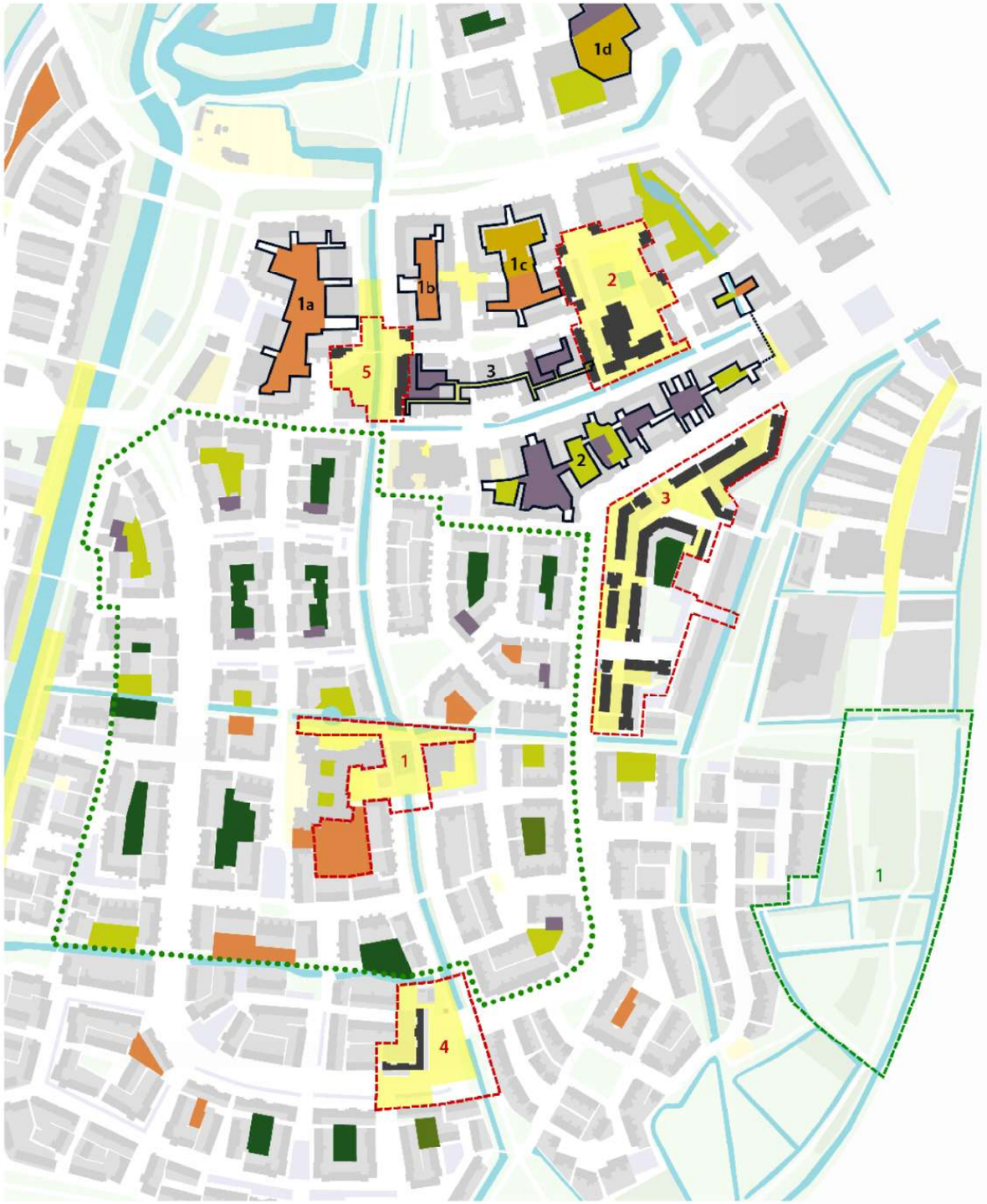
Regenerating urban social structures by building on child-friendly spatial characteristics.

