Marko Orkić, B.Sc.Civ.Eng.
Dubravko Ižaković, prof.
Darko Trubeljak, B.Sc.Civ.Eng.
Tomislav Suk
Darko Dumančić, prof.

SVOD d.o.o.
For designing and civil engineering
Gundulićeva 61a/II
31000 Osijek, Croatia
Tel: +385 31/297-334
Mob: +385 99/212-2513
Fax: +385 31/297-334
e-mail: marko@svod.hr

DEVELOPMENT OF ATHLETICS THROUGH CONSTRUCTION OF ATHLETIC TRACKS AND VENUES

RAZVOJ ATLETIKE KROZ IZGRADNJU ATLETSKIH TRKALIŠTA I BORILIŠTA

ABSTRACT

The basic problem is the lack of athletic track and the lack of a systematic approach to the construction of athletic track in terms of the development of athletics and sports in general.
To achieve this goal it is necessary to take several steps. Athletic track cadastre for the region should be developed with reference to the existing tracks in Croatia, illustrate the possibility of constructing athletic tracks and venues in combination with other sports fields, focus on the size of land for construction and the cost in relation to the number of running lanes at the track and sports fields.
Next step would be to explore the possibility of constructing sixty, two hundred, three hundred thirty three and four hundred meters athletic tracks with an emphasis on construction of unified compact two hundred meters athletic tracks with basic venues and multifunctional sports fields situated on outer areas of elementary and high schools .
It is necessary to emphasize the importance of obtaining certificate or consent for the project solution by the Croatian athletics federation, Olympic committee, line ministry and Faculty of Kinesiology, University of Zagreb, to analyze the cost-effectiveness (validity) of constructing athletic tracks with venues and sports fields at regional level.
By implementing the above steps it is possible to positively influence the sport culture in elementary and high school, and the development of basic sports (athletics) which is a predisposition for all other sports.
Methodology work is desk study. The objective of this paper is to show in which way to encourage the development of athletics at the regional level.

Key words: *athletics, development, financing*

SAŽETAK

Osnovni problem je manjak atletskih staza i nepostojanje sustavnog pristupa izgradnji atletskih staza u smislu razvoja atletike i sporta u cjelini.
Da bi se taj problem riješio potrebno je poduzeti nekoliko koraka. Treba izraditi katastar atletskih staza u regiji sa prikazom postojećih staza na području Republike Hrvatske, prikazati mogućnost izgradnje atletskih trkališta i borilišta u kombinaciji s ostalim sportskim terenima, te osvrtom na veličinu zemljišta za izgradnju i visinu troškova izgradnje u odnosu na broj atletskih staza na trkalištu i sportskih igrališta.
Slijedeći korak bio bi istražiti mogućnost izgradnje šezdeset, dvjesto, tristo trideset tri i četiristo metarskih atletskih staza s naglaskom na izgradnju unificiranog kompaktnog dvjesto metarskog atletskog trkališta sa osnovnim borilištima i multifunkcionalnim sportskim igralištima na vanjskim prostorima osnovnih i srednjih škola.
Potrebno je naglasiti važnost ishođenja certifikata odnosno suglasnosti na projektno rješenje od strane Hrvatskog atletskog saveza, Olimpijskog odbora, resornog ministarstva i Kineziološkog fakulteta u Zagrebu i analizirati isplativost (opravdanost) izgradnje sportskih trkališta sa borilištima i sportskim igralištima na regionalnoj razini.
Provođenjem gore navedenih koraka moguće je pozitivno utjecati na sportsku kulturu u osnovnom i srednjem školstvu kao i razvoju baznih sportova (atletike) koja je predispozicija za sve ostale sportove.
Metodologija rada je desk istraživanje. Cilj ovoga rada je prikazati na koje se načine može potaknuti razvoj atletike na regionalnom nivou.

Ključne riječi: *atletika, razvoj, financiranje*

1. Introduction

Over the past ten years we were intensively dealing with designing and supervision of works on construction and reconstruction of athletic tracks and venues.
Since in this times of crisis we can not expect extreme expansion of athletics at the club level, and therefore neither the construction of large athletic tracks and venues, we have developed several types of school playgrounds for which we will soon get a certificate from Croatian Athletic Federation with a recommendation towards Line Ministry and local Government to invest in this type of fields because it is expected that with entry into the European Union the development of basic sports, including athletics will intensify.

2. Cadastre of athletic tracks

The main reason to make cadastre of athletic tracks is to get information about number, location and condition of existing tracks in regions of Croatia.
On seventeen different locations in Croatia there are constructed athletic tracks (Figure 1, Table 1.). As it can be seen in some areas it is not possible to develop adequate athletic culture because they have minimum or none athletic infrastructure.
Constructing new smaller(200m) tracks with sports fields near schools it is possible for minimum cost to make positive influence on children, their sport culture and athletics.
Developing cadastre gives us possibility to see real condition of existing tracks, helps us to plan their reconstructions and construct new ones. It is also important when cadastre is finished to make update on regular basis by Croatian Athletic Federation each year so they always know real and exact situation.

