Sport in public space
A reclaimed position for sport- and activity structures in the immediate living environment.

A design study for Alkmaar
COLOPHON

MASTER THESIS CONCEPT
Sport in public space
A reclaimed position for sport and activity structures in the immediate living environment. A design study for Alkmaar.

FRONT COVER
Pilates on Times Square, New York City (Noel, 2012).

IMAGES
If not mentioned otherwise, the images are made by the author.

AUTHOR
Eva Alke Marie Nicolai
Master of Architecture, Urbanism and Building Sciences
Design of the Urban Fabric
Department of Urbanism
Delft University of Technology,
The Netherlands

MAIN MENTOR
Dr. ir. M.G.A.D. Harteveld
Chair of Urban Design
Department of Urbanism, TU Delft

MENTOR
Dr. A. van Nes
Chair of Spatial Planning and Strategy
Department of Urbanism, TU Delft

DELEGATE OF THE BOARD OF EXAMINERS
Ir. Steven Steenbruggen

January 2015
Sport in public space

A reclaimed position for sport- and activitystructures in the immediate living environment.

A design study for Alkmaar

Eva Nicolai
Design of the Urban Fabric
Delft, January 2015
In front of you lies the master thesis Sport in the city: A reclaimed position for sport and activitystructures in the immediate living environment. This project is part of the graduation traject of the Master Architecture, Urbanism and Building Sciences at the faculty of Architecture of Delft University of Technology.

As outlined in the title of this thesis, Sport in public space, I have combined my passion for urbanism and urban renewal as well as my personal interest in sports in this graduation project. The topic connects to my aim to position myself in the professional understanding of the complex city and the role of the urban designer. I experienced this research as a pleasure to work at and hopefully you will have as much as joy reading it.

The research has been done within the research group Design of the Urban Fabric and was guided by dr.ir. M.G.A.D. Harteveld, who is a member of the Urban Design chair, and dr. A. van Nes of the chair of Spatial Planning and Strategy.

Delft, January 2015

Eva Nicolai
Contents

PREFACE

CONTENTS

RESEARCH FOCUS

1 INTRODUCTION

2 FRAMING THE PROJECT

  2.1 The unused potential of sport
     2.1.1 Spatial separation of city and sport
     2.1.2 Trends in today’s society
     2.1.3 A reclaimed position for sport in society
  
  2.2 Relevance
     2.2.1 The position of sport in urban planning
     2.2.2 Issues related to sport participation in society
  
  2.3 Picturing Alkmaar as a test case
     2.3.1 Municipal documents: vision and ambitions for the future
     2.3.2 Current relevant projects on sport and public space
     2.3.3 Picturing Alkmaar: facts and figures
  
  2.4 Research outline and methods
  
  2.5 Conclusions

3 THE CITY AND SPORT

  3.1 Forming the fragment: Historical development of Alkmaar
     3.1.1 Early middle ages (500 - 1000)
     3.1.2 Middle ages (1000 - 1250)
     3.1.3 Late middle ages (1250 - 1500)
     3.1.4 17th – 19th century
  
  3.2 Twenty-first century: functionalism and privatisation
     3.2.1 Urbanism: the Dutch tradition of planning
     3.2.2 Sport: privatisation and marketing of sport accommodations
  
  3.3 The twenty-first century: changes in thoughts and lifestyle
     3.3.1 Urbanism: from mono-functional to multifunctional
     3.3.2 Sport: a change in space requirements
  
  3.4 Conclusions: A new position for sport in urbanism
SPORT AS A LIFELONG EXPERIENCE

4.1 Sportparticipation in diverse stages of life
4.2 Wishes and needs
   4.2.1 Children
   4.2.2 Adults
   4.2.2 Elderly

SETTING THE AGENDA

5.1 Design principles
5.2 Projecting the design principles on Alkmaar West

IDENTITY OF ALKMAAR

6.1 Landscape and landuse
6.2 Infrastructure
6.3 The built environment

DESIGN STUDY

7.1 Concepts
7.2 Vision for Alkmaar
7.3 Vision for Alkmaar West
7.4 References

ABSTRACT

LITERATURE
Research focus

Before elaborating on the project, first some clarity about important concepts.

Focus on recreational sports (breedtesport)
In the field of sports many types of sport practices can be distinguished from each other. In this thesis the focus will be on recreational sports. The definition of recreational sport is: sport which can be practiced through all layers of society, on a amateur level. This includes all sports except for topsport. The maintenance of recreational sports facilities is mainly the responsibility of the government. Traditionally the focus is on the organized, collective and non-commercial in and outdoorsports like soccer, gymnastics, tennis, hockey, basketball etc. (Kompier en Valle, 2012: 3)
Figure 1.1. Pilates on Times Square, New York City (Noel, 2012).
chapter one
Introduction

Over the years several researches has been done on sport, sport participation and the experience of sport in the Netherlands. Most of them are done by organizations with a focus on sport, such as the NISB (Nederlands Instituut voor Sport en Bewegen), NOC-NSF (Het Nederlands Olympisch Comité - Nederlandse Sport Federatie) and the Mulier Institute (Kompier & Valle, 2012: 2). The researches done by those organizations, such as the rapports ‘de beweegvriendelijke wijk’, ‘40-Wijkenaanpak’ and ‘Gezonde Playgrounds’, particularly show the health objectives of sport for the society.

However, sport and the city are also spatially related to each other. Sportfacilties take an important place and position, as they are huge complexes that require a lot of space. Therefore those sportcomplexes have a very strong spatial presence in the city. Though especially the functional and hierarchic approach in urbanism together with the economic measures on sport accommodations in the twentieth century, led to a spatial separation between sport complexes and the immediate living and working environment. Therefore nowadays various Dutch cities have a very programmatic arrangement in which sport and activity structures often are situated at the borders of the city, close to highways and railroads. However, trends in today’s society show that a better integration of sport facilities in the immediate living and working environment is preferable. Sport more and more became an important part of the daily city life. Still, up until now researches about the fading spatial relationship between sport and the city and possible ways in which this relationship can be improved are rare.

This graduation project is a design research that looks for ways in which sport and activity structures can be repositioned and integrated into the direct living and working area. Over the last years many developments can be mentioned in the field of sport, but in this thesis we will focus on the local sports, especially recreational sport (breedtesport). The design research makes the framework of this project at the one hand. On the other hand this project looks for design solutions specifically focussing on Alkmaar, which has the ambition to become a city of sports (sportstad). With a focus on the implementation of sport and activity structures in Alkmaar West. The outcome of this graduation project could however, provided that they should fit in the specific spatial context of the location, also be used in other (Dutch) cities.

The project is build up out of two parts namely a theoretical framing of the topic and an interconnected urban design experiment within that frame. Main research question guiding this research is: How to integrate sport facilities in the immediate living and working environment of Alkmaar, complementing the wishes and needs of different target groups? In order to answer this question, research started with a literature review and site-specific analysis. This built the fundamentals for respectively the proposed framing of spatial and urban interventions and thus the design itself, showing possible ways of integrating sport and activity structures in the case city of Alkmaar. Finally, the outcome of the research and the proposed interventions for the site are translated into recommendations that can be applied to similar cases.

“The social spaces of distraction and display become as vital to urban culture as the spaces of working and living”

– David Harvey, Consciousness and the Urban Experience
Figure 2.1: Sportcomplexes (green) and primair infrastructure (orange) in Amsterdam (a), Breda (b), Alkmaar (c) and Delft (d).
Framing the project

The ones often traveling by train in the Netherlands possibly took notice of them, the large sportfields and sportcomplexes situated along traintracks. Not only along traintracks, but also besides highways we can find large sportcomplexes. When we take a closer look at the position of sportfacilities in Dutch cities we see an interesting pattern.

2.1 The unused potential of sport

2.1.1 Spatial separation of city and sport

Thoughts on sport, as an escape for the daily city life, defined the position of sport in today's city. Larger sport complexes can be found easily in the urban context as they became stand-alone islands along highways and railroads. Uniform and mono-functional complexes that are positioned at the border of neighborhoods and cities, separated from other functions. This spatial separation of sport and the city seems to be the result of a few developments in urbanism as well as in the field of sport in the twentieth century. After the second world war a functional and hierarchic approach was used in urbanism. In the 50s and 60s sport facilities where often built in the green zones of cities, where citizens could escape the city life (Bijsterveldt van et al., 2012:11). At the same time big economic measures were taken on sport accommodations. The open air sport fields for soccer, hockey and other sports where mostly situated along the borders of the city. On those locations there was enough space, a good accessibility by car and land prices where low. Because of the growing spatial and economic pressure on cities small sport facilities and accommodations such as small soccer fields which were still located in the city slowly disappeared. Especially in the late 90s of the last century those sport fields where more and more replaced by housing and offices, which brought in more money (Kompier & Valle, 2012:3).

Main problem of those movements is that sport facilities are nowadays located far away from the living and working environment. The integration of sport with other functions such as recreation is therefore still very difficult (Kompier & Valle, 2012:3). The sport complexes are less accessible by foot or bicycle, means of transport that support an active and healthy lifestyle. Also the sport facilities do not appeal use outside the regular training hours. This makes them economically inefficient as they are only in use during training hours. Nevertheless we see a few developments and trends in today's society that strive for a better integration of sport in the immediate living and working environments of cities.

2.1.2 Trends in today's society

In today's society we see a more important role for sport as the societal importance of sport is increasing. It is therefore that sport again has become an important issue on the political agenda (Bottenburg van, 1999). Some municipalities have a specific sportnota and it seems that many Dutch cities have the ambition to become a city of sports. This ambition was stimulated by the strive for the Olympic Games in 2028 by the Dutch government. According to van Bijsterveldt et al. (2012:5) this gave an impulse to sport facility developments and generated a spin-off for the recreational sports. Van Bottenburg (1999:57-58) puts forward that the positive effects of sport on, for example, public health and livability of neighbourhoods always have been the bases of the municipal sport policy. It was not earlier then the 90s that the government started to realize that those effects would not be established automatically, but a more integral approach was needed. Sport became a tool instead of an objective, which is used for social as well as economic issues. In the 90s sport policies already tried to focus on the societal significance of sport (Ligtenbarg, 2006: 10).

Nowadays there is an increased social significance of sport as an answer to societal problems related to health, the society and economy. Sport is used to fight against obesity and the excess of weight along children. Also sport became more and more a tool for policymakers in order to answer social problems (Bijsterveldt van et al., 2012:5). For example sport is used to strengthen relations between different culture groups as sport has the possibility to fade away ethnic and cultural differences. Also the aging of the Dutch population is a trend in society that influences the field of sports. An aging society often goes hand in hand with higher costs for care, but experiences show that physical exercises can lower down these costs (Gemeente Alkmaar, 2012:8,10). At the same time sport accommodations with a special architecture are often used a tool for policy makers to achieve positive city branding and to earn money (Kompier & Valle, 2012:2).
Another trend we see in today's society reflecting on sport is a change of lifestyle. An active and healthy lifestyle is popular. Researches point out that the amount of Dutch people who practise sports is increasing (see figure 2.2). In the Netherlands only a few people in society did not sport any time at all in their life. The Social and Cultural Planning bureau (SCP) (2003, 93) even means to recognise a sport society. This could be the result of the ‘Olympisch Plan 2028, Heel Nederland naar Olympisch niveau’, which was set up in 2009 by the NOC*NSF. One of the goals of this plan was to get Dutch people sporting more frequently (Nederlands Olympisch Comité - Nederlandse Sport Federatie [NOC-NSF], 2009:27-28). In the meantime most of the ambitions from the Olympic Plan are lowered down, but the ambition to get more Dutch people exercising sports remained. In order to reach this goal good sport facilities and spaces in the city where and are still necessary as well as sport clubs (Kompier en Valle, 2012:2). Tiessen-Raaphorst et. al (2010:17) also state that factors like increased welfare, multifunctional use of accomodations and changes in lifestyle and citizen awareness of health could be more important factors on behaviour in sport and needs on space for sport and sport facilities in the future then only demographic developments.

At the same time we see an individualisation of sport. People practice sport less in teams and more often individually (see figure 2.3). Fitness centres became popular, which are mostly located at strategic locations in the city (Kompier & Valle, 2012:2). Also the practise of single sports like running and cycling took a growth in the last decade (Bijsterveldt van et al., 2012:5). Those undisciplined sports mostly take place in the public space of cities. Van den Heuvel & Van der Poel (1999:21-22) report that sport therefore is not only the exclusive domain of sport clubs anymore. They mention the influence of social developments and the influence of the business world. Sport has become an indissolubly part of today's society and the daily life. This is a trend that is expected to continue as it fits the need for flexibility of modern citizens (Bijsterveldt van et al., 2012:5).

Finally we can say that sport has become more ‘fun’. People like to share their sport exercises and healthy lifestyle on social media like Runkeeper and Facebook. This means that the visibility of sport has become more important. Cities use sports for city branding more often, as they are the podium for big sport events like yoga (see figure 1.0), marathons or the start of the Tour de France. Beside top sports also the recreational and daily sport uses the city as a décor for sport, for example as a running track along the waterfront (Kompier & Valle, 2012:2).
2.1.3 A reclaimed position for sport in society

As a result of the functional and hierarchic approach in urbanism from the twentieth century sportcomplexes are nowadays located at the borders of cities and their neighbourhoods. The low accessibility of those sportcomplexes is a problem. The distance of those complexes to its potential users with health issues is too large, while for example, the location often is poorly related to neighbourhoods with liveability problem, mostly caused by social issues. At the same time because of the distance people often go to their sportclub by car instead of taking the bicycle. The few hours per week that those large, monofunctional complexes are in use cannot be justified economically too. Being a special interest destination doesn’t fit the current exerting of sport, tending to be more individualised than before, hence undisciplined and flexible, and becoming ‘fun’ instead of a purely physical effort. So, the spatial separation of sport and the city is in conflict with desires and trends we see in today’s society that strive for a better integration of sport and the public space of living and working areas of cities. Individualisation led to individual practise of sport instead of within clubs and sport is more and more seen as an answer to various social problems like public health and the integration of different cultures. (Kompier & Valle 2012: 2). This means that space requirements of sport changed and that the visibility of sport has become more important. In short, we need healthy cities which fulfill today’s needs concerning sport.

Kompier & Valle (2013:3) point out that sport actually wants to gain a new position in the city, in the middle of society. Also Van Bijsterveldt et al. (2012:11) describe the need of sport for a new position in the urban fabric and point out that the comeback of sport into the urban life is already stimulated. Until now the technical requirements and health aspects predominate the developments of sport facilities. Public space and the game or play character of sport are forgotten. The placement of small soccerfields in deprived urban areas like the Krajicek- en Cruyffcours from the Richard Krajicek Foundation en de Cruyff Foundation is a first step in order to integrate sport in the neighbourhoods of cities. Those sport- and playgrounds are phisically as well as socially connected to the neighbourhood. Van Bijsterveldt et al. (2012:11) describe another example of a reintegration of sport in the urban fabric namely in Rotterdam where a educational sport club is set up. Sport clubs placed outside of the neighbourhood got a satellite location in the neighbourhood and give sport exercises nearby schools. However, both of those examples focus especially on children and do not say anything about young adults, young employees, families and elderly.

Although in some neighbourhoods of cities a better integration of sport into the city is attempted, the implementation of sport into city centers of cities is still seen as very difficult because of the complex spatial situations, high landprices and concerned parties (Bijsterveldt et al., 2012:11). Though we can find some sportfacilities in the city centre like fitness centra, but they are often not visible and do not contribute to the public space of cities.

All together we can conclude that a spatial implementation of sport into the city is desirable. However today sport is still being seen by spatial disciplines as large, inconvenient and difficult to combine with other urban functions. Therefore the potential of sport to create meaningful places full of interaction in the public space of cities is unused by urban designers. From this all we can conclude that there is much to learn and to gain if we look at the different users, specific sportfacilities and their spatial embedding in their surroundings (Kompier & Valle, 2013:3). This graduation project aims at finding a smart way in which sport facilities could reclaim their position in the city, a prominent and central place in society that is in line with the ambitions of a city of sports. One of the questions in mind is the contribution of sport towards the city and, the other way around, things the city could offer the field of sport.

Krajicek- en Cruyffcours

A Krajicek or Cruyff Court is a small soccerfield of artificial turf meant as a spatial place for sports for youth. The courts are an initiative of the Cruyff Foundation, founded in 1997, and the KNVB (Royal Dutch Football Association). The courts are developed for the youth. They should have added value for the neighbourhood and should be positioned near a school or in the central point of the neighbourhood. First courts where developed in 2003, nowadays almost 200 courts are realised in the Netherlands as well as in other countries like Morocco, the Netherlands Antilles, Spain, South Africa and Israel.