İhsan Deniz Kılıçoğlu - MSc5 P5 presentation - Aug 2018

8 . Design assignment : Lunetten

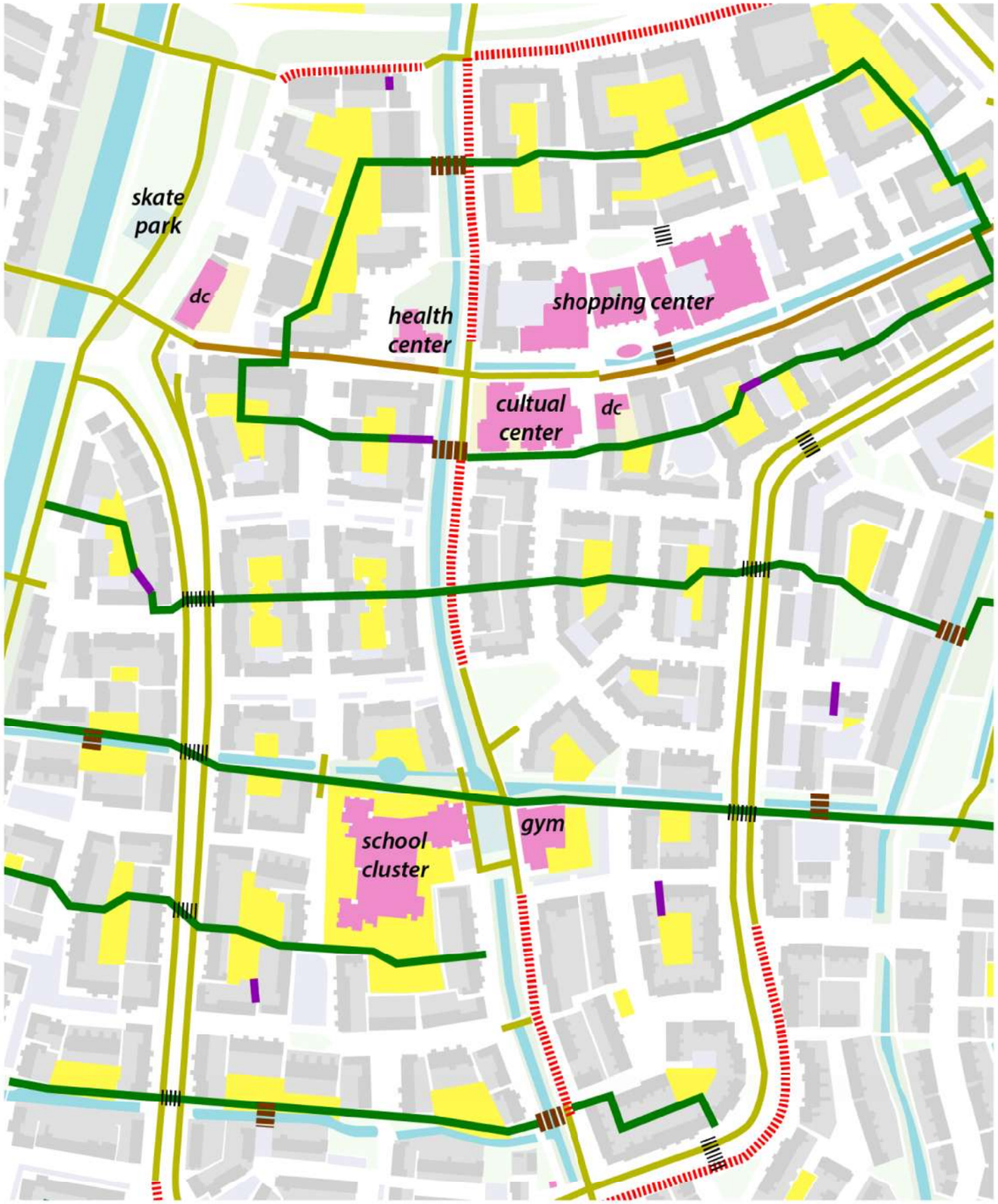


Additions & Interventions in urban fabric

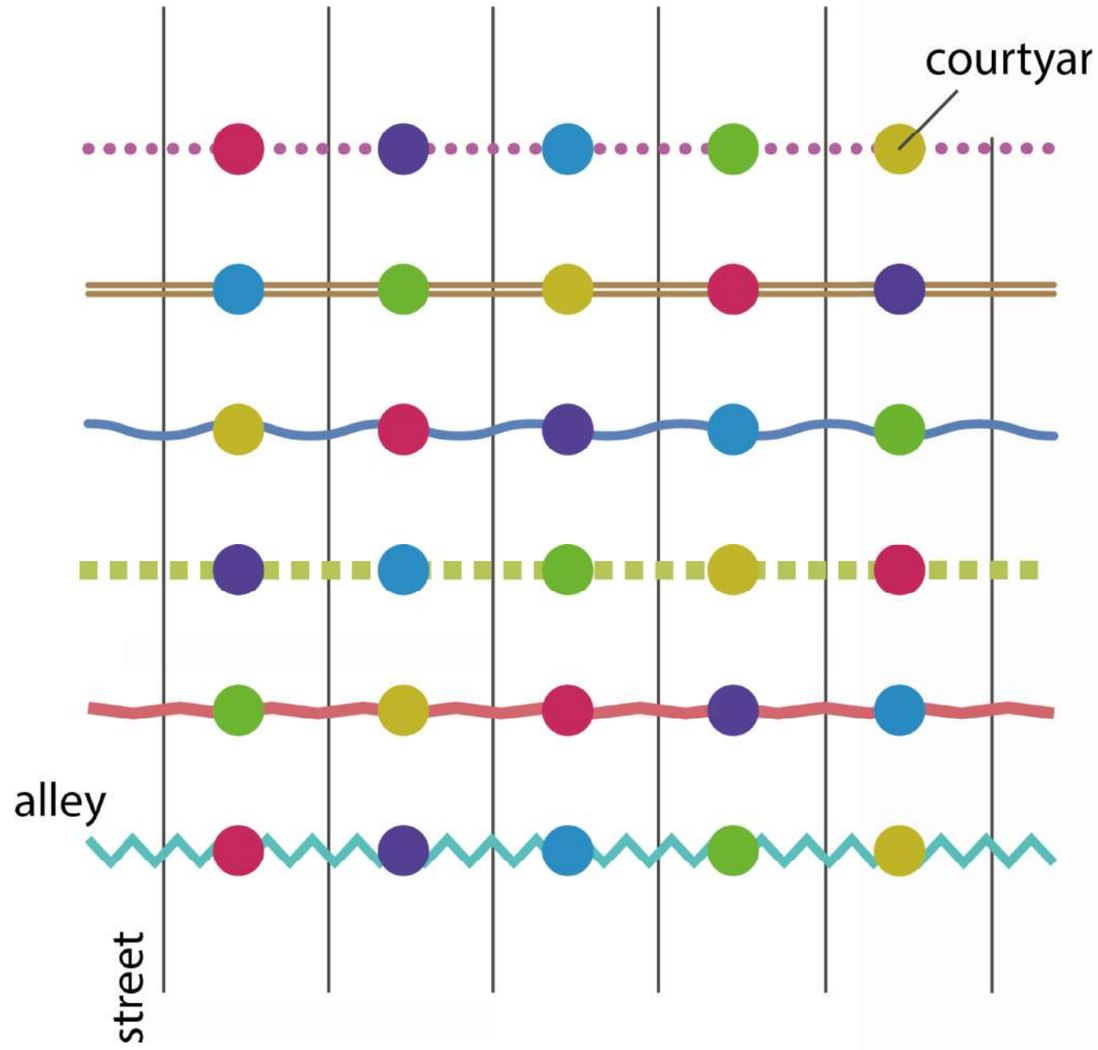


Additions & Interventions in public space

8 . Design assignment : Lunetten