Figure 1 Tracks in Croatia

Source: author

Table 1 Tracks in Croatia

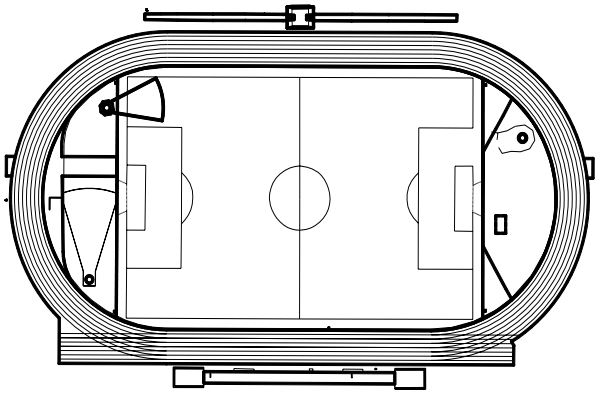
	LOCATION	TRACK LENGHT	NUMBER OF LANES
1	BJELOVAR	400 m, 70 m	6, 5
2	ČAKOVEC	400 m	8
3	KARLOVAC	400 m, 333 m	8, 5
4	KUMROVEC	400 m	8
5	MAKARSKA	400 m	6
6	OSIJEK	400 m, 2 x 333 m	8, 6, 5
7	OTOK	200 m	5
8	POREČ	400 m	6
9	PULA	400 m	8
10	RIJEKA	400 m, 333 m	6, 5
11	SLAVONSKI BROD	400 m	6
12	SINJ	400 m	6
13	SPLIT	2 x 400 m	8, 6
14	VARAŽDIN	400 m, 333 m	8, 5
15	VINKOVCI	400 m	6
16	ZADAR	400 m	6
17	ZAGREB	3 x 400 m	8, 8, 8
		4 x 333 m	4, 5, 4, 4

Source: author

3. Athletic tracks and venues in combination with other sports fields

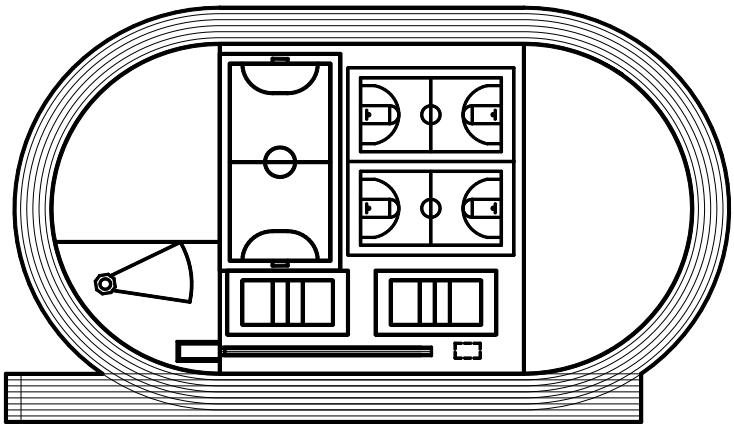
Athletics is an exclusive collection of sporting events that involve competitive running, jumping, throwing, and walking. The most common types of athletics competitions are track and field, road running, cross country running, and race walking. The simplicity of the competitions, and the lack of a need for expensive equipment, makes athletics one of the most commonly competed sports in the world. Athletics is mostly an individual sport, with the exception of relay races and competitions which combine athletes' performances for a team score, such as cross country.
Because athletic is basic sport, which is a predisposition for all other sports it is recommendable to combine track with other sport fields. Depending on the land area it is possible to construct 400 m, 333 m, 200 m and 60 m tracks combined with sport fields (Table 2.). As is evident (Table 2.) the optimal are 400 and 200 meters athletic tracks.
400 meters athletic tracks (Figure 2.) are ideal in relation of land surface and costs for the development of top professional sport and competition at various levels. 400 m tracks can be constructed with 6 or 8 lanes depending on needs of Croatian Athletic Federation in particular region, finances and land area. Exact number of venues (water jump, long and triple jump, high jump, pole vault, discus and hammer throw, javelin throw and shot put) is determent by construction category. Usually 400 m track is combined with standard soccer field (FIFA matches 78 m x 115 m).
333 meters athletic tracks (Figure 3.) are not standard so it is recommendable only as reconstruction of the existing ones where there is no adequate space, usually in urban areas where they are used mainly for recreational purposes. Large area inside 333 m track give possibility to combine various types of sport fields.
200 meters athletic tracks (Figure 4.) are ideal in relation of land surface and costs for development of school sport because inside athletic track are located all sport fields, so that enables quality communication and supervision over children for professor of physical education. This type of tracks includes only basic venues (shot put, long jump and high jump) which are used in school physical education programs. Recommended sport fields inside 200 m tracks are volleyball (9 m x 18 m), handball ((footsall) 20 m x 40 m) and basketball (15 m x 28 m) fields.
60 meters athletic tracks (Figure 4.) are constructed next to the primary schools on existing handball courts as new compact multisport fields where there is no space for normal circle tracks.