> Figure 2.4: Cruyffcourt Ketelveld Den Haag (NISB, 2010).
2.2 Relevance

2.2.1 The position of sport in urban planning

In general, urbanists hardly pay attention to sports (Aquina, 2013). Urban sport visions are poorly translated in a spatial plan concerning the people discussed, hence in a design for the public space. Today sport is still seen by spatial disciplines as large, inconvenient and difficult to combine with other urban functions. This is underlined by Kompier & Valle from bureau C.I.T.Y who are both working in the field of planning and research. In a special edition of the magazine Layout they write about their research on sport in the city (Kompier & Valle: 2012). Kompier en Valle (2012: 3) state that, as a result of the separated placement of functions in the twentieth century, nowadays the integration of sport with other functions is still very difficult. Therefore the potential of sport to create meaningful places full of interaction in the public space of cities is unused by urban designers. As the design of public spaces can invite and activate people to exercise. Still this is on virgin ground in spatial planning and the (re-)development of cities. More often sport is used as a tool to encourage societal objectives, but in spatial planning and urbanism this is often unattended (Aquina, 2013). In many Dutch cities public space could be designed more exciting and adventurous.

The unused potential of sport for public spaces in cities is also pitiful because of the possible solution (or contribution to finding one) sport can bring for today’s urban issues. The attitude towards sport from urban designers seems contra dictionary to the shift noticeable in urban planning aiming at a more multifunctional use of space. In the 20s and 30s of the twentieth century use of public space was only a matter of one kind of use (functionalism). Today we accept that the use of space is dynamic instead of monofunctional (see chapter Theory). Still today’s urban designers and planners are still searching for a definition and instrumentality of the concept multifunctional use (Van den Hoek, 2010). Also according to Pols et al., (2009:9) knowledge about multifunctional use of space is not yet there ore is not complete. Seeing sport as potential instead of an inconvenient discipline could help in the quest for unity in the urban fabric and at the multiple use of space. The interaction of sport and activitystructures in the direct living and working area could even be desirable within the current thoughts about urbanism. This thesis contains a literature review that elaborates on the spatial relation between sport and the city. Also an elaboration on the current discipline of urban design and spatial planning will be made. This elaboration helps to find see if a new position could be found for sport and activity structures within this discipline.

<Figure 2.5: Yoga event on Times Square, New York City: the ‘fun’ factor of sport and dynamic character of public space (Noel, 2012).
2.2.2 Issues related to sport participation in society

The social relevance of researching the spatial relation between sport and the city is partly mentioned in paragraph 2.2. In 1999 Van Bottenburg (1999:57-58) already put forward the positive effects of sport on, for example, public health and livability of neighbourhoods. Also the Dutch Olympic committee mentions a few important effects of sport for society are the benefits for mental and physical health, the education and socialization of children, the social bonding in neighborhoods and a positive image building between different ethnic groups in Dutch society (NOC-NPC, 2009). Van Bottenburg stated in 1999 that sport again had become an important issue on the political agenda. In 2011 however the Sportbank in The Hague brought out the rapport ‘The societal meaning of sport’ in order to give sport a more prominent position on the political agenda, as they stated that investments in sport where still seen by many institutions as a waste of money (Boonstra & Hermens, 2011:7).

Nowadays we actually see that the importance of sport for the society is growing. There is an increased social significance of sport as an answer to societal issues related to health, the society and economy. This is confirmed by Bijsterveld et al. (2012:5) who describe that sport is ore and more used as a tool for policymakers in order to solve these problems. Most important societal problems that could be solved by sport and/or an active lifestyle are mentioned in this paragraph.

Public health: fighting obesity and promoting an active lifestyle

In the rapport of the Sportbank from 2011 we can read that the amount of people with obesity is growing. Researches on the excess of weight among children mention that one on three children suffered from excess of weight or obesity in 2004 and 2008 (31%) (De Vries et. al., 2010:2). This is the result of a less active lifestyle. Although the amount of people practising sport has increased over the last years (see figure 2.2) activities in the daily life of people lowered down with the development of technical supplies like lifts, remote control and internet (Boonstra & Hermens, 2011:11). Hildebrand, Chorus and Stubbe (2010) from TNO stated that an active lifestyle could be associated with a positive health quality of life as it lowers down the changes on cancer and an early death. This is underlined by Boonstra en Hermens (2011:13) who stated that practising sport and an active lifestyle have a positive effect on public health. For example people with an active lifestyle have a lower risk on obesity, an early death and cardiovascular diseases. In their rapport they emphasize the economical edded value of sport participation, people who pratise sport require less care and therefore have less care costs for society.

> Figure 2.6: Newspaper articles showing their concerns about obesity among children.
According to Boonstra and Hermens (2011:12) one of the problems in this matter is the fact that people who suffer from obesity are hardly to motivate for sport activities. Children and young people however are easier to motivate, but as they grow older they often stop practicing sport. Stimulating an active daily lifestyle will therefore be more effective on the long term (Boonstra & Hermens, 2011:12). Also Gehl (2011) mentions the direct physical environment as a factor that influences the activities to a varying degree and in many different ways.

The rapport ‘Beweegvriendelijke stadswijken voor kinderen’ from TNO mentions that especially among children obesity and an inactive lifestyle is a big issue. ‘An ever-increasing amount of Dutch children are leading a sedentary lifestyle and are overweight that leads to a high public health burden’ (De Vries et al., 2010:5). In 2004 and 2008 one of the three children (2004: 28%; 2008: 35%) gained the goal set up by the Dutch Norm of Healthy Activity (de Nederlandse Norm Gezond Bewegen) that stated a minimum activity of 60 minutes per day. In addition, newspapers express their concerns about the ever-increasing amount of children with obesity.

In order to keep children healthy TNO mentions the importanceance of stimulation for an active lifestyle. This could be done best by integrating activity structures in the daily life of children. For example taking the bicycle to school, playing on the school playground during lunchtimes and playing outside or participating in sports after school. The development of a healthy and ‘beweegvriendelijke’ living environment could contribute to this (De Vries et al., 2010:2). Also Gehl (2011) mentions the physical environment as a factor that influences the activities to a varying degree and in many different ways.

In the rapport of Boonstra and Hermens (2011:27) we can read that according to De Hart (2002) social cohesion actually determines the livability and safety in neighbourhoods. To be clear, social cohesion concerns the contacts between residents in neighbourhoods and the influence of these contacts in the daily life of the neighbourhood. However it will be evident that before sport could actually contribute to the social cohesion in neighbourhoods it is crucial that the residents of those neighbourhoods actually participate in sport activities.

Rotterdam Schoolsportclubs
The schoolsportclub is an initiative of Rotterdam Sportsupport and intends to offer sport facilities for children in their own neighbourhood. Schools in the neighbourhood could join these clubs, sportclubs will offer diverse workouts. In this way sportclubs got a satellite location in the neighbourhoods and contribute to a healthy lifestyle. Neighbourhoods got an positive impuls from the schoolsportclubs. Researches show that 84% of the children participating in the schoolsportclubs became more enthusiastic about participation in sports.

> Figure 2.7: Sport in Rotterdam (Schoolsportvereniging)
Koen Breedveld, director of the Mulier Instituut, mentions a layered model in his research about sport participation. This model consists of an outer layer that forms the accessible form of sport participation. This concerns sports in public space like for example soccer and basketball fields in the neighbourhoods or cycling and running. The second, third and fourth layer consists of 1) being a member of a sport club, 2) voluntary participation in the sport club and 3) doing administrative tasks in a sport club. In this layered model Breedveld shows that differences between gender, ethnicities and educational background become clearer when we look at the core, the third and fourth layer. According to Breedveld (2009) the gap in sport according to education is one of the biggest as lower educated people practice sport less than higher educated people.

Boonstra and Hermens (2011:36) mention a few national and international studies that show that sport participation goes hand in hand with an increased trust in other citizens and politics. Also people who are part of a sport club have more faith in others and politics than people who are not a member of a sport club. Sporters who play in mixed teams seems to have more faith in interethnic social contacts and other cultural backgrounds (Boonstra & Hermens, 2011:36).

Blackshaw and Long (2005) describe the important role of sport and activities for the activation of ethnic groups and groups that live in depressed district. Their research points out that projects became successfull if there was a connection to the specific target group and respect from the participants as well as the initiators. Mixed sport participation seems to have a positive effect on the image of native and foreign people in the Netherlands. Although policymakers should take into account that some groups, like Morrocon or Turkish woman, would stop participation in sport if there is no opportunity to sport in their own social group (Veldboer, Boonstra, Krouwel, & Duyvendak: 2010).

Breedveld also describes the benefits sport participation for the street life as it enhances social contact between residents. In return a public street life give residents the feeling that they are part of the neighbourhood and feel concerned about the neighbourhood (Breedveld: 2009, Boonstra & Hermens, 2011:28). According to Vermeulen (2010), who did research on the social capital of the playgrounds developed by the Richard Krajicak foundation, a public street life goes hand in hand with conflict about the use of public space. He mentions that the participation in sport in public space could be seen as troubles, especially caused by youth. Therefore it is important that sport coaches are present in the neighbourhood, like the

> Figure 2.8: Sport enhancing social cohesion.
hundred coaches of the Krajicek Foundation who are present at the Cruyff Courts and Krajicek Playgrounds three hours, three times a week and offer sport activities from April until October. This is underlined by Boonstra and Hermens (2011:32) who state that the presence of sport and play facilities does not mean that children actually use these places as parents more and more see public space as an unsafe playground. Therefore a playground should be a safe place with a program of activities and coaches that guide those activities. Those coaches also fulfill a social role as they could recognize problems in the private life of the children and could get help from other institutions (Boonstra & Hermens, 2011:32). The research of the Muller Instituut points out that the Cruyff Courts have a large range and seems to be a good alternative for a membership at an expensive sport club. However still most of the activities on these courts focus on soccer and most children playing on the courts are immigrants (Breedveld, Romijn, & Cevaal, 2009). Boonstra and Hermens (2011:36) mention that sport squares that offer other facilities besides sport facilities also attract other groups. Facilities like benches attract parents to watch their children participate in sport. According to Boonstra and Hermens (2011:36) the more facilities the place offers, the more variety in people will visit the place.

Work of various sport sociologists focuses on the socialization of youth through sport, as sport teaches proper values such as self-discipline, sportsmanship and an appreciation for hard work, competition and goal attainment. But sport is also seen as a vehicle for assimilation, a social system and the integrating functions of sport for participants, observers, and social organizations by sport sociologists (Frey & Etzien, 1991:505-506). According to Boonstra and Hermens (2011:21) policymakers have high expectations of the educational value of sport. Sport is supposed to teach standards and values to children, youth and adults. Also sport should teach people to cooperate and learn how to deal with winning or losing. A few studies implement that sport participation prevents criminal behavior and describe that sport participation could contribute to self-confidence. Sport can give people the feeling that they are part of something and is an alternative activity for criminality (Boonstra & Hermens, 2011:21-22). However Gatz, Messner and Ball-Rokeach (2002) point out the paradoxes in sport in this matter as sport indeed prevents juvenile crime at the one hand, but at the other hand sport could be very violent in itself as well.

Aging population: lowering down care costs
People get older and stay fit longer. This aging of the Dutch population is a trend in society that influences the field of sports and the built environment. For example the changing needs of aging people ask for lasting improvements within the urban environment for them to stay socially and physically active. As it is well known that elderly people mostly stay the most in their direct environment. Therefore designing appropriate outdoor environments is vitally important in encouraging and maintaining a healthy, active lifestyle for older adults.

An aging society often goes hand in hand with higher costs for care, but sport participation people who practice sport require less care and therefore have less care costs for society. Many researchers point out that activity programs have positive effects on muscular strength, flexibility, condition, balance and the risk of tumbling down and fractures of bones among elderly. Also regular physical activity could prevent chronic diseases like cardiovascular diseases, diabetes mellitus II, osteoporosis and excess of weight or obesity (American College of Sports Medicine [ACSM], 1998). This is underlined by King et. al (1998) who state that physical activity have a positive effect on the development of such diseases. Also physical activity could be a welcome variety in the daily life of elderly and prevent stress (Conn e.a., 2003). The municipality of Alkmaar (2012:8,10) also underlines that physical exercises can lower down care costs.

Beweegtuinen for elderly
The ‘Beweegtuin’ could be seen as a playground for elderly that as a main goal to stimulate elderly in an active lifestyle. The Beweegtuin offers easy accessible fitness facilities especially designed for elderly people. Researches point out that the Beweegtuin has positive effects on the lifestyle of elderly. Beweegtuinen are developed nearby home for the elderly as well as in public space. Activities nearby homes for the elderly are often accompanied by physiotherapist, MBvO-therapists or supervisors of the home for the elderly.
The Social and Cultural Planbureau (SCP) points out more elderly participate in sport and meet the requirements for an active lifestyle. Elderly living in an institution like a home for the elderly are more inactive than independent elderly (Tiessen-Raaphorst et. al., 2010:15).

Sugiyama and Ward Thompson (2007) point out in their research that elderly will actually have twice as long walking distance if the environment stimulates walking or other activities. Already some initiatives are made in order to stimulate an active lifestyle for elderly. An example of this are the ‘Beweegtuinen’ that are developed nearby care centres and home for the elderly.

Concluding this paragraph we can say that different social issues in today’s society strive for a better integration of sport and the living and working areas of cities. This thesis will explore ways in which this integration could take place and cause improvements in public space that meet the demands of different age and cultural groups.
2.3 Picturing Alkmaar as a test case

The pattern of larger sportcomplexes along primary infrastructure can be found in various Dutch cities (see figure 2.1). Alkmaar is one of those cities suffering from a clear spatial separation between sport and the city we can take a closer look at, but particularly interesting as a test case because of a few items. First of all the city has a tight relationship with sport, especially topsport, that goes back until the middle ages. As Alkmaar is a city with a medieval city center already in the middle ages tournaments and games like golf took place in and outside the city. It was not until the beginning of the nineteenth century until we see the arising of sportfields and the establishment of sportclubs like ‘Always Forward’ (now Alcmaria Victrix) in 1898. Although already from 1888 groups of young boys came together at the Krocht along the Westerweg next to the Schutterswei prison. Thought on urbanism as well as economic measures in the field of sport after the Second World War resultated in the pattern of sportcomplexes along primary infrastructure as we see in Alkmaar today.

The tight relationship of the city to sport will be defined in detail in chapter 3, but eventually resulted in today’s ambition of Alkmaar to become the city of sports. Together with the fact that Alkmaar is aware of the trends in society like the individualisation in sport and change of lifestyle as described in paragraph 2.1, it is an ideal exemplar to put forward as a test case in this thesis. A few projects already have been realized in the city in order to promote an active and healthy lifestyle, for example the reconstruction of De Meent and Park Groene Voet. Still the municipality of Alkmaar doesnot say much about the integration of sport and activitystructures in the immediate living and working environment of the city, as the reconstruction of Park Groene Voet follows the existing pattern of clusterd sportfacilities. This gives us a another argument chosing Alkmaar as a testcase when integrating sport facilities in the direct living and working area as in this way the city will became the real city of sports instead of another city of sportcomplexes.

At the same time, social researches show that the city is struggling with a few social problems, for example in the neighbourhoods of De Hoef located in Alkmaar West. Interesting is the fact that the municipality of Alkmaar foresees sport as a solution for those societal problems. Besides the social issues the diverse building ages and typologies in the neighbourhoods of Alkmaar West make West an interesting case to take a closer look at, as the variety of building ages and typologies represent different thoughts on urbanism from various time periods. Connecting those varieties to sport participation in the neighbourhood could bring forward interesting insights.
2.3.1 Municipal documents: vision and ambitions for the future

Alkmaars startsignaal: toekomstvisie sport Alkmaar

In the vision set up in 2011 ‘Alkmaars startsignaal; toekomstvisie sport Alkmaar’ Alkmaar presents itself as the city of sport (Alkmaar Sportstad). The vision of the municipality of Alkmaar (2012:7) is mainly focussing on the bigger sport events as they would like to attract large scale (top)sport events towards the city. A second ambition is the use of sports in order to solve social issues. Sport should become a part of the local identity and of the city marketing. In this way sport can play a part not only in the economic but also in the social development of the city as well as the region of Alkmaar (gemeente Alkmaar, 2012:7).

In order to fullfil those ambitions the city of Alkmaar intends to realize an attractive and well overthaugt supply of sport facilities (Gemeente Alkmaar, 2012:4,11). The vision focuses mainly on two segments with a high potential which are 1) the development of talent and 2) recreational sports. The ambitions described in the rapport ‘Alkmaars startsignaal’ can be summed up in three strategic goals (Gemeente Alkmaar, 2014:1).

1. Sport and participation: increasing the participation in sports and participation in the society of Alkmaar through sports. Focus on the development of talent, extension of the grassroots sports (breedtesport) and improvement of sport facilities.

2. Sport and society: use of sports in order to solve social issues like health, education and safety.

3. Sport and economy: promoting the growth of visitors to the city by stimulation of recreational sports and the organisation of sport events.

Trends we see in today’s society, which has changed our thoughts about sport facilities and their place in the urban fabric, are discribed in paragraph 2.2. The municipality of Alkmaar is aware of those trends. In their vision they describe the trends that influence the future sportfield in Alkmaar. First of all the municipality realises that the benefits of adequate exercise are more and more recognised, but at the same time less people preffer to sport in clubs or teams (Gemeente Alkmaar, 2012:10). At the same time in the Netherlands the participation in sport has increased over the last years (Gemeente Alkmaar, 2012:8). The rising percentage of children with obesitas and at the same time the ageing of the population ask for a growing need for

Figure 2.12: Media materials and rapport vision on sport Alkmaar: Alkmaars Startsignaal (Gemeente Alkmaar).
Sport in public space

In 2008 the municipality of Alkmaar presented her ambitions and vision (stadsvisie) for 2030 in the rapport Toekomstvisie Alkmaar 2030. In the rapport five trends in society are mentioned including individualisation. A demographic trend towards 2030 will be the aging population as the amount of citizens in the age above 65 will grow in the region Alkmaar. Also mentioned in the rapport is the warning from the Deltacommissie for a +1,30 meter sea level rise until 2100, the declining water discharge through rivers and longer periods of drought (Gemeente Alkmaar, 2008:5).