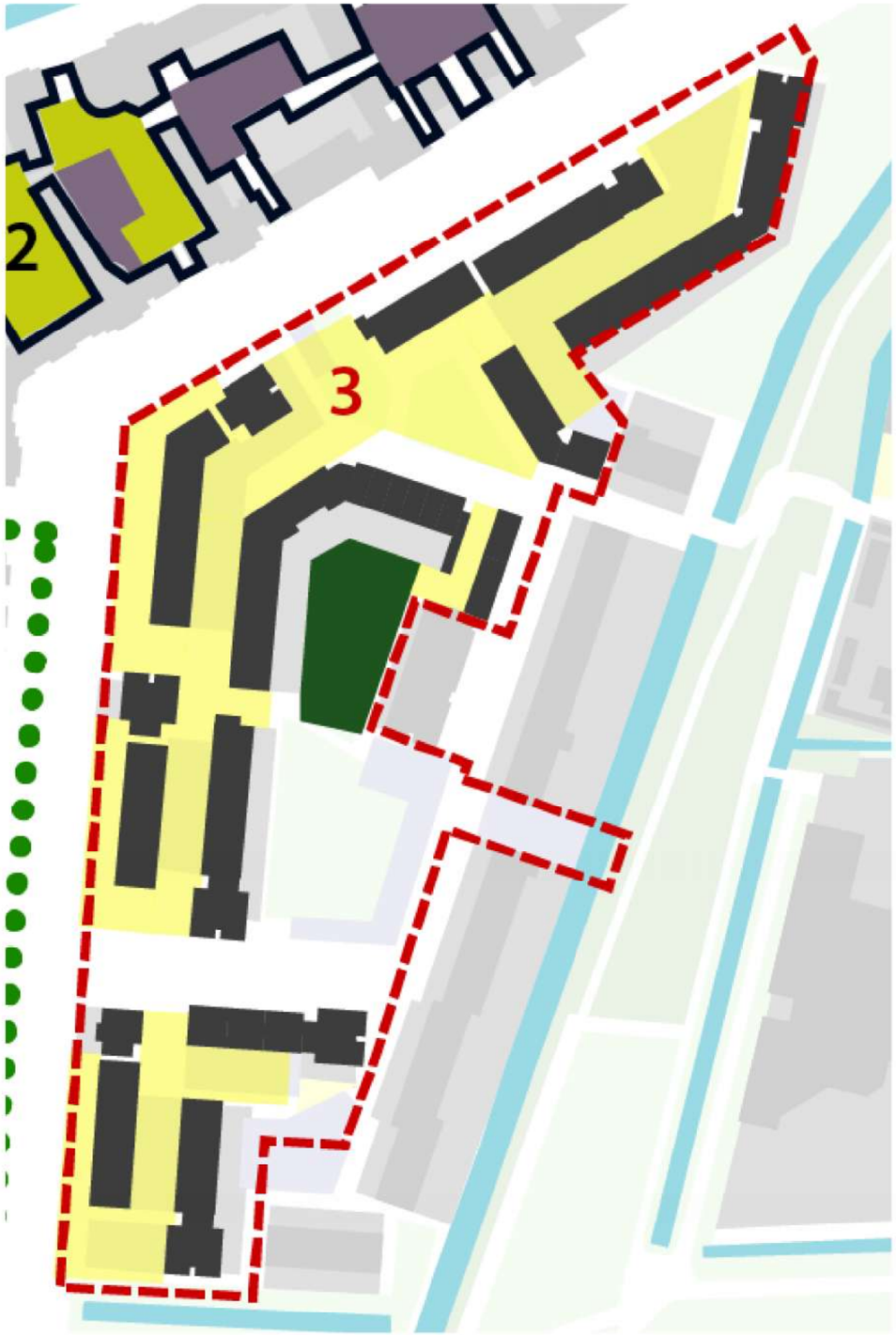


Additions & Interventions in urban fabric



Additions & Interventions in public space

8 . Design assignment : Lunetten



block / courtyard

~75m radius

play

- swing & slide
- functional (motor) play
- fantasy play
- imitation play

social

- semi-public enclosed space
- 'front door' for neighbours
- high inter-visibility public-private
- audible connection public-private
- co-ownership with residents
- "furnishing for togetherness"
- diverse housing typologies

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- play space at least 300m²
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nature

