

## WAYS OF IMPROVING TOURISM VIA DEVELOPING FOUR CROSS COMPETITION TRACKS

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**Abstract:** Of all outdoor activities performed and preferred by Americans and Australians, mountain biking is definitely on top. The works carried out in order to enable mountain biking events - either for a competition or recreational purpose, creates an opportunity to attract a whole new category of tourists, which, therefore, leads to diversifying the hospitality services available to them. The beforehand preparations necessary for the Four Cross competitions have to be put in place in accordance with its specificity. As a good example, refer to the Four Cross competition track prepared in Maribor Slovenia.

**Key words:** mountain bike, Maribor, physical activity, American, Australian

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### INTRODUCTION

Mountain biking is a leisure activity (Impellizzeri & Marcora, 2007) which grows in popularity, all over the world (Aitken et al., 2011) and it's usually undertaken with specialised (specially adapted) bikes.

According to the Outdoor Recreation Participation Report 2012, a study carried out between January - February 2012, on a population older than 6 years, concluded that American's favourite leisure activity in order of preference is: running, cycling, bird watching, fishing, hiking.

*„Americans' Favorite Outdoor Activities by Frequency of Participation*

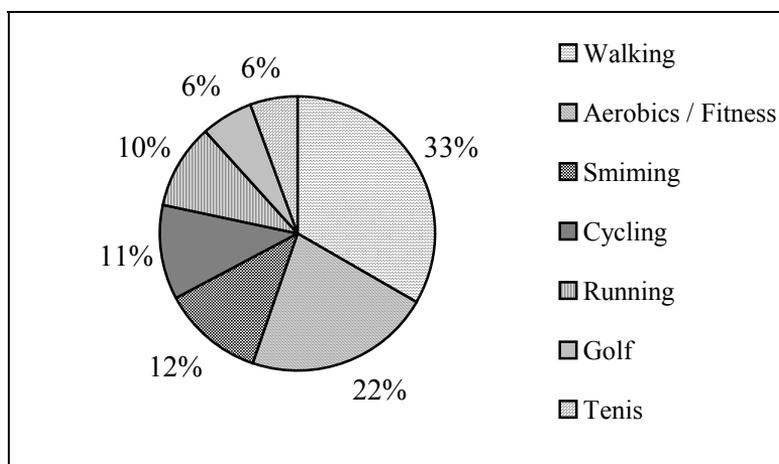
*All Americans, Ages 6 and Older*

- 1. Running, Jogging and Trail Running*  
*85 average outings per runner/ 4.4 billion total outings*
- 2. Road Biking, Mountain Biking and BMX*  
*56 average outings per cyclist/ 2.4 billion total outings*
- 3. Bird watching*  
*39 average outings per birder/ 994 million total outings*
- 3. Freshwater, Saltwater and Fly Fishing*  
*18 average outings per fisher/ 839 million total outings*
- 4. Hiking*  
*16 average outings per hiker/ 538 million total outings”* (Outdoor Foundation, 2012, p. 14).

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As we can see from the above, road biking, mountain biking or BMX is undertaken by a higher number of people, accounting for as much as 2.4 billion of outings.



**Figure 1.** Australian's percentage of participation in various sports, in year 2010 in Australia (Source: data analysis from Australian Government, 2010)

A study carried out by the Australian Government, Australian Sports Commission and published in „*Participation in Exercise, Recreation and Sport, Annual Report 2010*”, shows that the physical activity mostly practiced by them is: walking, - 35.9%, aerobic fitness - 23% and swimming - 13%. Cycling, which included road cycling, mountain biking and BMX, is only the fourth favourite outdoor recreational activity - 11.9%. It is closely followed by Americans or Australians, mountain biking is on top of favourite outdoor activities surveys (figure 1).