The image for the city as described in the rapport is based on three choices (Gemeente Alkmaar, 2008:1).

1. Alkmaar is a lively city for young and old

In the rapport Alkmaar is mentioned as a social city with citizens whom have a fond of liberty. Alkmaar offers space for development of its inhabitants. Sport is mentioned as being captured in the geens of Alkmaar and traditions are important (Gemeente Alkmaar, 2008:7). The municipality of Alkmaar (2008:11-13) foresees Alkmaars city centre in 2030 as a meeting point with several culture and horeca facilities that use local products. City parks invite citizens to meet, play, be active and enjoy the city culture. Practise of sport and sport clubs have been an important medium in order to connect people. Through the year small and large sport events should take place in the city, sometimes also at neighbourhood level. Sport facilities will attract topsporters as well as amateuristic sporters. Students and starting entrepreneurs will be bonded to the city. Cycling paths become broader and a network of health- and fitnesscentra for elderly is set up.

2. Alkmaar is a green and sustainable city

Alkmaar is a already a sustainable city surrounded by nature and leading businesses in sustainable development (Gemeente Alkmaar, 2008:7). The municipality of Alkmaar (2008:11-13) foresees Alkmaars city centre in 2030 as a meeting point with several culture and horeca facilities that use local products. City parks invite citizens to meet, play, be active and enjoy the city culture. Practise of sport and sport clubs have been an important medium in order to connect people. Through the year small and large sport events should take place in the city, sometimes also at neighbourhood level. Sport facilities will attract topsporters as well as amateuristic sporters. Students and starting entrepreneurs will be bonded to the city. Cycling paths become broader and a network of health- and fitnesscentra for elderly is set up.
for different target groups. The parks will become the green connections between the city and the surrounding natural areas. Transition zones between city, park, natural areas, the polder landscape, forest and dunes are designed with broad paths for cyclist and pedestrians. Investments will be made in vegetable gardens for the city and farming education for (primary) schools (Gemeente Alkmaar, 2008:13).

3. Alkmaar is capital city of the region North-Holland noord.

Alkmaar is an economically strong city with a strong stream of working traffic towards the city (Gemeente Alkmaar, 2008:7). In the vision Alkmaar is seen as the economic, cultural and administrative capital for Noord-Holland north with most facilities. The hospital in Alkmaar is known for its specific care. The Hogeschool attracts thousands of students and the Olympic games have promoted the possibilities for topsport in Alkmaar (Gemeente Alkmaar, 2008:15).

In short the vision for the city of Alkmaar can be seen as a clear choice to become a sustainable, green city that is the capital of Noord-Holland north. The city accommodates young and elderly through urbanisation and investments in the meeting function of the city (Gemeente Alkmaar, 2008:19). Yet there hasn’t been developed an urban vision translating the above in a spatial plan. Given the sport related ambitions strengthening participation, society and economy an urban vision that focuses on the integration of sport- and activity structures in the immediate living and working environment of Alkmaar is reasonable.

Reasons why both the vision on sport and the vision for the city of Alkmaar (stadsvisie) are put forward is because of the fact that sport, public space and the built environment are very much related in this project. Therefore acknowledgement of these visions is needed. A good example showing the tight relationship the built environment and direct living area could have with sport activities is when in the project of Arons en Gelauff architects on the campus of the University of Enschede. In this project called Climb Your Dorm a climb wall was developed on the facade of a building block for student housing (see figure 2.17).
Sport in public space

Figure 2.13: Project Climb Your Dorm by Arons en Gelauff architects on the campus of the University of Enschede (Arons en Gelauff, 2012).


2.3.3 Current relevant projects on sport and public space

At the moment the municipality of Alkmaar has developed and/or is working on many projects related to public space and the built environment. As this project focuses on sport facilities and public space it would be interesting to see which projects are undertaken by the municipality according to these issues. It seems that, in the framework of the vision Alkmaar Sportstad, two large sport complexes are redeveloped which are sport complex De Meent and Park Groene Voet.

Park Groene Voet
Park Groene Voet is situated in the neighbourhood Daalmeer in Alkmaar Noord. The reconstruction of Park Groene Voet into Sportboulevard Alkmaar Noord is part of the programme Alkmaar Sportstad as the municipality foresees a prominent position for sport facilities in the society. The Sportboulevard will be finished at the beginning of 2015.

In the park diverse sport- and play activities will be developed for all ages. In this way the municipality intends to increase the attractiveness of the park and stimulate an active lifestyle as sport facilities become easily approachable. The sport facilities are especially targeted at the residents of Alkmaar-Noord, although the sport routes also connect to neighbouring districts. The facilities fulfill the needs of the inhabitants as they proposed their own ideas during the design process.

According to the municipality of Alkmaar various parties would like to contribute to the use and management of the park. Existing sport facilities situated along the Klaas Bootpad that offer korfbal, jeu de boules, tennis and fitness facilities are involved in the project. (Gemeente Alkmaar).

De Meent
The current sport complex of De Meent is forty years old and therefore the municipality of Alkmaar foresees reasons for a modernisation of the complex. This is in line with the priority of the municipality for sport. Also an extension of the Meent should solve a shortage on indoor sport accommodations in Alkmaar.

Waterplan De Hoef
With the waterplan Alkmaar tries to solve water problems in neighbourhoods caused by heavy rainfall. With the project pipes with clean rainwater will be detached from the pipes coming from the households with dirty water. This results in cleaner surface water in public spaces of the city. At the same time the quality of public space in the neighbourhoods will be improved. At the moment only a part of De Hoef is under construction.

< Figure 2.14: Map showing all current projects in Alkmaar regarding the built environment and public space.
### Overview current projects in Alkmaar

#### City center

<table>
<thead>
<tr>
<th>Category: Redevelopment, Public space</th>
<th>Period: Finished May 2014</th>
<th>Project: Renovation into an active city square.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Canadaplein</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Redevelopment, Built environment</th>
<th>Period: 2014 - 2016</th>
<th>Project: Renovation of the central station area into an attractive and accessible entree of the city.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Central station</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Redevelopment, Public space</th>
<th>Period: Finished 2013</th>
<th>Project: Renovation into an attractive square for inhabitants as well as visitors.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Doelenveld</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Redevelopment, Built environment</th>
<th>Period: 2014 - ?</th>
<th>Project: Overstad will become a lively part of the city center with a combination of living, working and shopping facilities.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overstad</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Daalmeer/Koedijk

<table>
<thead>
<tr>
<th>Category: Sportfacilities, Public space</th>
<th>Period: 2012 - 2015</th>
<th>Project: Adding sport- and activity structures to the park for all age groups in order to encourage active use of the park.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Park Groene Voet</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Oudorp

<table>
<thead>
<tr>
<th>Category: Reconstruction, Built environment</th>
<th>Period: 2012 - 2015</th>
<th>Project: Redevelopment of the public space in order to create a vital industrial and business area for the future.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Industrieterrein Oudorp</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Reconstruction, Built environment</th>
<th>Period: 2012 - 2015</th>
<th>Project: Redevelopment into a living area along the Noordholland canal with 550-600 dwellings.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Jaagpad</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Reconstruction, Built environment</th>
<th>Period: 2010 - 2015</th>
<th>Project: Redevelopment of shopping center the Polderhof with the development of 8 shops and 48 dwellings.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Polderhof</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Alkmaar West

<table>
<thead>
<tr>
<th>Category: Redevelopment, Built environment</th>
<th>Period: 2012 - 2016</th>
<th>Project: Redevelopment projects of the former MTS domain across the Geestmolen into a living environment. Hoevervaart with 71 dwellings is realised, 35 dwellings are still to be built in De Hoef XL.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hoevervaart &amp; De Hoef XL</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Redevelopment, Built environment</th>
<th>Period: 2014 - ?</th>
<th>Project: The municipality intend to develop offices at the Nuon location. The Regional police NHN, Veiligheidsregio NHN and the GGD Hollands Noorden are interested for the development of their main offices.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nuon locatie</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Sportfacilities, Built environment</th>
<th>Period: 2010 - 2030</th>
<th>Project: The Westrand is a transition zone between the city and the rural polder where te sportcomplex De Meent will be developed.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Westrand</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Redevelopment of the waterstructure and public space as part of Waterplan Alkmaar.</th>
<th>Period: 2014 - 2015</th>
<th>Project: Hoefplan is finished, De Hoef Zuid-Oost is carried out at the moment.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hoeplan &amp; De Hoef Zuid-Oost</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Extension, Built environment</th>
<th>Period: Finished May 2014</th>
<th>Project: Vroonermeer Noord will be the last urban extension of Alkmaar.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vroonermeer Noord</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nieuw Overdie</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oud Overdie</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Reconstruction, Built environment</th>
<th>Period: 2012 - ?</th>
<th>Project: Transformation from a former economic centre into a new urban living environment next to the city center.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Schelphoek</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 2.19: Housing developments on the Jaappad, Alkmaar.
2.3.3 Picturing Alkmaar: facts and figures

Composition of the population

Alkmaar

When we take a look at the statistics data in Alkmaar it becomes clear that the neighbourhoods with the highest population are Daalmeer/Koedijk, De Mare in the north and Alkmaar Zuid in the south. Alkmaar centrum and Overdie are neighbourhoods with the lowest number of population, both beneath 9,000.

The average age in most neighbourhoods in Alkmaar is around 40 years old. Although the average age in Alkmaar West, Zuid and Ouddorp is with 42 and 44 a bit higher than the average age of the other neighbourhoods of 38 and 39.

Outstanding is the figure showing the percentage of immigrants per neighbourhood in Alkmaar as the population in Overdie exist of a relatively high percentage of immigrants. Also Alkmaar West, with 25 percent, has a high percentage of immigrants.

> Figure 2.20: Population, average age and percentage of immigrants in Alkmaar (own image based on data Gemeentelijke Basisadministratie gemeente Alkmaar (GBA).

Figure 2.21: Neighbourhoods in Alkmaar and neighbouring municipalities (own image).
Sport in public space
and borders (own image).

**Alkmaar West**

When we take a look at the statistics data about the population in of Alkmaar West we see that the high percentage of immigrants (25%) in the district is concentrated in the neighbourhoods of De Hoef. Especially in the De Hoef III & IV the percentage is high as 40 percent of the population is immigrant. The biggest group of the total population in Alkmaar West of 12.437 is the group between the age of 26 and 64 years old. Most common composition of households are the single household and the household consisting of a couple without children. These couples also seem to have the highest income.

According to the rapport Buurtgericht samenwerken 'Meedoen in de buurt' from the municipality of Alkmaar (2007:15) De Hoef is facing some important social issues like a lack of social cohesion, anonymity and groups of immigrants that are difficult to approach. In the context of the project 'Speciaal sociaal' investments will be made in the social infrastructures in De Hoef in order to improve the commitment of the residents and lower down the anonymity in the neighbourhood. Interesting is the fact that the municipality of Alkmaar forsees sport as a solution for those societal problems.

> Figure 2.22: Bar showing building ages in Alkmaar West (own image based on data gemeente belastingen, gemeente Alkmaar).

> Figure 2.23: Bar showing population, composition of households and their average income (own image based on data O&S Omnibusonderzoek, gemeente Alkmaar).
Satisfaction with facilities in the neighbourhood

Shopping facilities
- Alkmaar West: 13
- Alkmaar Zuid: 16
- Alkmaar Centrum: 81

Green facilities (parks etc.)
- Alkmaar West: 12
- Alkmaar Zuid: 17
- Alkmaar Centrum: 69

Facilities for youth
- Alkmaar West: 6
- Alkmaar Zuid: 5
- Alkmaar Centrum: 3

Maintenance on roads and cycling paths
- Alkmaar West: 9
- Alkmaar Zuid: 15
- Alkmaar Centrum: 60

Playgrounds for children
- Alkmaar West: 11
- Alkmaar Zuid: 16
- Alkmaar Centrum: 20

Streetlights
- Alkmaar West: 14
- Alkmaar Zuid: 13
- Alkmaar Centrum: 48

Public transport
- Alkmaar West: 18
- Alkmaar Zuid: 14
- Alkmaar Centrum: 20

Parking facilities
- Alkmaar West: 13
- Alkmaar Zuid: 15
- Alkmaar Centrum: 19

It seems that the residents in Alkmaar West are not really satisfied with the offered facilities in the neighbourhood. Especially the maintenance on roads and cycling paths is not highly appreciated. The meaning of residents in West according to facilities seems to be in line with those of neighboring residents of Alkmaar Zuid.

Remarkable is the relatively big difference in satisfaction between the residents of Alkmaar West and Zuid and those in the city center. Not really surprising but relevant to mention is that people living in the city center are much more satisfied with the shopping facilities in their neighborhood, as in most cities they are concentrated in center. However the percentage of residents satisfied with green facilities, streetlight and the maintenance on roads and cycling paths is also relatively high in the city center compared to West and Zuid.

However residents of all neighborhoods are very unhappy about facilities in their neighborhood for youth, playgrounds for children and parking facilities.

Figure 2.27: Bar showing satisfaction with facilities in neighborhoods Alkmaar West, Zuid and Centrum (own image based on data O&S Omnibusonderzoek, gemeente Alkmaar).

Figure 2.28: Population growth in West and Alkmaar (own image based on data GBA).

Figure 2.29: Facilities in West and Alkmaars city centre.
Sport in public space

Alkmaar West: soccerfield Rembrandtstraat

Alkmaar West: playground Kruseman van Efenweg

Alkmaar West: playground Chopinstraat

Alkmaar Centrum: table tennis and soccerfield Middenstraat

Alkmaar Centrum: playground Naussauplein

Alkmaar West: soccerfield Rembrandtstraat
If we compare statistics on sport participation, gender, income and the value of housing in the city of Alkmaar in total and in the neighbourhood of Alkmaar West we can conclude that are very much comparable. Therefore Alkmaar West seems to give a very reliable image of the city of Alkmaar in total. For example sport participation in Alkmaar West is comparable to the total participation in sport in Alkmaar as this is 79% in Alkmaar West and 73% in Alkmaar in total. The percentage of people practicing sport individually and the amount of members of a sport club is almost equal as well, only the amount of members of a fitness centre in Alkmaar West is a bit higher compared to Alkmaar.

Sport participation

2.3.3 Concluding

Alkmaar is one of the many cities suffering from a clear spatial separation between sport and the city, but particularly interesting as a test case because of the cities tight relationship with sport, which resulted in today’s ambition to become the city of sports. Alkmaar is aware of the trends in society like the individualisation in sport and change of lifestyle and already a few projects are made in the city in order to promote an active and healthy lifestyle. Still those developments follow the existing pattern of clustered sport facilities and does not say much about the integration of sport and activity structures in the immediate living and working environment of the city.
At the same time, social researches show that the city is struggling with a few social problems, for example in the neighbourhoods of De Hoef located in Alkmaar West. Most important social issues in De Hoef are a lack of social cohesion, the anonymity and the groups of immigrants that are difficult to approach. Interesting is the fact that the municipality of Alkmaar forsees sport as a solution for those societal problems. Also connecting the variety of building ages and typologies representing different thoughts on urbanism from various time periods to sport participation could bring forward interesting insights. In short we can state that Alkmaar is an ideal exemplar to put forward as a case in this thesis.
2.4 Research outline and methods

Now that the project is framed and the research goals are set research questions and a methodology will be defined that will guide the graduation project. The main question guiding the research is:

*How to integrate sport facilities in the immediate living and working environment of Alkmaar, complementing the wishes and needs of different target groups?*

Subquestions that will help to answer the main research question are in general:

1. **How did the spatial relationship between sport and the city developed over time until what it is nowadays?**
   This thesis reacts on the developments in cities and the field of sport. Main goal of this graduation project is the improvement of the spatial relationship between sport and the city. In order to accomplish this first of all understanding and acknowledgment of the way the spatial relation between city and sport in general is the developed and evaluated is needed. Method: literature review

2. **What trends and developments characterize the current discipline of urbanism?**
   An elaboration on the current discipline of urban design and spatial planning will be made in order to see if a new position could be found for sport and activity structures within this discipline. Method: literature review

3. **How, in general, to integrate sport and activity structures spatially into the immediate living and work environment?**
   As stated before this graduation project is about finding ways in which sport and activity structures could be implemented in the immediate living and working environment. By answering the subquestion, knowledge is gained about possibilities in which this could be achieved. The outcome is used to set the scope for the urban design and helped proposing interventions for Alkmaar West. Method: literature review, case studies

4. **What, in general, are the wishes and needs of different target groups concerning sports?**
   This graduation project tries to come up with an urban design on sport that fullfills needs and wishes of diverse target groups. Therefore a detailed overview of those wishes and needs is preferable. Method: literature review, questionnaires

Subquestions that are more site specific are:

5. **What are the physical and socioeconomic characteristics of Alkmaar?**
   To be able to make an urban design and framework for Alkmaar it is important to understand the area. By answering the question, a better understanding of the area is established. Also insights in the possibilities and issues will be provided. The outcome is used to establish a deliberately composed framework and critical details. Methods: morphological, socioeconomic, historical and policy analysis and site visit.