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- water source
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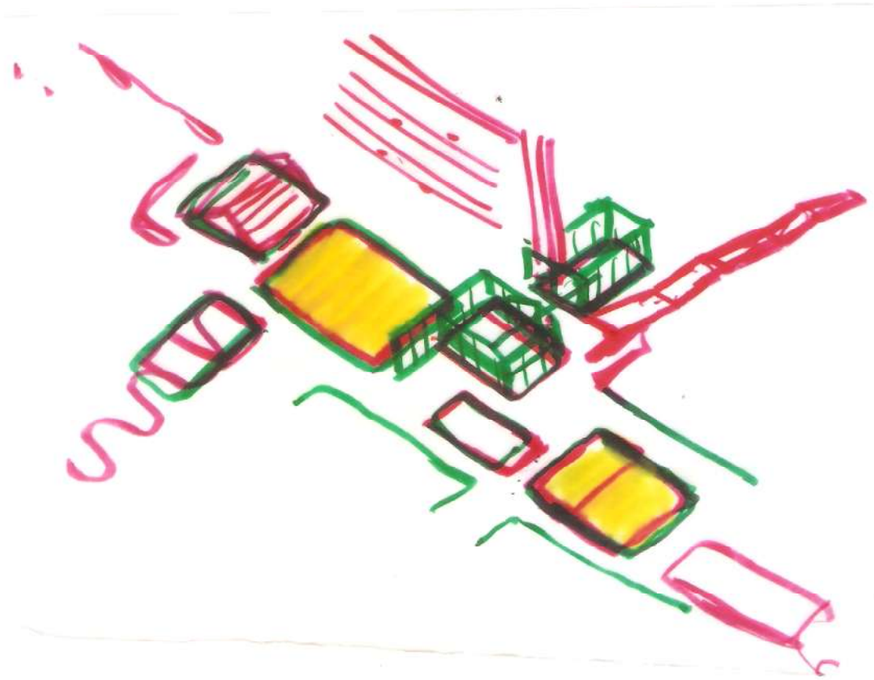
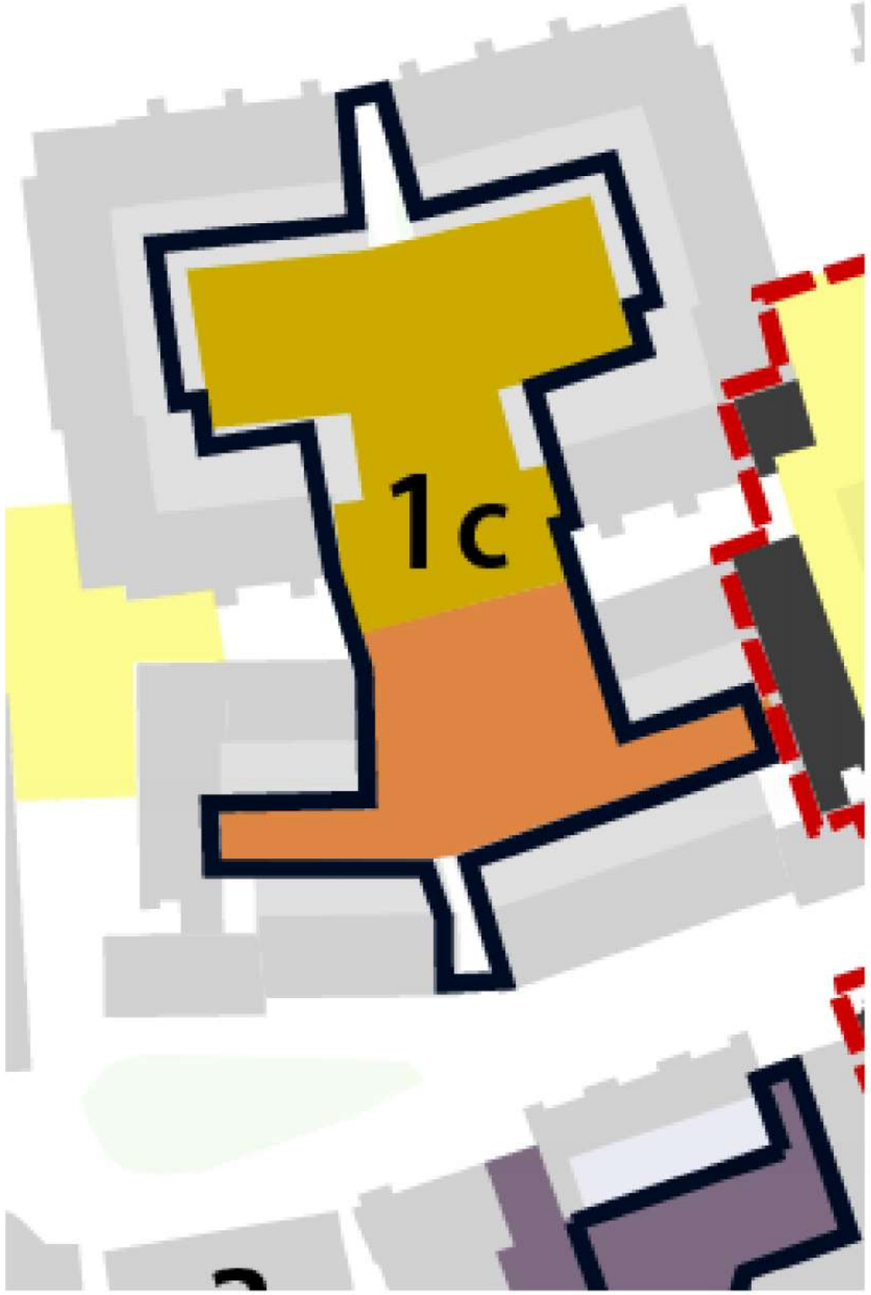
material