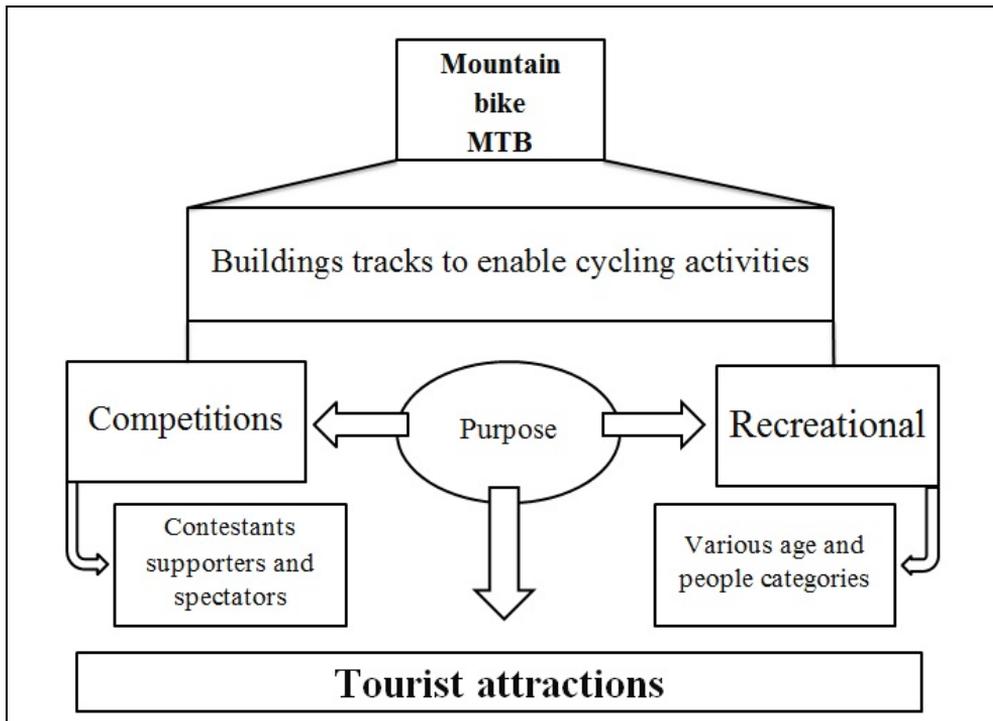
It's known that mountain biking is done on mountain trails / rough terrain. Due to its setting the health benefits are significant (Drăgan, 1977; 2002; Cristea, 2010). It also provides a certain layer of safety, as the sportsmen are not exposed to traffic dangers as road cyclists are.

Mountain biking is a leisure activity which can be done by both women and men, regardless of age, on specifically devised trails which have various difficulty levels. It's recommended that these tracks are approached according to one's physical endurance and experience/skill. This individual sport requires endurance, core strength and balance, bike handling skills and self-reliance. It can be concluded from the below representation, that regardless if it's undertaken for recreational or competition reasons, mountain biking performed on designated tracks can attract a significant number of tourists. These people can be competition riders themselves, trainers, spectators or bikers that like spending their time in nature (figure 2).

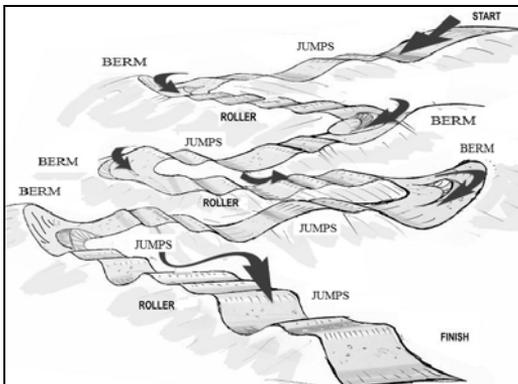
The arrangements put in place for a high standard mountain biking event, can elicit competition organisers' interest. Setting up a race usually appeals to a high number of biker participants and spectators, which consequentially, will bring economic benefits to the region.