Figure 2 Compact 400 m athletic track, venues and sport fields



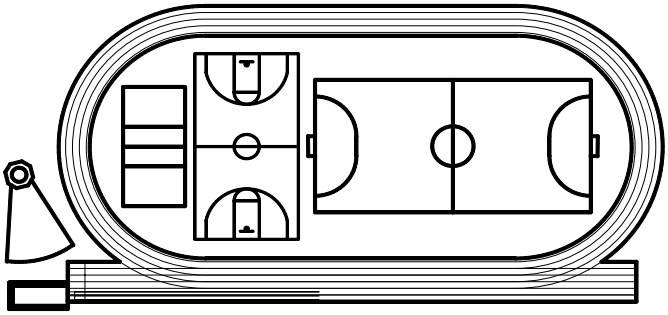
Source: author

Figure 3 Compact 333 m athletic track, venues and sport fields



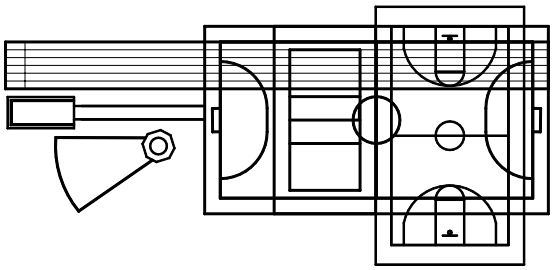
Source: author

Figure 4 Compact 200 m athletic track, venues and sport fields



Source: author

Figure 5 Compact 60 m athletic track, venues and sport fields



Source: author

From an economic point of view (Table 2.), in our opinion an important factor is that the expenditure in price of land, and in the construction are highly transparent which is an essential prerequisite for the realization of possible co-financing by international funds.

From the aspect of maintenance it is important to emphasize that the costs are fully rationalized when constructing the compact athletic track with venues and sport fields.

Table 2 Athletic tracks and venues in combination with other sports fields

	400 METERS	**400 METERS**	**333 METERS**	**200 METERS**	**60 METERS**
NUMBER OF CIRCULAR LANES	8	6	6	4	0
NUMBER OF STREIHGT LANES	8	6	8	6	6
LONG JUMP	2	1	1	1	1
HIGH JUMP	1	1	1	1	1
POLE VAULT	2	1	1		
SHOT PUT	2	1	1	1	1
JAVELIN THROWING	2	1			
FOOTBALL FIELD	1	1			
HANDBALL (FOOTSALL) COURT			1	1	1
BASKETBALL COURT			2	1	1
VOLLEYBALL COURT			2	1	1
LAND AREA (m2)	17000	15000	12000	4000	2400
ATHETIC TRACK AREA (m2)	6700	5400	3200	1200	1500
SPORT FIELDS AREA (m2)	7200	7200	4000	2400	
PRICE (HRK) minimum	3.100.000,00	2.650.000,00	2.460.000,00	1.185.000,00	700.000,00
PRICE (HRK) maximum	5.800.000,00	5.350.000,00	3.350.000,00	1.650.000,00	850.000,00

Source: author

4. Importance of obtaining certificate or consent for track

IAAF* regulations give different categories for 400 m Standard track** which need to be certified. Different construction categories determent what kind of level of competition can be organized and there are defined with number of lanes and venues.
For the rest of not standard tracks (400 m, 333 m, 200 m and 60 m) there is no IAAF* certification, so final control is not complete. Our opinion is that certain certificate or consent on project needs to be issued by some institution (Croatian athletics federation, Olympic committee, line ministry or Faculty of Kinesiology, University of Zagreb) for unification and systematic construction of tracks in regions of Croatia. Certification also can give guidelines for control of final product (quality, leveling and performance of synthetic surface).
It is necessary to emphasize the importance of obtaining certificate or consent for the project solution, to analyze the cost-effectiveness (validity) of constructing athletic tracks with venues and sports fields at regional level.

* IAAF - International Association of Athletics Federations
** Standard track - minimum inside radius 36,5 m

5. Conclusion

In East Croatia there are few existing tracks which are in bad condition and some areas are not properly covered by minimum athletic infrastructure.
All the steps above show problems and give solutions for development of athletic and sports culture, also possibility for development of athletics. Constructing tracks near schools gives better opportunity to keep children focused on sport, get them off the "streets", teach them the basics and improve their sport culture.

Standardization and organized building of tracks and sport fields will help us to use funds and resources from European Union when we become full member.

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