- yard: grass, sand, earth, wood chip
- path: compacted gravel, stone

- play material; sand, clay, pebbles twigs, cones, leaves, nuts, shells
- re-using household 'waste'
- shared storage shed


OC PHOTOGRAPHY 2010

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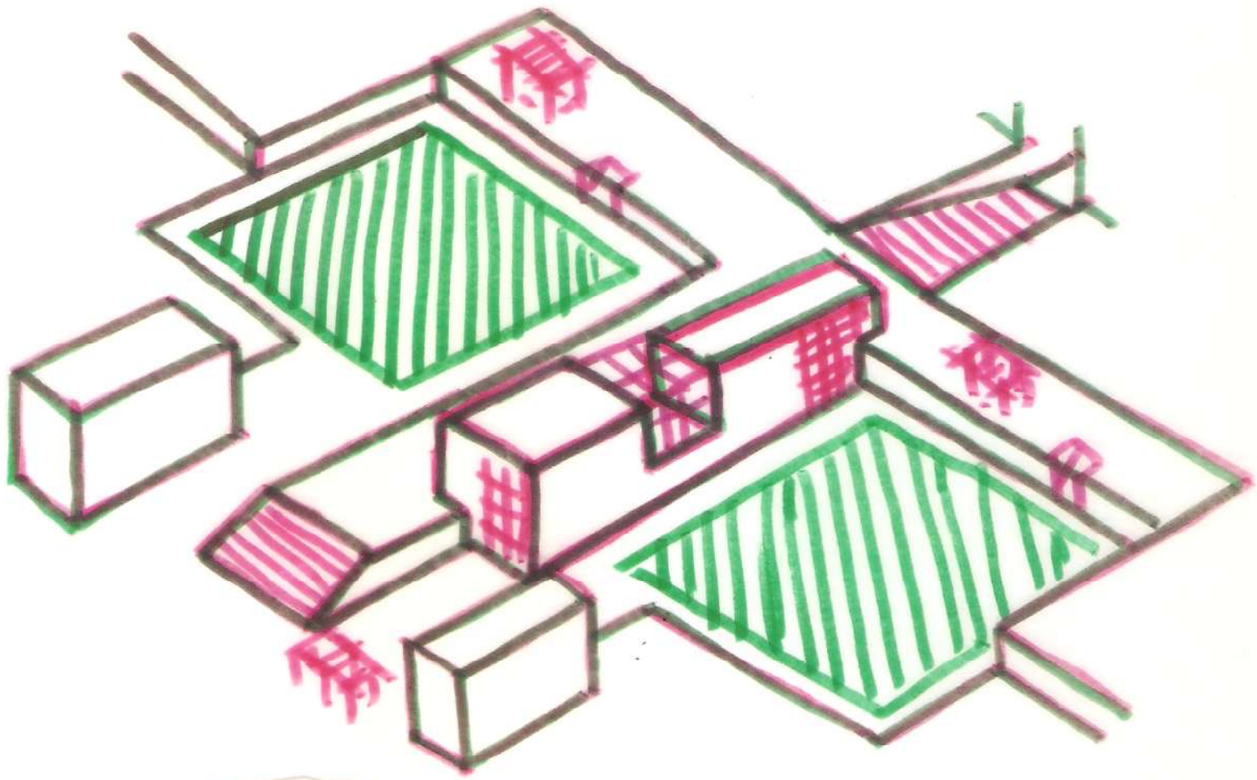
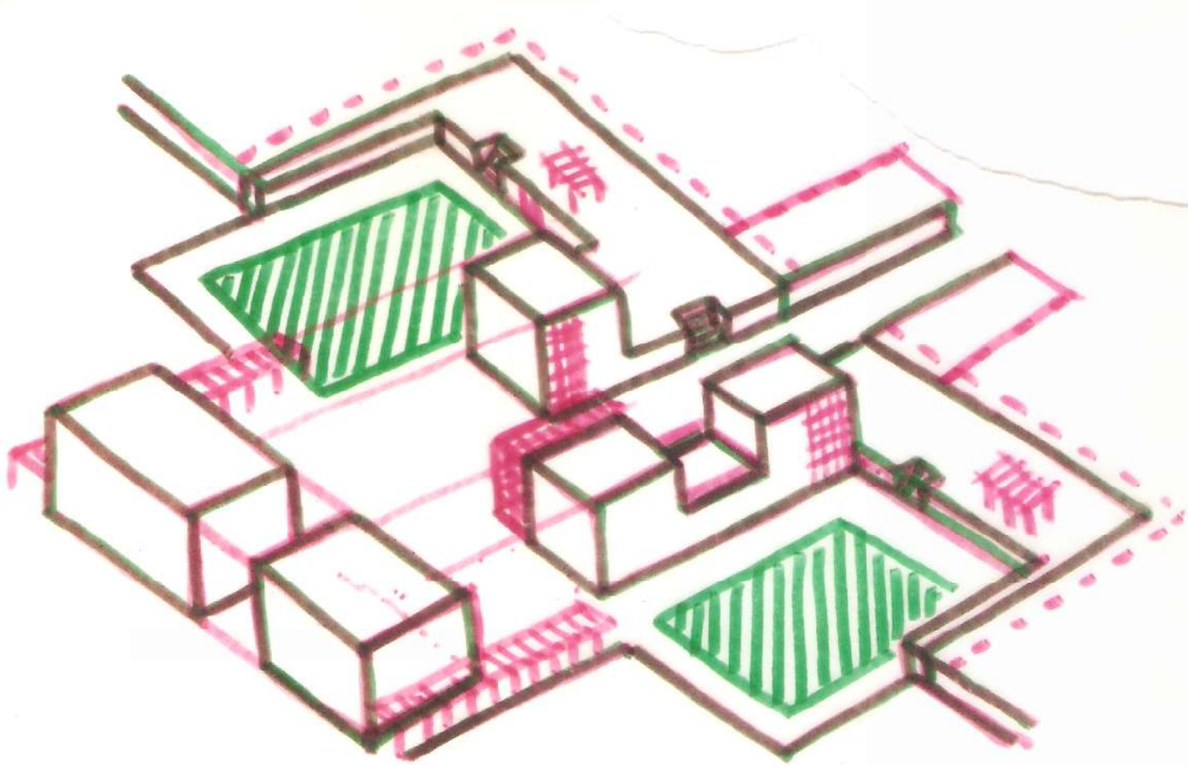