6. **In which way can the different urban and spatial starting points, complementing the wishes and needs from different target groups on sport and activity structures, be combined in Alkmaar West?**
   Methods: research by design and case studies
Different methods are used to answer the main and sub questions. An elaboration on these methods will be given in the paragraphs below.

**Observations and interviews**

In order to find possible solutions and an answer to the research questions case studies will be done in the Netherlands as well as in other countries. Alkmaar serves as a showcase. Therefore site visits will be/has been made in order to get a better understanding of the project location. Interviews with local inhabitants are made/have been made to see what are needs and wishes concerning the public space in the neighbourhood and sport and activity structures.

**Policy review**

A review on policy is used to gain knowledge about the current plans of governmental institutions have for Alkmaar. This policy is mainly documented in policy reports and maps like the city vision (stadsvisie). Knowledge about the policy is needed in order to match the proposed interventions to the ideas of the local governmental institutions.

**Literature review**

A wider and more general literature review is executed to be able to understand the spatial relationship between sport and the city. This will form the theoretical framework in which the Alkmaar case should be understood. Different articles and books of various authors are used to establish the theoretical base. A small overview will be given of the most crucial developments over the past years in urbanism as well as the field of sport. This will show the correlation between the urban development of Dutch cities and today’s position of sport facilities in those cities. Finally an elaboration on the current discipline of urban design and spatial planning will be made in order to see if a new position could be found for sport and activity structures within this discipline. The literature review also helped to found out needs and wishes from different target groups concerning sports.

**Analyses: historical, morphological and social**

Starting from today’s problem setting, the history of the site is studied by means of relevant literature and images and analysed by means of historical maps. Morphological analysis is executed by mapping the physical structures within the area on different scales and for different aspects. The socio-economic analysis is made consulting literature and statistics, which provided information about the demographics of the area. In the end mapping spatial, historical as well as socioeconomic characteristics of the area provided information resulted in a better understanding of the area and his current inhabitants.

**Case comparison**

In order to find possible solutions and an answer to the research questions case studies will be done in the Netherlands as well as in other countries. Examples are found of sport and activity structures in the immediate living and working environment and the mixture of different target groups in public space. This is done by looking at reference projects that are comparable to the location of the intervention, dealing with similar issues. The main aspects of those cases will be translated into drawings and text. In the end conclusions could be drawn that are used to guide decisions concerning the proposed urban design for Alkmaar.
2.5 Conclusions

Thoughts on sport as well as urban planning defined the position of sport in today’s city, as they became stand-alone islands along highways and railroads. Uniform and mono-functional complexes positioned at the border of neighborhoods and cities where land prices where low and accessibility by car high. Therefore sport facilities are nowadays located far away from the living and working environment, are less accessible by healthy means of transport like foot or bicycle and economically inefficient.

A few developments and trends in today’s society strive for a better integration of sport in the immediate living and working environment. Today sport, as a tool used for social as well as economic issues, has an important position on the political agenda. Important effects of sport for society are the benefits for mental and physical health, the education and socialization of children, the social bonding in neighborhoods and a positive image building between different ethnic groups in Dutch society. Obesity could be solved best by stimulating an active daily lifestyle on the long term and sport participation increases trust in politics and activate (ethnic) groups living in depressed districts. The aging society would benefit from sport participation among elderly as they have less care costs for society. The direct physical environment is a factor that influences the activities of these groups to a varying degree and could help integrating activity structures in the daily life of people. Also a change of lifestyle and individualization of sport are important factors on behavior in sport, needs on spaces for sport and sport facilities in the future.

Still the potential of sport to create meaningful places full of interaction in the public space of cities is unused by urban designers. Today sport is still seen by spatial disciplines as large, inconvenient and difficult to combine with other urban functions. This attitude towards sport seems contra dictionary to the shift noticeable in urban planning aiming at a multifunctional use of space. Seeing sport as potential instead of an inconvenience could help in the quest for unity in the urban fabric and multiple use of space.

Alkmaar is one of the many Dutch cities where we find a clear spatial separation between sport and the city, but particularly interesting as a test case because of the tight relationship of the city with sport, which eventually resulted in today’s ambition to become the city of sports. At the same time, social problems occur in the city like the lack of social cohesion, anonymity and (immigrant) groups in De Hoef. Also residents in Alkmaar West are not satisfied with the offered facilities in their neighborhood like the maintenance on roads and cycling paths and facilities for youth. Alkmaar foresees sport as a solution for the societal problems, but recent developments on sport still follow the existing pattern of clustered sport facilities. When integrating sport facilities in the direct living and working areas the city will became the real city of sports instead of another city of sport complexes.
Sport in public space

Figure 2.33: Pilates on Times Square, New York City: sport for everyone, enhancing social cohesion (Noel, 2012).
Figure 3.1: Sport plein Air Anglais (author unknown).
chapter three

The city and sport

Main goal of this graduation project is the improvement of the spatial relationship between sport and the city. This is done by the integration of sport facilities in the immediate living and working environment, using Alkmaar De Hoef as a test case. In order to accomplish this understanding and acknowledgment of the spatial relation between city and sport and his history is needed.

3.1 Forming the fragment: Historical development of Alkmaar

This chapter can be seen as a theoretical framework that will explore this relationship and will give an answer to the sub question: how did the spatial relationship between sport and the city developed over time until what it is nowadays? In the first paragraph a small overview will be given of the most crucial developments over the recent decades both in urbanism as well as in the field of sport. This will show the correlation between the urban development of Dutch cities and today's position of sport facilities in those cities.

Thoughts on urbanism as well as on sport and the development of sport facilities changed. In the end of the twentieth century, especially since the 1990s, there are conflicts between today's trends in society and thoughts about urbanism and sport. An elaboration on the current discipline of urban design and spatial planning needs to be made in order to see if a new position could be found for sport and activity structures within this discipline (sub question 2).

In order to get a better understanding of the spatial relationship the city of Alkmaar will be used to describe this relationship and show its development over time. Though the neighbourhoods of Alkmaar West, especially in De Hoef, are a typical High Modern example of spatial-functional urban planning and design, hence segregating sports and its facilities from its public, we see that it also echoes a long history of urban sports effecting the public space.

3.1.1 Early middle ages (500 - 1000)

De Hoef is located just southwest of the oldest medieval centre of Alkmaar. Likewise is the old town positioned on one of the up-high situated sand ridge that runs parallel to the Dutch coast. This ridge developed around 2300-1900 BC (Vis et al. 2007:33) and is bordered by the Westerweg in the west and the Kennemerstraatweg/Ritsevoort in the east. In early medieval times a lower situated, swampy area laid on the east side of the ridge. This land flooded by high waterlevels of the Voormeer (Cordfunke, 1978:47): Surrounding medieval settlements like Limmen and Heiloo where also situated at the east side of the sand ridge. Most likely first permanent settlements of Alkmaar inhabitants took place in the ninth century (Gemeente Alkmaar, 1980:11). While the town grew, its buildings had got a sprawled character (Cordfunke, 1978:50). A church building was constructed in the eleventh century at the westside of the town. It was a chapel of the mother church in Heiloo, as Alkmaar was under the jurisdiction of Heiloo (Cordfunke, 1978:48-49; Gemeente Alkmaar, 1980:11Vis et al., 2007:20). It became the centre of the city.

According to Verkerk (1999:265) in the middle age society various activities with a sport character took place. Also Huizinga (1950:120) shows that games, as the most important element of competition and fight, dominates life from the early ages all over the world. Children's education existed mostly out of games, which took place on the street (Verkerk, 1999:265). In the middle ages the duel was seen not only as the judiciary but also as amusement. In the early middle ages those duels where mostly man-to-man fights, as a result of the older knight tournaments (Verkerk, 1999:269). Little is known about the specific site where those duels took place, but it is likely to assume that lands outside the villages was used.

3.1.2 Middle ages (1000 - 1250)

At the end of the eleventh century/beginning of the twelfth century the area around the Langestraat was employed. Houses where built on both sides of the road connecting the centre of the village with the Voormeer. De Laat on the southside and de Nieuwesloot at the north side formed the new borders of the medieval city of Alkmaar (Cordfunke, 1978:59). Around the middle of the twelfth century Alkmaar had become a regional economic centre, as a result of population growth, land reclamation and a rise of the agricultural production. Alkmaar had a favorable position at the intersection of trade roads and surrounded by water. According to Cordfunke (1978:56) at the end of the twelfth century Alkmaar suffered from spoliations by the West-Frisians and many floods (Cordfunke, 1978:52-53).
In the beginning of the next century stagnation in the growth of Alkmaar occurred. According to (Cordfunke 1978:83) it is assumed that the floodings and spoliations had a negative influence on the growth of the settlement. Further urban extension of Alkmaar took place not before 1254 after the city granted town privileges (Gemeente Alkmaar, 1980:11; Cordfunke, 1978:57; Vis et al., 2007:45). This meant more independence for the city and the possibility to create an own urban fortification, a characteristic pattern we see in many medieval settlements (Vis et al., 2007:65). Most houses where still located around the church the place where nowadays the big church (Grote Kerk) is positioned (Cordfunke, 1978:85). In the following decades the city took a huge growth. Dikes where built and grounds where elevated and cultivated (Gemeente Alkmaar, 1980:13). This extension of the city took place from two centers namely the centre around the church and the centre of the landgrave around the castle of Torenburg, that was positioned on the north side of the city and was finished in 1253 (Cordfunke. 1978:99).

In the twelfth and thirteenth century military tournaments where more popular then in the early middle ages. Those tournaments took place within an explicit framework with specific rules (Verkerk, 1999:269). In Alkmaar those tournaments probably took place nearby the castle of Torenburg. Although tournaments where a sport for the upper class the middle class imitated the customs of the top layer of society (Verkerk, 1950:271; Huizinga, 1949). Also the yacht was a popular sport among the aristocracy and because of the interest of lord Frederik II for hawking (valkenjacht) a new impulse was given to the sport in the thirteenth century. Although we can question if hawking could be seen as a sport according to today's definitions. The normal yacht however, as the battle between humans and animals, could be seen more as a sport as it clearly implements a change of victory (Verkerk, 1999:272-273).

3.1.3 Late middle ages (1250 - 1500)

In the fourteenth century trade was very important for Alkmaar. In many Dutch cities, including Alkmaar, a change took place form a agricultural orientated settlement towards a more urban and commercial society (Cordfunke, 1978:89-90). The growth of the city of Alkmaar in the fourteenth century is also shown by the increased amount of religious foundations like chapels and a monastery (Cordfunke, 1978:97). Those chapels and monasteries had courts where people came together for religious activities. Sport and games took most likely place in the market square around the church. Also in the fifteenth century the urbanization, trading and industry where still growing.

Although around 1500 the city was poor as a result of spoliations and high financial obligations, urban developments continued with the construction of the Grote Kerk and the Gothic town hall (Cordfunke, 1978:115-116). On the north-western sides of the late medieval city centre of Alkmaar there was still room for developments. Here many big complexes where build including monasteries and the Oude Doelen in 1509. The Oude Doelen is still positioned between the Koningsweg and de Nieuwesloot and was used for practice by the citizen force. In 1561 the Nieuwe Doelen was built. Behind the building a doelenterrein was positioned. The doelenterrein existed of long shooting ranges towards the east and had a public character. In the sixteenth century in most Dutch town new buildings for the citizens force where built because of the introduction of firearms. In Alkmaar however this was not the case (gemeente Alkmaar).

3.1.4 17th – 19th century

In 1533 the Achtermeer was reclaimed successfully. Other lakes followed like the Kooimeer, the Rietmeer and finally the Schermeer in 1634 (Gemeente Alkmaar, 1980:14). According to the municipality of Alkmaar (1980:25) in 1527 again spoliation by the West-Frisians took place, but this could not stop the growth of the city Alkmaar. Also new citywalls as part of the fortification where built (Vis et al., 2007:74-75). A huge growth of the population occurred at the end of the sixteenth century, people come form the inner land towards the cities, which resulted in the construction of new neighbourhoods (Vis et al., 2007:77,211). Because of the huge population growth the city was built up with houses and people strated to worry about safety as the wooden houses had a high risk of fire. Therefore new houses where built from bricks and had solid roofs (Vis et al., 2007:211).

After the reclamations of land in the sixteenth century and beginning of the seventeenth century canals form the main entrances to the large agricultural hinterland. The Waag square (Waagplein) was the economic centre of the city and was enlarged a couple of times (Vis et al., 2007:194). At the end of the eighteenth century a revolution took place as the middle classes claimed for a vote (Vis et al., 2007:345).

At the end of the middle ages also more autonom sports arised that required a specific place. Examples are colf, kaatsen and archery. Also sports like ice skating, flying kites and stilt walking (steltlopen) where practised. Colf can be seen as the harbinger of the modern golf and was one of the most popular sports in these days (Ten Berge, 2013). Colf was played in the streets in summer time or on the ice during the winter period. More often colf was played on terrains outside the city walls as it was difficult to target and many windows where broken. Especially
the painted windows of the church should be spared (Varenna, 2011). Around 1600 a golf field was developed in Alkmaar along the Rojaale of Kolverslaan, nowadays the Harddraverslaan. In the eighteenth century the outside golf fields disappeared as the sport was practised in indoor halls like the Vier Staten in the Alkmaarder Hout (Ten Berge, 2013). In Alkmaar we can still find the Kolverspad, positioned on the east side of De Hoef. Nowadays the Kolverspad has a central position in the city but in the middle ages it was positioned outside the city walls.

It is likely to assume that the golf field was developed together with the first plantations of the Alkmaarderhout in 1607 with a walking area along roads surrounded by trees for recreational use (Gemeente Alkmaar). Six trees were planted along the Harddraverslaan and also along the Westerweg. Outside the Kennemerspoort more trees were planted, as the municipality of Alkmaar ordered to many trees. In the end of the seventeenth century the Alkmaarderhout expanded on the westside of the Kennemerstraatweg. The Wilhelminalaan used to be the entrance of the park with long lanes and star formed patterns. From 1765 de Hout become more like a park, as is shown on the map of Van Pander. First curved roads where developed. The park was still surrounded by grasslands and horticultural farms. Along the Lindenlaan and Kennemersingel outdoor spaces where developed for the rich people (Ten Berge, 2013). Nearby the Kolverspad in 1820 a harddrabaan was developed, nowadays we can still find the Harddraverslaan. Also we can still find the Schutterswei next to the Kolverspad. It is likely to assume that in the seventeenth century the citizen force practiced in this place, however little is known about the existing of such a field.

In the middle of the nineteenth century Alkmaar had become a quiet city in the province (Vis et al., 2007:378). The North Holland canal (Noordhollands Kanaal) was digged between 1820 and 1824 and was supposed to bring economic growth to the city (Vis et al., 2007:363-366, 378). However te canal did not increase the economy very much and the growth of the city even stagnated around 1829 until 1869. However, at the end of the nineteenth century the population grew from 11.000 till 17.650. Houses where built outside of the old fortresses that lost their original functions. Some of the city ports where demolished (Vis et al., 2007:378-379). First urban extensions took place around 1897 with the Spoorbuurt, Ambachtsschoolkwartier, Lyceumkwartier, Rochdalekwartier and the Boezemkwartier for the laborers (arbeiderswijken). For the middle class the neighbourhoods Emmakwartier, Nassaukwartier, Bergkwartier and the Burgemeesterkwartier where built. The Bloemenkwartier was meant as a mixed neighbourhood for the laborers as well as the middle class. Important for the further growth of Alkmaar was the construction of railroads. The railway Den Helder-Alkmaar was constructed in 1865 followed by the construction of the railroads between Alkmaar-Uitgeest-Haarlem in 1867, Amsterdam-Alkmaar in 1878 and Alkmaar-Hoorn in 1898 (Vis et al., 2007:379).

In the nineteenth century first parks and sportfields arised. In Alkmaar a few sportclubs where established like ‘Always Forward’ (now Alcmaria Victrix) in 1898. Already from 1888 groups of young boys came together at the Krocht along the Westerweg next to the Schutterswei prison.
Figure 3.2: Timeline development of Alkmaar and the relation between the city and sports (own images based on existing maps, see literature)
17th and 18th century

- 1607 Alkmaarder Hout walking area
- Colf court 'Kolverpad'

19th century

- 1820 Harddrafbaan (horse riding)
- 1914 Drafbaan (horse riding)
- 1888 Alcmaria Victrix (soccer)
- 1920 Sportcomplex Alkmaarder Hout
- 1931 Alkmaarsche Boys (soccer)

20th - 21st century

- 1948 AZ Stadion 'Alkmaarderhout'
- 1951 Sluispolder
- 1954 De Meent
- 2005 Sluispolder

**Maps and Images**

- **J**: Map showing historical locations and events.
- **K**: Photograph of a soccer game from the 1920s.
- **L**: Photograph of a modern sports complex.

**Sport in public space**
3.2 The twentieth century: functionalism and privatisation

3.2.1 Urbanism: the Dutch tradition of planning

After the First World War a new society was imminent which asked for radical new solutions to social, economic and cultural problems. The artists and architects of De Stijl movement made the first contribution to the stating of those problems in the Netherlands. This is also the period in which Functionalism or ‘het Nieuwe Bouwen’ first began to appear (Beeren, 1982:4).

After the Second World War structural new facilities have been built in Dutch cities. Most of them were build during the reconstruction years, according to a strict tradition of planning with a functional, hierarchic structure. In this period planners and politicians aimed to build in the tradition of the CIAM movement philosophy (“Congrès Internationaux d’Architecture Moderne”). The CIAM consisted of a group of modern, European architects who banded together from 1928 until 1959. Together they worked out Modern ideas about architecture in order to adapt to the structural changes in society and prepare themselves to meet the demands made in respect of industrialization, housing and town planning in a world subject to population explosion (Beeren, 1982:4). The leader of the group was the Swiss architect Le Corbusier.

In the eyes of the CIAM group the modern architect had the task of supporting and creating a new, modern and egalitarian society. A society where everybody was equal. According to Turkington (1993) a result of the CIAM period is high-rise housing, as it was, in the eyes of the architects, town planners and civil servants of that period, the symbol for this modern society. Also high-rise, with prefabricated components, standardisation and rationalisation of the building process did fulfill the need of a more, quicker, cheaper and more efficient production process. The functionalists seek for extreme rationalism concerning the relation between the technical means and practical objectives in order to lower production costs. Rationalization and standardization where seen as the prime prerequisites for being able to solve the building problems in a humane manner (Beeren, 1982:4,18). Therefore Le Corbusier argued for standardised and industrialised housing units in series. Famous is the comparison he drewled between the production of houses and the production of cars, the T-fords, in 1921 (Hilpert, 1978: p. 27). Famous examples of urban areas which were built according to the high expectations and ideas of the CIAM movement are the Bijlmermeer and the western city gardens (Westelijke Tuinsteden) in Amsterdam.

For a long time the CIAM movement was the leading approach in the spatial planning in the Netherlands. Therefore the thoughts and design principles of the CIAM movement played an important role and determined Dutch urbanism and city planning. The main design principles of the CIAM movement where: repetition, regularity, symmetry; the use of open blocks; uniformity, straight lines; the large-scale nature of housing blocks and open spaces; the use of modern materials and building methods; the provision of communal facilities; the separation of functions (Mentzel, 1990: p. 369). This last principle meant that functions like living, working, traffic and recreation were spatially planned separately from each other (Kompier & Vallee, 2012:3). This design principle therefore also had a huge influence on the relationship between sport facilities and the city.

The 90s period follows the CIAM in which architects like Carel Weeber, who is best known for the housing complex De Peperklip in Rotterdam, intended an objective and rational city using formal and geometrical patterns such as grids. According to the urban perspective of the 90s cities should be designed from formal objectivity, urbanism without question marks (Taverne, 1989). Also architects from the Nieuwe Zakelijkheid presumed formal objectivity with functional and rational solutions.

In the twentieth century Alkmaar was one of the ‘groeikernen’ for the babyboom. After the second world war car traffic took a growth and the old canals lost their original function which resulted in lower accessibility of the city centre. First plans to solve this problem where made by W. Bruin in 1958 who proposed the filling in of the canals in order to transform them into roads. This plan was criticized by citizens and the local government. Finally in 1967 a solution for the upcoming traffic was found in the building of a ring road around the city from which cars could enter the city centre from different points (Vis et al., 2007:408-409). From the 60s Alkmaar became one of the growth centres (groeikernen) in order to accommodate citizens from the norther part of the Randstad as the government meant to centre the population growth in cities with a historical city centre. Alkmaar had a good accessibility towards the Randstad because of the highway between Beverwijk-Kooimeerplein that was constructed in 1961. followed.

Urban extensions took place and the neighbourhoods Nieuw-Overdie, Staatsliedenbuurt and Stadhouderskwartier, Kooimeer, Dillenburg, Oranjepark and the Hoefplan where built (Vis et al., 2007:412). The district West is build in phases and consist of six various neighborhoods. Maertenshof and Rembrandtkwartier, Bergerhof and the Blauwstraatkwartier are
The neighborhoods de Hoef I and II are built at the end of the sixties, de Hoef III and IV are built at the end of the 70s. Bergermeer was built between 1970 and 1976 (Gemeente Alkmaar, 2013). The borders of district West are made by the railway, the Noordhollands Kanaal and the borders with the villages of Heiloo, Egmond and Bergen.

In the neighbourhood of De Hoef we see a strong influence of the CIAM movement as it was built in the 60s of the twentieth century. The neighbourhood consists of row housing and flats with galleries and porches. In lines with the ideas of the CIAM we see a lot of repetition, regularity and symmetry in the building structures. Also the use of open blocks and straight lines could be found. Especially in the parts of the neighbourhood with a lot of galleryflats along the Hoevervaart we see the large-scale nature of housing blocks and open spaces which was typical for this period of time in urban planning. In De Hoef several communal facilities where provisioned like schools, home for the elderly and a shopping mall. All built according to the ideas of CIAM movement, a separation of functions. On the edges of the neighbourhood we see villages from the 90s. Also sport facilities are located on the border of the district (see figure 3.2).

In 1902 the famous landscape architect Leonard Springer had made a new design for Alkmaarder Hout in the English landscape style with a lot of curved roads, small views hills and water parties. The Hertenkamp was developed on the site where used to be a farm. On the southern side of the park a sportcomplex was developed in 1920 with a swimming pool, soccerfields and a wooden bycicle track. Also the first AZ stadion was built in 1948 called the Alkmaarderhout. Nowadays the medical centre occupies a lot of space in the park and the park is surrounded by neighbourhoods from the late 90s (Ten Berge, 2013). Therefore we can say that the function of the park has changed from a recreational park outside the city into a city park. The park is designed as an autonoom park but should nowadays connect the surrounding neighbourhoods.

At the end of the twentieth century more and more people became to see the historical value of old city centres. Alkmaar was one of the seven cities that received money from the government for urban renewal (ISR-gelden) (Vis et al., 2007:411). The city centre moved towards the northern side of the city. The northern banks of the Noordholland canal where given a more urban character and with the project Overstad the old industrial area Huiswaard will be transformed into an urban district with living, working and shopping facilities. Alkmaar and surrounding municipalities had the assignment to built 12.300 new houses in the period between 1995-2004 with integration of
Figure 3.4: Years of construction buildings in West

Figure 3.5: Building levels in West

P1 1960 - 1969: Van de Veldelaan
P2 2000 - 2015: Bosschaertpad
P3 Flat building: Judith Leysterstraat
P4 Pointed roof, 3 levels: Vemeerstraat
P5 1900 - 1944: Rembrandtstraat
P6 Flat roof, 3 levels: Leharkade
P7 Pointed roof, 4 levels: Maertenshof
P8 Flat roof, 3 levels: Leharkade
Sport in public space

The six various neighborhoods in district West are built in phases and therefore the buildings and dwellings in West have various years of construction. Maertenshof and Rembrandtkwartier, Bergerhof and the Blaeustraat-kwartier are built between 1930 and 1960. The neighborhoods de Hoef I and II are built at the end of the sixties, de Hoef III and IV are built at the end of the 70s. Bergermeer was built between 1970 and 1976 (Gemeente Alkmaar, 2013).

Also the amount of levels and building structures is various. Most common are the closed or open building blocks with row housing that consist of 2 levels and a pointed roof. In De Hoef a lot of (gallery-) flats where constructed, freestanding as well as around a court.
Figure 3.9: Facilities in West

Figure 3.10: Green typologies in West

P13 Sportcomplexes De Meent
P14 Hockeyfields De Meent
P15 Primary school De Driemaster
P16 Primary school Nicolaas Beets
P17 Polder Egmondermeer
P18 Greenfields Van Ostadelaan
P19 Court Leeuwenbekstraat
P20 Park De Oude Kwekerij
living, working and recreation. This is done by the VINEX location ‘Stad van de Zon’ nearby Heerhugowaard. Houses in this district make use of the natural energy sources. In 2005 also the VINEX location Vroonermeer-Zuid was built followed by Vroonermeer-North in 2007.

3.2.2 Sport: privatisation and marketing of sport accommodations

From the 1950 until the middle 80s the Dutch government saw herself as an important party in the field of sport. She wished to have a hold on all maters concerning sport accommodations such as the construction, exploitation and maintenance. The so-called ‘sportverzorgingsstaat’ (Ligtenbarg, 2006: 9). It was even said that the sport policy should contribute to less focus on performances and more on the establishment of a liveable and released society (Van den Heuvel & Van der Poel, 1999:16). In line with this and the functionalistic planning of the CIAM period, recreational facilities like parks and sport complexes where placed outside the city, as an escape for the citizen from the urban life (Van Bijsterveldt et al., 2012:11).

In the 80s the economic growth stagnated and collective obligations increased. This led to economy measures, also on sport policies. Until then sport accommodations had put a large claim on the municipal budgets. At the same time in the late 80s the discussion about the core businesses of municipalities started (kerntakendiscussies) (Ligtenbarg 2006: 9-11). Sport became a residual item on municipal budgets. A soft economic factor that competing with harder factors like housing, shopping malls and infrastructure (Kompier & Valle, 2012:3). Those developments provided for more privatisations and the marketing of the field of sport at the end of last century, starting with the development of independent sport facilities like fitness- and squash centres (Ligtenbarg, 2006: 10).

In Alkmaar he last years of the twentieth century more and more sportcomplexes where built. In 1914 the drafbaan in Alkmaar was built next to the Alkmaarder Hout. In 1931 a second soccer club was established called v.v. Alkmaarsche Boys. Also the first AZ stadion was built in 1948 called the Alkmaarderhout. In 1938 the swimming club DAW was established, in 1951 the swimming club Vliegende Vissen public space in some of the older neighbourhoods (Vis et al., 2007:414-416). In 1972 the ice scating complex De Meent, as the city of Alkmaar extended. In 2006 the new soccer stadium was built for the soccer club AZ. Nowadays the municipality of Alkmaar has plans for the reconstruction of sportcomplex De Meent. Again, also in Alkmaar West we see the pattern of sportcomplexes along the primair infrastructure. If we take a look at the position of sportcomplexes in relation to other functions most remarkable is the position of many educational facilities, directly related to sport facilities (see figure).

Figure 3.11: Sportcomplexes and offered sport facilities, Alkmaar
3.3 The twenty-first century: changes in thoughts and lifestyle

3.3.1 Urbanism: from mono-functional to multifunctional

Since the economic crisis started in 2007, a newfound interest in the economic vitality of cities manifested. According to several studies, cities act like engines that drive the national economy (Jacobs, 1992; Van Dijk & Schutjens, 2007). Also Jane Jacobs assumed already in her book ‘The Death and Life of Great American Cities’ from 1992 (150-151) that the economic vitality of cities is connected to the livability in neighborhoods of those cities, as well as the multifunctional use of those neighborhoods. By walking through cities Jacobs found out that the liveable and vital parts of those cities where characterised by a combination of functions (Jacobs, 1992:152-177). Today among urbanists one of the instruments that are put forward as the cure to several liveability issues that are in the way of the vitality of neighbourhoods therefore is the design of multifunctional used space (Van den Hoek, 2010).

The functionalistic urban designers of the twentieth century designed a sidewalk for the pedestrian, cycling path for the cyclist and another road for cars. Nowadays we accept that the use of space is no longer one-sided and limited but dynamic and diverse. One day the park is the place for people to walk their dog, the other it’s the location for a festival or the training location for the local running club. Multifunctional use is also seen in the work of architects who transform old industrial buildings into multifunctional places where people can eat, drink, live, work, shop and can find entertainment such as music, theatre, dance, festivals and concerts. In short, the use of public space has changed.

Studies that researched the correlation between multifunctional land-use and the liveability of neighbourhoods have promising results (Van den Hoek, 2010). Other benefits of multifunctional urban areas would be increased safety as a resulted of growing social supervision, more efficient and flexible use of space. However, according to Van den Hoek (2010) there are some issues to multifunctional use of space as municipalities and project developers often do not think about the combination of functions. Also policy makers, project developers, architects and urban designers interpret the definition of multifunctional use in a different way. Today urban designers and planners are still searching for a definition and instrumentality of the concept multifunctional use (Van den Hoek, 2010).

The degree of difficulty when designing multiple used spaces is shown by the neighbourhoods of the VINEX (Vierde Nota Extra) which are built only recently and supposed to be represent the new thoughts in urbanism on a far-reaching mixture of functions (Snellen, 2005). Although those VINEX areas have a huge variety in facades they are still very mono-functional and look very much alike the urban extions of the 60s and 70s of last century. According to Pols et al., (2009-g) this implements that knowledge about multifunctional use of space is not yet there ore is not complete.

At the same time we see the need of urban designers and planners to find ways that could concentrate the urban fabric and bring the city together. In the past years concepts for urban renewal like the compact city and the network city raised. The compact city is a theoretical concept that forms the base of many strategic plans for urban developments. The compact city does not follow a solid form, limited density or urban plan. The network city is a planning concept that was introduced in the Vijfde Nota Ruimtelijke ordening (Priemus, 2012). The concept assumed that an urban network could function better if nodal points complete each other and are multi-connected. Dupuy (2008) tells us that the network city is a system that consists of three layers. The first level is the layer of transport networks.

The second is the layer of production and consumption. A third layer is found at the level of households. This follows the trend that urban design and spatial planning more and more become to be integral disciplines. Also the amount of aspects that should be taken into account is growing as traffic management experts, civil engineers, economists and soil specialists became a part of urban design and planning.
In vision documents for Alkmaar not much is said about a multifunctional use of space. Instead shopping facilities are supposed to be developed in the direct living area, close to existing shopping facilities. Also the existing horeca facilities are mentioned as stationary (Gemeente Alkmaar, 2013:13-14). So it seems that facilities like shops and horeca are set in the urban form as it is today and no plans are made that follow the ideas of a compact city.

3.3.2 Sport: a change in space requirements

As pointed out in the Problem statement of this thesis sport is no longer only a physical effort anymore but also ‘fun’. Also individualisation led to individual practise of sport instead of within clubs and sport (Kompier & Valle 2012:2). This means not only that the visibility of sport has become more important, but also resulted in a change in space requirements for sports. Sports like running and cycling became popular over the last years, sports that often take place outside the classical sport clubs and complexes. Sportfacilities used to be offered by sportclubs and sport bonds. Besides this in sportaccomodations like ice skating rinks, swimmingpools and riding schools always offered the opportunity to participate in sport. Today the traditional offer of sport facilities is overruled by new sport facilators like commercial fitnesscentra, tennis hals, climbing walls and indoor ski paths, Cruyff Courts etc. (Tiessen-Raaphorst et. al, 2010:173). We could say that sport complexes as an assembly of private sport clubs are old-fashioned. According to Van Bijsterveldt et al. (2012:11) in the post-industrial city sport has become a typical urban activity which should not longer be seen as a counterweight, but as part of the divers urban life. This means that sport is asking for a new position in the urban fabric (Van Bijsterveldt et al., 2012:11).

With the reconstruction of Park Groene Voet into Sportboulevard Alkmaar Noord the municipality of Alkmaar tried to follow these trends. The reconstruction is part of the program Alkmaar Sportstad as the municipality forsees a prominet position for sport facilities in the society. In the park diverse sport- and play activities will be developed for all ages. In this way the municipality intends to increase the attractiveness of the park and stimulate an active lifestyle as sportfacilities become easily approachable. In the park diverse sport routes are created that stimulate sports like jogging and running, which also connect to neighbouring districts. According to the municipality of Alkmaar various parties would like to contribute to the use and management of the park. Existing sportfacilities situated along the Klaas Bootpad that offer korfbal, jeu de boules, tennis and fitness facilities are involved in the project. (Gemeente Alkmaar).

3.4 Conclusions: a new position for sport in urbanism

From the above we could conclude that thoughts on urbanism as well as on sport and the development of sport facilities changed. In the early middle ages we see that the practise of games took place inside the city walls. From the middle ages however those games. Like tournaments and colf, found a place outside of the city walls. Recreational activities as an escape from the city life.

In the end of the twentieth century, especially since the 1990s, urban planning on the one hand and on sport on the other became more contradictionary. Over time the city developed as a composition of seperated functions. Sportfacilities took a place in this as sport participation mostly took place in clubs situated in larger sportcomplexes. As larger urban extensions took place those sportcomplexes where built on the cheaper grounds at the borders of the city. Therefore different districts of the city with different functions are still spatially disconnected. Nowadays there are conflicts between today’s trends in society and thoughts about urbanism and sport and the position of the larger sportcomplexes in the city. Trends in society actually ask for a new position for sport in society.

However, among urbanists one of the instruments that are put forward as the cure to several liveability issues that are in the way of the vitality of neighbourhoods of today is the design of multifunctional used space. There seems to be a need of urban designers and planners to find ways that could concentrate the urban fabric and bring the city together. However a real answer on the way in which such a design should be made is not yet developed. At the same time trends in the field of sport show more individualistic offer of sport facilities instead of a ‘compact’ far-reaching mixture of functions pursued in urban planning. The concept of the network city, that assumes that an urban network could function better if nodal points complete each other and are multi-connected, could perhaps help to create a better connection between diverse sportfacilities in the city. For example in Alkmaar an active routing could stimulate an active lifestyle and at the same time connect the diverse sport facilities in a better way.