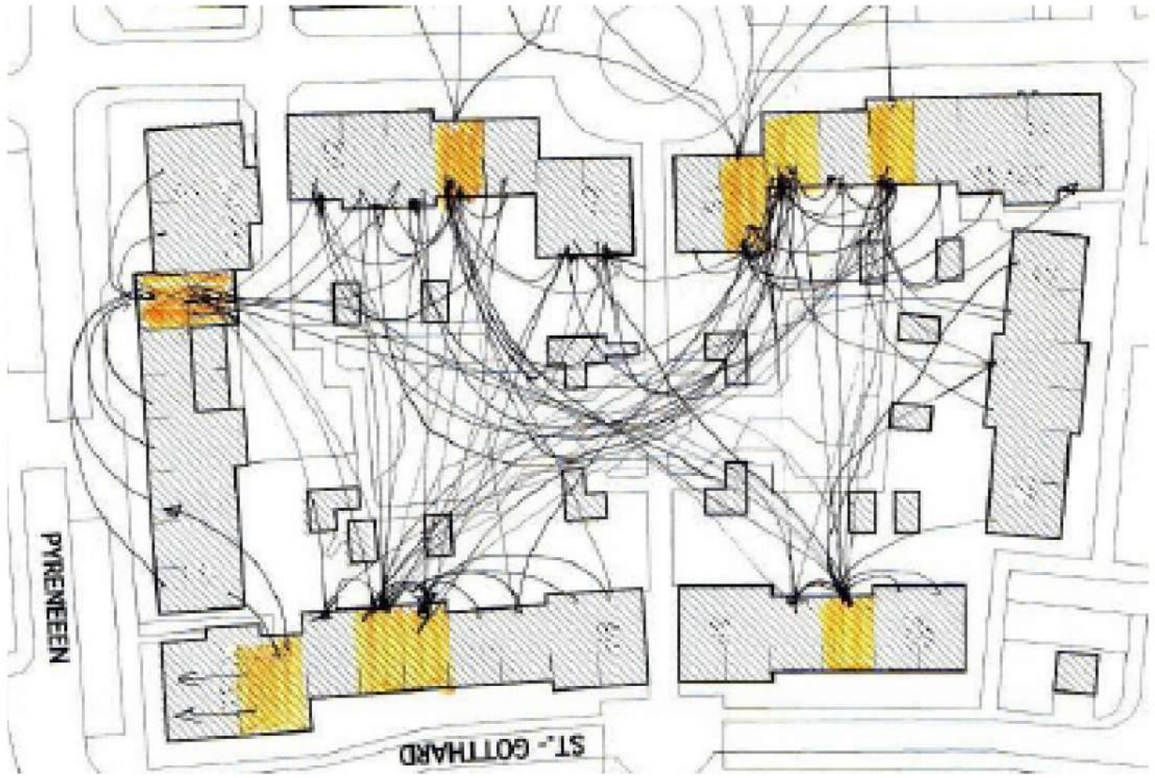


Regenerating urban social structures by building on child-friendly spatial characteristics.