After elaborating on the development of the spatial relation between sport and the city another questions remains: How can sport reposition itself in the urban fabric within the current discipline of urbanism? Kompier & Valle (2012:3) point out that as a result of the separated placement of functions in the twentytieth century, nowadays the integration of sport with other functions is still very difficult. Although a few developments and trends in today’s society could be seen that strive for a better
integration of sport and the living and working areas of cities. Still, the potential of sport for public spaces in cities is unused. This is a pity because of the possible solution or contribution at finding a solution sport can bring for today's urban issues. If we look at the field of urbanism, nowadays urbanists advocate multifunctional use of space. An approach that could enhance the implementation of sport into the immediate living and working environment of cities. In public spaces under pressure, sport can function as a katalysator in order to improve the appeal of cities and to create attractive meeting places. The integration of sport and activity structures in the direct living and working area is maybe even desirable as it could contribute to search for a coherent thought about multifunctional use of space.

Also social issues in today's society strive for a better integration of sport and the living and working areas of cities. Sport has benefits for mental en physical health, the education and socialisation of children, the social bonding in neighbourhoods and a positive image building between different ethnic groups in Dutch society. In order to keep children healthy it is important to stimulate an active lifestyle, which could be done best by integrating activity structures in the daily life of children. For example taking the bycicle to school, playing on the school playground during lunchtimes and playing outside or participating in sports after school. Also sport in the neighbourhood contributes to the social cohesion in the neighbourhood because contacts between children and the children's parents are created. Last but not least sport has a positive effect on the economy as care costs are lowered down. Finally we can conclude that a new position should be found for sport and activity structures within the current discipline of urbanism and urban planning.
Figure 3.14: Women fan dancing on The Bund overlooking the Pudong district in Shanghai, China (HD Bing Wallpaper, 2013).
<table>
<thead>
<tr>
<th>AGE</th>
<th>STAGE OF LIFE</th>
<th>% OF TOTAL DUTCH POPULATION</th>
<th>FREE TIME (HOURS/WEEK)</th>
<th>% SPORTING ONCE A WEEK</th>
<th>MOST PRACTISED SPORT AT LEAST ONCE A WEEK</th>
<th>SECOND PRACTISED SPORT AT LEAST ONCE A WEEK</th>
<th>MAIN MOTIVATION FOR PRACTISING SPORTS</th>
<th>SECOND MOTIVATION FOR PRACTISING SPORTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 3</td>
<td>At home, crèche</td>
<td>22,9</td>
<td>-</td>
<td>-</td>
<td>Swimming (3%)</td>
<td>Soccer (23%)</td>
<td>Fun (77%)</td>
<td>Health (48%)</td>
</tr>
<tr>
<td>4 - 11</td>
<td>Primary school</td>
<td>24,5</td>
<td>42,0</td>
<td>65</td>
<td>Soccer (3%)</td>
<td>Swimming (24%)</td>
<td>Fun (77%)</td>
<td>Health (62%)</td>
</tr>
<tr>
<td>12 - 17</td>
<td>High school, vocational education</td>
<td>35,3</td>
<td>47,3</td>
<td>50</td>
<td>Soccer (24%)</td>
<td>Swimming (21%)</td>
<td>Health (62%)</td>
<td>Fun (50%)</td>
</tr>
<tr>
<td>18 - 24</td>
<td>Study or working</td>
<td>24,5</td>
<td>38,7</td>
<td>46</td>
<td>Fitness/aerobics (29%)</td>
<td>Swimming (30%)</td>
<td>Health (81%)</td>
<td>Fun (59%)</td>
</tr>
<tr>
<td>25 - 34</td>
<td>Working, career</td>
<td>35,3</td>
<td>36,6</td>
<td>40</td>
<td>Fitness/aerobics (29%)</td>
<td>Swimming (29%)</td>
<td>Health (81%)</td>
<td>Fun (39%)</td>
</tr>
<tr>
<td>35 - 44</td>
<td>Working, family with young children</td>
<td>13,4</td>
<td>47,2</td>
<td>47</td>
<td>Fitness/aerobics (29%)</td>
<td>Walking (20%)</td>
<td>Health (81%)</td>
<td>Fun (39%)</td>
</tr>
<tr>
<td>45 - 64</td>
<td>Working, family with older children</td>
<td>35,3</td>
<td>54,6</td>
<td>30</td>
<td>Cycling (21%)</td>
<td>Swimming (28%)</td>
<td>Health (59%)</td>
<td>Fun (66%)</td>
</tr>
<tr>
<td>65 - 74</td>
<td>Retirement</td>
<td>13,4</td>
<td>55,8</td>
<td>25</td>
<td>Cycling (21%)</td>
<td>Swimming (28%)</td>
<td>Health (59%)</td>
<td>Fun (76%)</td>
</tr>
<tr>
<td>75+</td>
<td>Independent or health facility</td>
<td>4,3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.1 Sport participation in diverse stages of life

If we take a look at the sport participation among the Dutch population in 2007 we see that the participation in sport is going down as age goes up. Therefore the biggest challenge to increase the participation in sport seems to be after the age of twelve. At the same time is seems important to maintain the fun factor of sport among children as this seems to be main reason why they participate in sport activities. Also as obesitas among young children is increasing the group of children until twelve years old is important.

According to the Social and Cultural Planbureau (SCP) an outstanding dip appears in the sport participation among parents with young children until six years old. Probably because of their restricted hours of free time per week (Tiessen-Raaphorst et. al, 2010:13). Therefore offering sport facilities for parents with young children should have the attention. Also stimulating the participation in sport among elderly is a challenge, as the percentage of elderly people that practise sport is relatively low.

Remarkable is that the secondly most practised sport among the Dutch is swimming in almost all age groups. Probably this is the result of the long history of the Netherlands with the water as the Dutch kept on fighting the rising water with dikes and polders. Still almost all Dutch children start their sport career with swimming lessons. The fun factor seems to be very important among young children. Above the age of twelve the largest motivation for sport is health. Only people between eighteen and thirty-five years old practise sport, besides the benefits for health, in order to get a better condition.

If we take a look at the informal sports we see that walking and tennis are most popular. Almost a third of the ten most practised informal sports are practised on public streets. This is the case for walking, running and cycling. Also soccer and tennis are informal sports practised in public space.

Concluding we could say that the main challenges according to sport participation and an active lifestyle among different ages and stages of life are:

1. Stimulating children after the age of twelve to keep participating in sport.
2. Offering sport facilities for parents with young children.
3. Stimulating the participation in sport among older parents and elderly.

Therefore in the next paragraphs for these target groups, apart from the general design principles for stimulation of an active lifestyle in public space for all age groups, additional design principles will be defined derived from literature.
4.2 Wishes and needs
People from different ages and stages of life have various wishes and needs according to sport on the one hand and public space on the other. At the moment researches have been done on the wishes and needs for different ages groups for public space in order to stimulate an active lifestyle. From this researches recommendations are derived that show in which way sport and an active lifestyle could be stimulated through the design of public space for various target groups.

4.2.1 Children
Age: 6-18
Stage of life: primary school and high school

The design principles based on the wishes and needs for children could be framed in a few themes namely design principles for playgrounds, the built environment and public space and infrastructural design principles.

Playgrounds
Research from TNO on places where children spent most of there time after school hours with the help of GPS and accelerometers points out that children spent almost two hours per day outside the house. Most of those two hours are spent in informal playgrounds. Informal playground are playground which are not part of the formal playground like sidewalks, squares, dikes and parking places (Van Duijn, 2004). According to TNO half an hour is spent near green facilities like parks. This is underlined by Karsten et al. (2001) who mention that Dutch children mostly play in informal playgrounds like their own backyard or sidewalks and street in front of their homes. Playground, green fields and lands along water canals are also used but used less for playing activities.

On school playgrounds and formal playgrounds however children seemed to move most intensive (De Vries et. al., 2010:3). Therefore it would be interesting to see in which way those locations could contribute to a ‘beweegvriendelijk’ living environment. Interesting is the fact that girls seemed to spend more time outside the house, but compared to boys they spent their time more in informal playgrounds: 78 versus 45 minutes a day. On school playgrounds however boys turned out to move more intensively then girls: 777 versus 343 counts per minute (De Vries et. al., 2010:4,50). However according to Van Oel et al. (2005) school playgrounds are more often closed after the lessons. According to research by TNO many profits could be made in the field of health and an active lifestyle for children on places where they spent a lot of time outdoors or by letting children stay longer on places where the are most active. For example by motivating the use of those place before, during or after lessons on school (De Vries et. al., 2010:3). Therefore formal playgrounds like school playgrounds should be public and always accessible. The use of those formal playgrounds could be stimulated by the installation of lighting or the organization of activities, for example birthday party’s, sportclinics and tournaments, while including youngsters in the organization of those activities. Playgrounds should not be accessible for dogs (De Vries et. al., 2010:62). Also supervision, adding interactive playing element like sidewalk tiles producing music or elements intended for competition can help to stimulate use of formal playgrounds.

At the same time attention should be paid to the physical design of those places, accessibility and maintenance (De Vries et. al., 2010:3). For example those playgrounds should be dived in different zones for different ages groups. This could be a zone for children until 6 years old, between six and twelve years old and between twelve and 18 years old.

Natural elements should be implemented in those playgrounds (natuurspeeltuinen). Also informal playgrounds should be reserved for children. TNO mentions a reservation of 20 m² informal playground per child in the age until five years old, 50 m² on the streets per child and 50 m² for playing activities in green per five children in the age between six and eleven years old and one meeting point per fifteen youngsters in the age between twelve and eighteen years old (De Vries et. al., 2010:62).

Design principles for playgrounds:

1. Formal playgrounds like school playgrounds should be public and always accessible.

2. Stimulating the use of formal playgrounds by
   a: installation of lighting
   b: organization of activities
   c: implementing interactive playing elements
   d: implementing elements intended for competition

3. Playgrounds should be dived in different zones for different ages groups: 0-6 years old, 6-11 years old and 12-18 years old.

4. Implementing natural elements in playgrounds.

5. Reservation of informal playgrounds:
   a: 20 m² per child between 0-5 years old
   b: 50 m² on streets per child between 6-11 years old
   c: 50 m² for playing activities in green spaces per five children between 6-11 years old
   d: 1 meeting point per 15 youngsters between 12-18 years old
The built environment and public space

The research report of TNO states that 3% of the built environment should be reserved for playgrounds. Another outcome of the research was that several characteristics of the built environment like a high density of building blocks, the presence of farms, paved playgrounds, parks, indoor parking places and graffiti on walls had a negative influence on the average amount of actively movement on children per day. Karsten et al. (2003) however mention a positive effect of a high dense built environment as the function of playgrounds becomes larger and changes to find other children to play with are larger. A high appearance of maintenance on buildings, a recreational lake or water basin, waste bins for dog poop and a high percentage of roads for mixed users (pedestrians, cyclist, cars ed.) seemed to have a positive effect on children’s activity. Also the appearance of green spaces, water, cycling paths and less grouped parking spaces seemed to be connected to more activity among children (De Vries et al., 2010:41-42, 47).

Children between six and eleven years old seems to be attracted more by a green environment then a built environment. According to De Vries et al. (2005 & 2007) green environments stimulate activity, fantasy and construction games. Greenfields however are not directly seen as nature among children (Van Duijn, 2004a). Water elements also seem to stimulate the activity among children (De Vries et al., 2007) perhaps because children could make dams in the water or fish, swim or ice skate depending on the season. Mixture of functions turns out to have a positive effect on the activity behaviour of children. Important is the fact that the presence of recreational and sport facilities stimulates physical activity among children (Owen et al., 2004). Mixture of functions also increases social control which has an positive effect on the use of public spaces (Van Duijn, 2004b).

Design principles for the built environment:

1. Reservation of 3% of the built environment for playgrounds.
2. Lowering down the density of building blocks
3. Small amount of farms
4. Creating a mixture of functions
5. Placement of sport and recreational facilities in order to stimulate physical activity

Design principles for public space:

1. Lowering down the amount of paved playgrounds
2. Create several small parks instead of a large park.
3. Replacing indoor parking places and grouped parking spaces by outdoor parking spaces spread over the area.
4. Preventing graffiti on walls.
5. Increasing the amount of
   a: recreational lakes or water basins
   b: green spaces, other then green fields
   c: waste bins (for dog poop).

Natural (school) playgrounds

Natural playgrounds are special playgrounds where children could actually are free to play with dirth, mud and all other natural materials. The playgrounds are mostly situated in a ‘natural’ environment surrounded by greenery and buches. Children are free to built treehouses, shacks, waterdams and to climb trees or jump over small ditches. A few Dutch cities already adopted the natural playground like Rotterdam, where we could already find seven natural playground. De Speeldernis is one of them. Also in international cities we find this trends. In Berlin for example the built the Bauplatz where children are free to built.

> Figure 4.4: Schoolplayground Widar Vrijeschool Groningen
Infrastructure

TNO also researched the influence of the infrastructural network in neighbourhoods on the activity among children. From these researches they concluded that improvements in infrastructural networks had a positive effect on the activity of children. Children living in neighbourhoods with less cross overs and motor vehicles with a high rate of speed spent more time on playing outside on average. It is therefore that TNO suggest a limitation of speed for motor vehicles if necessary in order to create safe walking an cycling routes for children traveling between different destinations like their houses, school or sportclub. This could also be done by the implementation of speed bumps, car free or low traffic zones around schools, residential area with traffic calming's in neighbourhoods (woonerf) and narrowing of roads (De Vries et. al., 2010:3).

The research of TNO also points out that for short distances (until 350 meter) the willingness of going by foot or taking the bicycle on the way to school is a hundred percent. From 850 meter between house and school the willingness turned out to be almost zero percent. Therefore short distances between schools and houses increases the change of children going on foot or taking the bicycle on their way to school. (De Vries et. al., 2010:3). This is underlined by Karsten et al. (2001) who mention that the distance between for example home and sportaccommodations is an important factor influencing sport. Other recommendations of TNO where the creation of quick cycling routes without traffic lights, which is underlined by De Vries et al. (2005). It is therefore important to create a high dense street network in neighbourhoods with many stab through roads for cyclist and pedestrians.

However, at the same time a negative relation between physical activity and the amount of crossroads was found by De Vries et al. (2007). Connecting pedestrian routes, qualitative pedestrian and cycling routes between different scales (neighbourhood, city) and getting people aware of local pedestrian, cycling or skating routes are other recommendations of TNO in order to stimulate walking and cycling (De Vries et. al., 2010:59). An example of this culd be found in Amsterdam Zuid where on the Olympiaplein a sport square with skating facilities is developed (see figure 4.5).
Figure 4.5: Olympiaplein Amsterdam Zuid (VHP).
4.2.2 Adults
Age: 35 - 44
Stage of life: work, family with young children

According to researches of the NOC NCF (2012:32) (young) adults between 25 and 35 years old with young children seem to participate less in sport on weekly basis then their peers without children: 35% against 52%. Main reason for adults with young children to participate less in sport is a lack of time or other priorities (NOC NCF, 2012:32). The combination of work, a family with young children and sport seems to be difficult. Most of the time parents depend on a babysitter, which payment could be an issue. A possible solution could be to switch time for sport with your partner, but as young parents have less time for each other as a result of their busy life this solution is not preferred. All of this creates from sport rather an undesirable obligation on a busy then instead of a moment to relax (NOC NCF, 2012:32).

In order to increase sport participation among parents with young children a bond between different sport clubs, like swimming club HZ&PC from Heerenveen, was set up by the Royal Dutch Swimming Federation [KNZB]. This bond offers sports for adults while their children in swimming lessons. As parents are most of the time bored watching their children having swimming lessons or are not able to watch at all. The KNZB therefore offers swimming and waterpolo activities for those adults during the lessons of their children. Parents could also make use of the app SwimCoach, which offers training schedules in order to improve your condition. Besides swimming parents could also go for a run, play table tennis, participate in athletics, triathlon or fitness workouts.

For so far participating in sport at the same time as their children seems to be a good solution in order to increase sport participation among adults with young children (NOC NCF, 2012:33). It is likely to assume that this approach could also be used in order to increase an active lifestyle and sport participation among parents in public space. According to Carman and Fox (2009) a comfortable 5-minute walk for an average adult is about 400 meters. Frank et al. (2004) found a positive relation between the density of the street network (amount of crossroads per meter) and the activity among adults. Sport facilities in the neighbourhood could therefore best be placed in this radius. Other projects that try to facilitate adults with young children also have positive results like the offer of a flexible workout schedule or supply of flexible competitions. Also making parents sport together with their children seems to be a good solution (NOC NCF, 2012:33). Offering sport in the direct working environment could also be a solution (se figure 4.6).
Especially the use of activity equipment’s for elderly during the winter asks for some special attention, as rain and cold make the equipment’s and their surroundings wet and slippery. Wooden seats for example will get a bit damp during rainy days, which often occur in the Netherlands. Seats of waterproof materials and a foundation of other materials then sandy synthetic turf fields or green fields are preferred (De Vreede et. al., 2007:24).

**Design principles for activity equipment’s for elderly:**

1. Encouraging individual use of the equipment’s by the placement of signs next to the equipment’s explaining their use in text and image
2. Placing seats of waterproof materials and a foundation of other materials then sandy synthetic turf fields or green fields beneath the equipment’s

**The built environment and public space**

*Creating a safe environment*

Researches point out the importance and the lack of accessibility of public space, recreation areas, cultural amenities, community and health services, affordable public transport and shopping facilities. As elderly people are mostly fragile and barriers are the first set of activities that elderly find hard to perform, out-going mobility of elderly is very dependent upon a safe environment (Michael et. al., 2006; Sugiyama & Ward Thompson, 2005; Jackson: 2003). Uneven sidewalks and damaged pavement are examples of barriers as they cause falling and tripping. Narrow, abruptly ending sidewalks full with obstacles or even the absence of sidewalks force elderly to walk on the street, which could have many dangerous consequences.

According to Jackson (2003) signs of poverty, drugs, criminal activity, poor housing, poor lighting, vegetation disturbing sight and graffiti are associated with danger and limit outgoing behavior among elderly. According to Carman and Fox (2009) building structures, plot pattern and cadastral pattern should be designed in a ‘human-scale’ in order to design public places stimulating and facilitating elderly to participate in public social life. This because human-scaled buildings and environments are pleasing, relaxing, comforting and permeable. Indeed a stylish appeal of the urban environment has a positive effect on the outgoing behavior of elderly (Mahmood et al,
2012: Michael et. al, 2006). Also adjacent buildings should create positive spaces increasing visual permeability and clear boundaries (Carman & Fox, 2009). Rodiek and Fried (2005) suggest that people are more likely to use outdoor spaces if they can preview them from indoors or a transition area like a semi-public space. According to Carman and Fox (2009) adding identifiable entries and clearly located transit stops in the edge of public spaces will facilitate and stimulate the elderly to use public space as they prevent confusion and additional physical effort. The physical access of public spaces seems to be very important as they determine there use or un-use by elderly (Carman & Fox, 2009: Michael et. al., 2006).

According to Cartens (1993) the edge of the public place can be enhanced by providing formal and informal seatings, creating interesting views into the place or ensuring views on nature or elements, in order to make them more attractive for elderly. A visual distance of less than 100 feet between the activity generators in the public space and the seats is necessary to enable identification of the activity and make conversations about the activity possible to happen (Cartens, 1993). Mahmood et. al. (2012) point out the absence of greenery as poor neighbourhood design. Greenery also seems to be desirable from a medical point of view as Rodiek and Fried (2005) found that contact with greenery has significant therapeutic potential for older adults. Plantation of different types of greenery for all year round stimuli could make a place more inviting the whole year, providing different images throughout the seasons. At the same time greenery could provide a sense of security for the fragile elderly in society when placed between roads and sidewalks and decrease levels of domestic violence from residential blocks. In order to actually give a safe and secure feeling only fully mature trees, shrubs, plants and ground covers for all seasons should be planted that will not obscure public (and semi-public) surveillance areas (Carman & Fox, 2009).

Cartens (1993) underlines the fact that an elderly friendly urban design has to provide shelter and shade. Sidewalks for example should be continuously shaded whenever and wherever possible. Therefore shade trees, like solid canopies, are recommended by Cartens as they provide most shading. But also architectural devices could be used to offer protection from weather conditions like rain or extreme sunlight. Examples are extended overhangs, porches or other artificial elements (Cartens, 1993). In this context it is important to mention that interruptions in shade patterns on a sidewalk or square could confuse the older pedestrian (Carman & Fox, 2009). Cartens (1993) also points out that many elderly experience a reduced ability to adapt to temperature, either high or low (Cartens,
Consequently, seats for elderly are preferred to be located in both shady as well as sunny places during the day and during the seasonal changes (Carman & Fox, 2009). Carman and Fox (2009) also mention some technical interventions regarding public space like the size of the place, which should be 0.5 ha maximum, and the recommended height of tree branches of 7.5 feet average. Additionally, Carstens (1993) mentions that elderly tend not to pass through homogeneous areas but rather walk along their edges. It is therefore that beside variation in greenery there should also be a variety of spaces and materials in public space in order to make them attractive for elderly.

Concentrating facilities in the direct living environment

As the mobility of elderly will go down when they get older it is important that recreational facilities will be placed in the direct living environment (Dam van et al., 2013). Carman and Fox (2009) point out that the distance to public spaces could be seen as one of the main requirements of daily physical activity among elderly. For an average adult a comfortable 5-minute walk is about 400 meters, but this may be less for seniors, depending on their ability. At the same time a mixed use program provides greater human and social activity. In addition, linking the public place to other activities may attract more users and gives elderly the opportunity to combine visiting the public space with other daily activities (Carman and Fox, 2009).

In addition Cone et. al. (2003) found out that one of the problems of existing activity programs for elderly seems to be the long travel distance to the accommodation. Therefore more sport and activity facilities for elderly are preferred in the direct living area with a short distance to the homes of elderly (Conn et. al., 2003). We can conclude that diverse leisure activities for elderly should be located in the direct living area.

Design principles for the built environment and public space:

1. Creating a safe environment for elderly through:
   a: even sidewalks without obstacles along every street
   b: placements of sufficient lighting
   c: designing building structures and plots on a human scale
   d: create positive spaces increasing visual permeability
   e: design spaces with clear boundaries
   f: place outdoor spaces in a location where elderly can preview them from indoors or a transition area like a semi-public space
   g: placing greenery between roads and sidewalks and decrease levels of domestic violence from residential blocks
   h: placement of greenery that is not disturbing sight like fully mature trees, shrubs, plants and ground covers for all seasons, with a recommended height of tree branches of 7.5 feet average

2. Stimulating use of public space by elderly:
   a: adding identifiable entries in the edge of public spaces
   b: positioning of clearly located transit stops in the edge of public spaces
   c: placement of various greenery for all year round stimuli
   d: designing public spaces not larger then 0.5 ha
   e: use of variety of spaces and materials

3. Creating formal and informal seats for elderly that having:
   a: interesting views into the public place
   b: ensuring views on nature or elements
   c: a visual distance of less than 100 feet from the activity generators in the public space
   d: placed in both shady as well as sunny places during the day and during the seasonal changes

4. Provide shelter and shade on sidewalks:
   a: continuously with limited interruptions
   b: with the use of trees like solid canopies
   b: by placement of architectural devices like extended overhangs, porches or other artificial elements

5. Placement of recreational, sport and activity facilities in the direct living environment with a short distance to the homes of elderly

6. Giving the opportunity to combine visits to the public space with other daily activities through linking the public space to other activities and the creation of a mixed-use program.
Infrastructure

As we can see in figure 4.2 elderly spent many of the time they participate in sport on cycling, walking and swimming, which have positive effects on their mental and physical health. Therefore green and safe infrastructures and facilities for cycling and walking between destinations should be well facilitated in the neighbourhood. In addition the networks for cycling and walking should connect to the direct living environment of elderly (Sugiyama & Ward Thompson, 2007). Also, as mobility goes down, the design of accessible elderly-friendly neighborhoods asks for a deliberate urban design approach towards walkability as the main hindrances concerning mobility are connected too great distances between home and facilities (Dam van et al., 2013). According to Carman & Fox (2009) a walk able neighborhood is one that offers an easy and safe walking distance to facilities that are needed on regular basis. Other characteristics of a walk able neighborhoods are mixed land uses, compact buildings, inviting pedestrian corridors, and a streetscape that serves a range of users like pedestrians, bicyclists, transit riders and cars.

As described above the mobility of elderly is very dependent upon a save environment. Street activity could engender action and feelings of safety at the same time busy streets are also one of the reasons for elderly to stay inside or make there trip after rush hour (Jackson, 2003). According to Whyte (1980) it is therefore important that public spaces are part of the neighborhood and city. This could be done by locating public space along frequently traveled pedestrian roads or cycle paths. This will increase the opportunities for drop-in use. At the same time Whyte stated that is important that the pedestrians and bicycles pass by public place (not going through in order to prevent the place from becoming a thoroughfare).

Design principles for the infrastructure:

1. Facilitation of green and safe infrastructures and facilities for cycling and walking.
2. Connecting the networks for cycling and walking to the direct living environment of elderly.
3. Creating a walk able neighborhood offering easy and safe walking distance to facilities that are needed on regular basis.
4. Design inviting pedestrian corridors.
5. Create a streetscape that serves a range of users like pedestrians, bicyclists, transit riders and cars.
6. Locating public space along frequently traveled pedestrian roads or cycle paths.
7. Pedestrians and bicycles should pass by public place (not going through in order to prevent the place from becoming a thoroughfare).

Lappset

Playground for 3 generations

Lappset, a producer of play- and sport equipments has developed a playground where three generations come together: children, parents and grandparents. On the playground not only children, but also children’s parents and grandparents use the playground equipments. According to Pahtoja et. al (2003) researches point out the effect of those equipments has positive effects on the physical functioning, balance and general quality of life for elderly.

> Figure 4.8: Lapset playground for all ages (Lappset)
Design principles stimulating an active lifestyle

Design principle 1

Design principle 2

Design principle 3

Design principles to enhance social cohesion

Design principle 4

Design principle 5

Design principle 6

Design principles for an ergonomic and safe public space

Design principle 7

Design principle 8

Design principle 9

Figure 5.1: Design principles derived from literature.
Now that the spatial relation between sport and the city is defined this chapter puts forward design principles for the built environment that can be used for design interventions to encourage an active lifestyle and social cohesion in neighbourhoods. Those design principles will help to reposition sport in public space, which will be done in the design study for Alkmaar and Alkmaar West.

The design principles are based on existing literature and observations in practise. They represent the wishes and needs from society according to sport and the relation between sport and public space. Also the design principles will be used as the criteria for the design study and experiment in Alkmaar West. As this research is looking for a new position for sport in direct living and working area the starting point for the use of the principles in interventions should be the neighbourhood scale.

After building up the design principles a projection of those principles on Alkmaar West will be made, in order to get a better understanding of the issues related to sport and public space in the area.

5.1 Design principles

5.1.1 Design of public space stimulating an active lifestyle

According to Boonstra and Hermens (2011:13-14) there are various ways in which people could be motivated for an active lifestyle. Sportclubs seems to have a less important role then what is often thought. In paragraph 2.2.1 was already mentioned that according to Boonstra and Hermens (2011:12) that instead of motivating people whit obesitas for sport activities, stimulating an active daily lifestyle will be more effective on the long term.

As children and young people are easy to motivate for sport practise, but as they grow older they often stop practicing sport (Boonstra and Hermens, 2011:12). Taking the bycicle instead of the car, or the stairs instead of the lift are examples (Boonstra & Hermens, 2011:13-14). This is underlined by TNO who mentions the importance of stimulation for an active lifestyle in order to keep children healthy. According to TNO this could be done best by integrating activity structures in the daily life of children. For example taking the bycicle to school, playing on the school playground during lunchtimes and playing outside or participating in sports after school.

Design principle 1: designing attractive and adventurous (school) playgrounds

5.1.2 Sportfacilities in public space to enhance social cohesion

According to the Sportbank investments in sport could have many social and economic positive effects. However the achievement of these effects depend on a few factors that influence the context of sport like the background and skills of coaches and the participants and their social environment. In order to increase the social cohesion in neighbourhoods a beautifully designed sport square is not enough (Boonstra & Hermens, 2011:37). For example Boonstra and Hermens (2011:36)
mention that only sport squares that offer other facilities besides sport facilities also attract other groups. The more variety in facilities, the more variety in visitors. Also multifunctional places where the older youth is involved in the organization of (sport related) activities and at the same time different zones are made for children and youth from different ages seems to be the most attractive playgrounds (Engbers, Vries, & Pierik, 2010).

Boonstra and Hermens (2011:36) state that the importance of sheltered and unsheltered seats is often forgotten in the design of sport facilities in public space. Benches attract parents who will watch their children playing games or participating in sport. In this way those benches offer a meeting place for neighbours (Boonstra & Hermens, 2011:36).

According to Wetten (2010) green space are not only important for public health of residents, but also seems te have a positive effect on the social cohesion in neighbourhoods. People living in a green neighbourhood feel more comfortable and visit the doctor less. Wetten mentions that this could be the result of green space as a green environment indirectly causes less stress, stimulates an active lifestyle and contacts between residents. Design principle 4: offering other facilities besides sport facilities in order to attract other groups.

Design principle 5: facilitate seats like benches in order to offer a meeting place for neighbours.

Design principle 6: lowering down stress, stimulating an active lifestyle and contacts between residents by the implementation of green space in neighbourhoods.

5.1.3 General design principles for an ergonomic and safe public space

Oscar Newman (1996) mentions his Defensible Space theory in which he shows some keynotes for an ergonomic and safe public space. The focus of those keynotes is on the influence of the built environment on social characteristics, but. Four important keynotes are:

> The environment has to be designed in a way that residents are aware of there own territory, which is the direct environment the life in. Residents should associate with their living environment.
> The built environment should maximize the supervision of residents in public space (social control).
> The built environment should prevent the area from stigmatization as the residents of these neighbourhoods could be perceived as fun arable and isolated.
> The built environment should be localized in the setting of non treated public spaces like crowded parks and playgrounds.

Design principle 7: positioning public space nearby existing residential buildings in a way that supervision from the buildings on the public space is maximum.

Design principle 8: when designing or redesign public space we should choose those spaces with a direct relation to the built environment.

The research of the Mulier Instituut concludes with a few recommendations for sport activities in the neighbourhood that mainly focus on the management of sport places like sport squares. They state that the wishes and needs of the residents should be included in the design of a sport square. Schools and surrounding sportclubs should be involved in the activities on those squares. Also among the involved organisations there should be only one organization have the final responability of the space. Rules of specific sports could be adapted to the small space on the streets. Finally the squares should be a beautiful, clean and safe place for sport and playing activities (Cevaal, Romijn, Breedveld, Emmen, & Wender, 2010).

Design principle 9: schools and surrounding sportclubs should be involved in sport activities in public space.

4.2 Projecting the design principles on Alkmaar West

Now that the design principles are defined we could project them on the project location Alkmaar West to see where things go wrong or could be better in the existing built environment.

Figure 5.2 & 5.3: IKEA Utrecht impression (IKEA) and aerial view (Rudde, 2013).
Design principle 1

Design principle 2

Design principle 3

LEGEND
- Separated bycicle path
- National cycling route
- Street level crossing points
- Unequal crossing points (tunnel)
- Traffic lights
- Local cycling route
- Separated pedestrian path
Sport in public space

Design principle 7

Design principle 8

Design principle 9
chapter six
The identity of Alkmaar

In order to be able to make a design study for Alkmaar and Alkmaar West knowledge about the exiting characteristics of Alkmaar and West is needed. In this chapter the morphological analyses will be extended. The spatial connecting between sport and the characteristic is tried to bring forward, although not characteristics seems to have a very direct spatial relation with sport.

6.1 Landscape and landuse

Landuse and landscape typologies surrounding Alkmaar

Alkmaar is surrounded by a diverse landscape with diversoe use. On the West side Alkmaar borders at the dunes of the Dutch coast along the Nordsea. On the east and west side of Alkmaar we can find polders that are nowadays mostly use for agricultural use. Most of the polders are part of the main ecological structure (EHS).

Figure 6.2: Statistics on landus in the region of Alkmaar (own image based on data CBS).

Figure 6.3: Statistics on landus in the region of Alkmaar (own image based on data EduGis).
Recreational functions

In the region of Alkmaar many recreation functions are located. Especially natural sites like forests, the dunes and heath fields are presented in the region. The largest forest area are the Schoorlse dunes. The seaside of the Northsea is very closeby. Inside Alkmaar the monumental centre is very popular among tourists as well as the cheese market. In most of the recreational areas sports are practised like cycling, mountainbiking, walking, running or swimming. Also horse-riding, golfing and various watersports could be practised in the region.

> Figure 6.4: Different landscape characters and their recreational functions in the region of Alkmaar

> Figure 6.5: Cheesemarket in Alkmaar
Green corridors and patches in the city

Alkmaar is a very green city as we can see at the amount of green patches and corridors within the city. Those corridors, mostly formed by singels and watercanals, connect the green patches with each other and with the polders surrounding Alkmaar.

The green patches mainly consist of parks and public gardens. The corridors are mostly formed by greenfields and verges among roads or canals. Therefore most green corridors have an infrastructural function beside their ecological function.
Functions and facilities: parks and city gardens

In Alkmaar we can find diverse parks like the Oosterhout, Alkmaarderhout, Westerhout and Rekerhout, that are situated in the center of neighbourhoods. The park Egmonderhout is the only park located at the southwest-border of the city. Children’s farm and specific parks like butterfly gardens, herb garden and a garden with facilities for the blind are located in those parks.

Beside the large parks Alkmaar also knows many smaller parks, city gardens and vegetable gardens (volkstuinen). Especially the last ones are very popular in Alkmaar. Six vegetable garden complexes are located within or at the border of the city. Those complexes accommodade twelve amateur horticulture clubs.
Sportfacilities in Alkmaar

The offer of sportaccomodations and facilities in Alkmaar is very good. Although some complexes need an update as the quality of the facilities lowered down over the years.