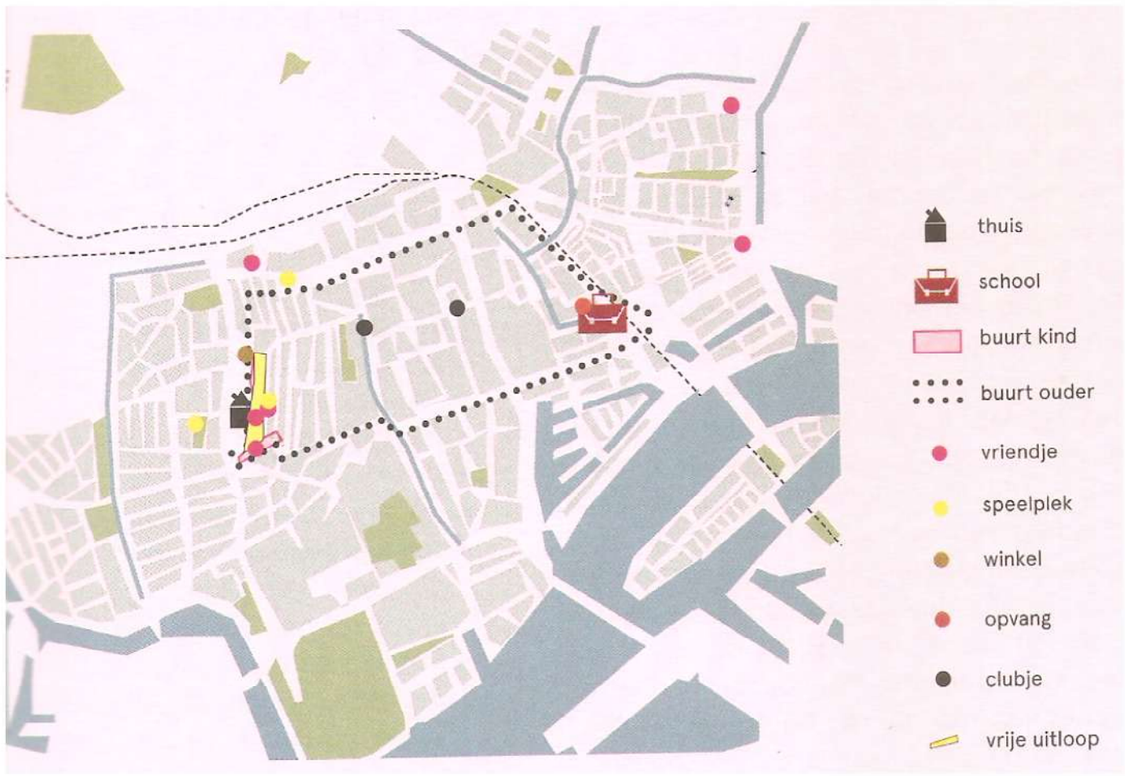
İhsan Deniz Kılıçoğlu - MSc5 P5 presentation - Aug 2018

9 . Relevance

Children between the ages 5 and 15 often constitute less than 15% of the population.
They must therefore travel greater distances to maintain social relations than their parents.
However, their social use of public space is much less understood.
This research adds to current debate on spatial freedoms of urban children.



Adult 'Social space' - Architectuurcentrum Aorta, 2011, p.55



Social maps, Lia Karsten & Naomi Felder, 2016

"By their presence and their games, **by invading the public spaces, they are capable of modifying the short-sighted behaviour of us adults**, forcing us to drive more carefully, [...] to show more respect for the environment in which we live and where our children and grandchildren will live."
– Francesco Tonucci, *Citizen Child: Play as Welfare Parameter for Urban Life*, 2005, p. 193

Linda Peters (2017) "Urban design van de gezonde stad" – Jane Jacobs (Lombok) vs Clarence Perry (Lunetten)

11 . Questions