In Alkmaar several programs for topsport are offered like volleyball, rugby, softbal, swimming, trampolinespringen, soccer for girls and AZ for the boys. Alkmaar also offer diverse sport and activtyprograms for youth and elderly, immigrants, people with a lower income and disabled people (Gemeente Alkmaar, 2012, p. 5). The largest sportcomplexes in Alkmaar are Groene Voet, De Meent, Hoornse vaart and De Hout. Those complexes are spreaded through the city. Almost all are located along primair infrastructure, except for park Groene Voet. Most offered facilities are soccerfields and tenniscourts. Also indoor sportfields are offered in the larger complexes.
Alkmaar West
green typologies and their use

Figure 6.10: Different greenery typologies in Alkmaar
I. Green typologies

gardens, parks, green fields, polder, verges

Figure 6.11: green typologies in Alkmaar West
II. Ownership green typologies
private, semi-public, public

Figure 6.12: ownership op green typologies in Alkmaar West
III. Use of public space
walking the dog, playground, sports

Figure 6.13: use of public space in Alkmaar West
Alkmaar is wellknown for its medieval city center with canals and the large amount of windmills that could still be found within the city.

In the 15th and 16th century Alkmaar played an important role in the reclamation of land. Around 1500 North Holland was still covered by peat and huge lakes. The Zuiderzee became larger because of the beating of waves. Higher dikes were built and lakes were reclaimed. Alkmaar was pioneer in this matter. Today in Alkmaar we can find one of the oldest reclaimed lakes in the Netherlands, the Achtermeer, that was reclaimed in 1533. Later the Groote Waert (Heerhugowaard) was reclaimed between 1629 and 1631, the Schermer in the period 1631-1635 and the Egmondermeer between 1564 and 1565.

Today Alkmaar still has a special relation towards the water. Many characteristics elements in Alkmaar like the windmills, canals and the Nordsea canal still refer to the relation with the water.

< Figure: 6.15 Canal in the city center, windmill De Eendracht and the Egmondermeer polder.
Sport in public space

Figure 6.16: North holland around 1500-1600 (Landschap lezen).

Figure 6.17: Egmondermeer polder and the Achtermeer today.

Figure 6.18a: Alkmaar De Achtermeer 1573 (detail map L. Pietersz, Nationaal Archief).

> Figure 6.18b: Map reclaimed lakes around Alkmaar by Louris Pietersz ca. 1573 (Nationaal Archief).
6.2 Infrastructure

Alkmaar is located in the province of North Holland, nearby the Randstad. From Alkmaar it takes only 40 minutes by car or train to get to Amsterdam, capital city of the Netherlands. This means also Schiphol is well reachable from Alkmaar, it takes only 36 minutes to travel to Schiphol by car. The Afsluitdijk is closely located to Alkmaar so traveling to Groningen and even further, Berlin is doable. Due to the ferry from Den Helder to Texel the wadden area, one of the largest recreational and natural areas in the Netherlands, is very closeby. Finally we can say that Alkmaar is well positioned between the crowded Randstad with

On city level the infrastructural network has a clear structure. The main roads for car traffic surround the city in a circle. Primary roads connect to this circle road, secondary roads connect to the primary etc. The train track and the Noordholland canal are two elements of the infrastructural network that take a special position in the city, as they both run through the city. The train runs from the south-west to the north-eastern part of the city. The Noordholland canal runs from north-east to south-west.
<table>
<thead>
<tr>
<th>City</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amsterdam</td>
<td>00:42</td>
</tr>
<tr>
<td>Den Haag</td>
<td>01:16</td>
</tr>
<tr>
<td>Den Helder</td>
<td>00:41</td>
</tr>
<tr>
<td>Groningen</td>
<td>01:58</td>
</tr>
<tr>
<td>Ummiden</td>
<td>00:27</td>
</tr>
<tr>
<td>Londen</td>
<td>06:53</td>
</tr>
<tr>
<td>Rotterdam</td>
<td>01:26</td>
</tr>
<tr>
<td>Schiphol</td>
<td>00:36</td>
</tr>
<tr>
<td>Texel</td>
<td>01:30</td>
</tr>
<tr>
<td>Utrecht</td>
<td>01:18</td>
</tr>
</tbody>
</table>

Figure 6.20: Position of Alkmaar in the Netherlands

Figure 6.21: Infrastructure in Alkmaar: fast traffic (car and train).
Figure 6.22: Infrastructure in Alkmaar West, fast traffic: carroads and traintracks

Figure 6.23: Main infrastructural roads lay at the borders of West

Figure 6.24: N9, Martin Luther Kingweg
Figure 6.25: Slow traffic network Alkmaar West, bicycles and pedestrians

Figure 6.26: Main conflicts between slow and fast traffic in West

Figure 6.27: Tunnels for slow traffic under the Martin Luther Kingway
II. Public transport network

Buslines and Trainstations

Figure 6.28: Public transport in Alkmaar West: buslines, busstops and trainstations.

Figure 6.29: Radius of the trainstations.

Figure 6.30: Radius of the busstops.

Figure 6.31: Bus stop in the city center.
6.3 The built environment of Alkmaar West

The district West is build in phases and consist of six various neighborhoods. Maertenshof, Rembrandtkwartier/ Bergerwegkwartier, Bergerhof and the Blauwstraat-kwartier, de Hoef I and II, de Hoef III and IV and the Bergermeer. The borders of district West are made by the railway, the Noordhollands Kanaal and the borders with the villages of Heiloo, Egmond and Bergen.

The projectarea of Alkmaar West is situated at the western periphery of the city, next to the Bergermeerpolder, and borders on the city center and the city districts Huiswaard, De Mare and Zuid in the east.
Figure 34: Alkmaar West and its surrounding neighbourhoods.
Facilities

Small corner shops (buurtwinkels) and small companies disappeared over time. At the moment only a few social institutions and offices are established in neighborhoods. We can find two small shopping malls in West, one is located in de Hoef I and II. The other mall is located in Bergermeer. A few business areas are located along the Martin Luther Kingweg. Facilities like schools, sport and healthcare institutions are more spread through the district.

Facilities in the city centre are easily accessible because of the good location. Besides the function of living sport plays an important role in West. In West the sportcomplex De Meent is located which contains soccer fields, hockey fields, tennis courts, a bowling alley, an ice skating rink, a squash hall, table tennis and fitness facilities. Next to De Meent we find a golf course (Gemeente Alkmaar, 2013).
Figure 7.1: The concept for Alkmaar consist of three layers.
chapter seven
Design study

Based upon the knowledge on the position of sport in the city and the wishes and needs of different groups a few design principles has been derived from literature. This, together with the conclusions of the analyses and observations in the field will be the bases for the design study on Alkmaar West, which intends to place sport facilities in the direct living environment.

### 7.1 Concepts
The vision for Alkmaar consist of three layers which are:

**Layer 1 Sport complexes (existing)**
Sport complexes offer specific sport facilities:
- swimming pool, ice skating rink, sport events

**Layer 2 Sportive routing (to be designed)**
An active routing between the sport complexes and neighbourhoods
- stimulating an active lifestyle
- create a network of sport facilities

**Layer 3 Local sport facilities (existing / to be (re)designed)**
Sport facilities with a focus on the neighbourhood
- stimulating an active lifestyle
- enhance social cohesion

This layered concept (see figure 7.1) for Alkmaar could be connected to existing thoughts in urbanism like Dupuy's Urban Network model (see figure 7.2) and the three layered society of Gehl (2011).

Dupuy's model is based on the fact that urban networks function better if nodal points complete each other and are multi-connected (Dupuy, 2008). In the concepts for Alkmaar this is reflected through the second layer, the active routing, which connects the parts of the first layer, the sport complexes and the third layer, the sport facilities with a relation to the neighbourhood. This routing has therefore a connecting function, besides the function of stimulator for an active lifestyle.

Jan Gehl distinguishes three layers in his model which are:
- Necessary activities
- Optional activities
- Social activities

This thought could also be connected to the concepts made for Alkmaar. In this case the first and third layer are existing layers, which are the necessary activities, the sport complexes, and the social activities formed by the soccer fields in the neighbourhood. The active routing will be the added, second layer that should be designed.

- Necessary activities: **Sport complexes**
- Optional activities: **Active routing**
- Social activities: **Soccer fields in the neighbourhoods**

### 7.2 Vision for Alkmaar
The vision for Alkmaar is made on city level and is based on the layered concept as described before. See figure 7.3.

### 7.3 Vision for Alkmaar West
The vision for Alkmaar is based upon the vision for the city and could be seen as a more detailed elaboration on this vision. See figure 7.4.

### 7.4 References
An overview of a few references will be given in figure 7.5 that could help or guide the further design for the active routing (elements and signages) and the sport facilities in neighbourhood scale (sports squares).
Figure 7.3: Vision for the city of Alkmaar
Figure 7.4: Vision for the neighborhood Alkmaar West
I. Sport equipments for an active routing

II. Signages for an (active) routing
III. Sport squares

Olymipaplein Amsterdam by VHP

Design sportsquare Binnenrotte, Rotterdam by SK & Paul Zuidgeest
Thoughts on sport as well as urban planning defined the position of sport in today’s city, as they became stand-alone islands along highways and railroads. Uniform and mono-functional complexes positioned at the border of neighborhoods and cities where land prices where low and accessibility by car high. Therefore sport facilities are nowadays located far away from the living and working environment, are less accessible by healthy means of transport like foot or bicycle and economically inefficient.

A few developments and trends in today’s society strive for a better integration of sport in the immediate living and working environment. Today sport, as a tool used for social as well as economic issues, has an important position on the political agenda. Important effects of sport for society are the benefits for mental en physical health, the education and socialization of children, the social bonding in neighborhoods and a positive image building between different ethnic groups in Dutch society. Obesity could be solved best by stimulating an active daily lifestyle on the long term and sport participation increases trust in politicians and activate (ethnic) groups living in depressed districts. The aging society would benefit from sport participation among elderly as they have less care costs for society. The direct physical environment is a factor that influences the activities of these groups to a varying degree and could help integrating activity structures in the daily life of people. Also a change of lifestyle and individualization of sport are important factors on behavior in sport, needs on spaces for sport and sport facilities in the future.

Still the potential of sport to create meaningful places full of interaction in the public space of cities is unused by urban designers. Today sport is still seen by spatial disciplines as large, inconvenient and difficult to combine with other urban functions. This attitude towards sport seems contra dictionary to the shift noticeable in urban planning aiming at a multifunctional use of space. Seeing sport as potential instead of an inconvenience could help in the quest for unity in the urban fabric and multiple use of space.

Alkmaar is one of the many Dutch cities where we find a clear spatial separation between sport and the city, but particularly interesting as a test case because of the tight relationship of the city with sport, which eventually resulted in today’s ambition to become the city of sports. At the same time, social problems occur in the city like the lack of social cohesion, anonymity and (immigrant)groups in De Hoef. Also residents in Alkmaar West are not satisfied with the offered facilities in their neighborhood like the maintenance on roads and cycling paths and facilities for youth. Alkmaar foresees sport as a solution for the societal problems, but recent developments on sport still follow the existing pattern of clustered sport facilities. When integrating sport facilities in the direct living and working areas, the city will became the real city of sports instead of another city of sport complexes.
Literature


Bottenburg, M. van (1999). ‘Landelijk Contact, 50 jaar lokaal sport- en recreatiebeleid; Van Pro tot Prof’. Dordrecht: Drukkerij van den Berg & Versluijs BV


Gemeente Alkmaar (2013). Bestemmingsplan Alkmaar Zuid-West


Huizinga J. (1949), Herfsttij, 105 noot 23, ondermeer naar Chastellain III, 38-49. Haarlem


Priemus, H. 2012. De nieuwe ruimtelijke planningsdoctrine. S+RO


SCP (Sociaal en Cultureel Planbureau), ‘Rapportage Sport 2003’; Den Haag; 2003

Snellen, D., H. Hilbers en A. Hendriks (2005), Nieuwbouw in beweging; een analyse van het ruimtelijk mobiliteitsbeleid van VINEX. Den Haag: NAI Uitgevers i.s.m. het Ruimtelijk Planbureau.


IMAGES

CHAPTER 1
Figure 1.1: Pilates on Times Square, New York City (Noel, 2012). Retrieved January 14, 2015 via: http://nyclovesnyc.blogspot.nl/2012/06/celebrating-summer-solstice-in-times.html

CHAPTER 2
Figure 2.4: Cruyffcourt Ketelveld Den Haag (Nederlands Instituut voor Sport en Bewegen [NISB], 2010). Retrieved November 6, 2014 via: http://www.nisb.nl/zoeken-aanpakken-beweegvriendelijke-omgeving/zoek-een-aanpak-of-project/interventiedetail.html?item=481#ad-image-0

Figure 2.5: Yoga event on Times Square, New York City: the ‘fun’ factor of sport and dynamic character of public space (Noel, 2012). Retrieved January 11, 2015 via: http://nyclovesnyc.blogspot.nl/2012/06/celebrating-summer-solstice-in-times.html

Figure 2.6: Newspaper articles showing their concerns about obesity among children.

Figure 2.7: Sport in Rotterdam (Schoolsportvereniging). Retrieved January 11, 2015 via: http://www.schoolsportvereniging.nl

Figure 2.8: Sport enhancing social cohesion. Front cover book Sports Sociology.

Figure 2.9: Beweegtuin for elderly (Nijha, 2007). Retrieved January 11, 2015 via http://www.nijha.nl/actueel/tips-sportaccommodaties/beweegtuinen--bij-verzorgingshuizen/

Figure 2.10: Sportcomplex De Meent along the Ng (BingMaps).

Figure 2.12: Media materials and rapport vision on sport Alkmaar: Alkmaars Startsignaal (Gemeente Alkmaar).

Figure 2.13: Project Climb Your Dorm by Arons en Gelauff architects on the campus of the University of Enschede (Arons en Gelauff, 2012). Retrieved January 11, 2015 from: http://aronsengelauff.nl/nl/category/educatief

Figure 2.15-2.18: Map and impression of plan Groene Voet, impression sportcomplex De Meent, Waterplan De Hoef (Gemeente Alkmaar).

Figure 2.23: Pilates on Times Square, New York City: sport for everyone, enhancing social cohesion (Noel, 2012). Retrieved January 11, 2015 via: http://nyclovesnyc.blogspot.nl/2012/06/celebrating-summer-solstice-in-times.html

CHAPTER 3
Figure 3.1: Sport plein Air Anglais (author unknown). Retrieved January 11, 2015 via: http://zedlande.free.fr/album/planches/slides/sports%20plein%20air%20anglais.html


Figure 3.13: Dupuy's Urban Networks – Network Urbanism Model (Dupuy, 2008).


CHAPTER 4
Figure 4.1: Table participation in informal sports in percentages (own image based on data SCP/CBS via Tiessen-Raaphorst et. al, 2010).

Figure 4.2: Table participation in sport for diverse ages and stages of life in percentages (own image based on data SCP/CBS via Tiessen-Raaphorst et. al,2010).

Figure 4.4: Schoolplayground Widar Vrijeschool Groningen

Figure 4.5: Olympiadeplein Amsterdam Zuid (VHP). Retrieved January 11, 2015 via: www.vhp.nl

Figure 4.6: Basketbar Utrecht,, Kramer, L.

Figure 4.7: Examples of sport equipments for elderly (Nijha, 2007)

Figure 4.8: Lappset playground for all ages (Lappset). Retrieved January 11, 2015 via www.lappset.com

Figure 4.15-2.18: Map and impression of plan Groene Voet, impression sportcomplex De Meent, Waterplan De Hoef (Gemeente Alkmaar).

Figure 5.2: IKEA Utrecht impression (IKEA). Retrieved January 11, 2015 via http://destadutrecht.nl/economie/voetbalvereniging-faja-lobi-kds-kan-het-dak-op/

Figure 5.3: IKEA Utrecht aerial vieuw (Rudde, 2013). Retrieved January 11, 2015 via www.dakmerk.nl
CHAPTER 6
Figure 6.1: The different landscape typologies in the Alkmaar region: meadows, urban districts, agricultural lands, dunes, forests and heath. Sources:

Figure 6.2: Statistics on landuse in the region of Alkmaar, own image based on data Centraal Bureau van de Statistiek via Statline

Figure 6.3: Statistics on landus in the region of Alkmaar, own image based on data EduGis via www.edugis.nl

Figure 6.5: Cheesemarket in Alkmaar, author unknown. Retrieved December 18, 2014 from http://www.vdfvaarvakanties.nl

Figure 6.16: North Holland around 1500-1600, Landschap lezen. Retrieved December 18, 2014 from https://sites.google.com/site/landschapelzen/waterbeheersing-na-1800

Figure 6.18a: Alkmaar De Achtermeer around 1573. Detail from map Louris Peetersz, Foto Regionaal Archief Alkmaar. Retrieved December 18, 2014 from http://onh.nl/nl-NL/verhaal/1029/achtermeer-eerste-droogmakerij

Figure 6.18b: Map reclaimed lakes around Alkmaar by Louris Pietersz ca. 1573, Nationaal Archief, mapnr. 4.VTH, 2514.

Figure 6.31: Aerial view on Alkmaar West, BingMaps. Retrieved January 2, 2015 from http://www.bing.com/maps

CHAPTER 7
Figure 7.2: Dupuy’s Urban Networks (Dupuy, 2008).