The financial aspect apart, it's relevant to mention that a mountain bike competition can also cause certain destruction to the environment, due to the high number of people present. They can litter the area or even cause damage to the vegetation in the area (Office of Environment and Heritage NSW National Parks & Wildlife Service, 2011).

However, the biggest impact on the environment is caused by building the tracks / trails. Nevertheless it is socially accepted that their construction brings a lot benefits to the community, benefits that outweigh the negatives. The impact on the environment can be split into two categories: the long term effects which can be noticed in the gradual alteration of the soil, vegetation, water and wild life and the immediate effects resulted and visible right after a competition (Foti et al., 2006).



**Figure 2.** The connexion between mountain biking and tourist attraction



**Figure 3.** Set up model for a Four Cross track/trail



**Figure 4.** The Start gate for the Four Cross competition hosted during the World Cup in Maribor

„Target market segments will include:

a) families and travellers seeking cultural recreational and holiday experiences, for instance, nature tours or food and wine tours

b) recreational mountain bikers (and in certain locations, competitive race event organisers) seeking 1 - 4 hour single-track loops, for instance via community events that introduce new visitors to parks and encourage younger people to become involved in healthy recreational activities and to enjoy parks via legitimate channels” (Office of Environment and Heritage NSW National Parks & Wildlife Service, 2011, p. 3).

Mountain biking can generally be broken down into multiple categories: cross country, downhill, mountain, free riding, dirt jumping (Environment, Climate Change & Water National Parks & Wildlife Service, 2010), however only the Four Cross is „viewer orientated”.<sup>1</sup>

Putting in place such races can definitely diversify the current tourist segment by attracting competition visitors. „Mass participation MTB events around the world are regularly attracting thousands of participants”.<sup>2</sup>

### **Set up model for a Four Cross (4 X) competition**

A Four Cross Trail is anything between 800 to 1000 m long. Its length can vary between 5 m - 8 m, depending on the section of the track. The difficulty level is determined by multiple factors such as: the elevation variance between trail's Start and Finish, the degree of steepness following the start line, the way in which the roller, jump and berm sections join and by the natural obstacles set on tracks.

Four Cross trails set for competitions are usually located near or at the end of a skiing slopes, in order for the viewers positioned at the Finish line to see the bikers during the entire contest. The competition can also be watched from the sides of the trail, from locations especially prepared and identified for this purpose. These established competition trails can later be used for recreational aims. In this occurrence, tracks should be built with this in mind, so that minimum work is needed to for the later adaptation. The onset (start point) of the track has a *Starting line*, followed by a flat segment from a steep slope. This part of the track has 4 lanes and the contestants have to stick to them during the race. The next part of the trail is made by a combination of trampolines, jumps, berms and straight parts. Turns are inner 'tilted' and are called berms. They are designed so that corners taken won't slow down the biker. These parts of the trail are wider as they will be used by the 4 competitors at once.

The straight line parts are fitted with obstacles that are meant to slow down the bikers. Types of obstacles are stutter bumps, doubles, table tops, step ups, drop offs, moguls, bermed or off-camber corners, gap jumps and rollers. Other obstacles are more natural such as rocks, boulders, tree roots, fallen trees etc. This track model can be used for recreational purposes as well as competition, the difficulty level being achieved by the steepness level between the trail's sections. Natural obstacles and the way jump sections are joint, are also indicators of differences amongst the two types of functions (figure 3).

### **Slovenian's Maribor Four Cross track building demonstration**

If you're driving from North, follow A1 motorway (highway) from Graz to Maribor. If you drive from East take motorway (highway) A5 to the junction with A1, and then drive on it until you get to National Road 709. Approaching it from the West side, drive on National Road 1. Driving from South - from Ljubljana, follow A1 to Maribor<sup>3</sup>. Using plane make your way from Maribor Airport.<sup>4</sup>

The racing track was conceived and built for the Four Cross competition part of the UCI Mountain Bike World Cup from 2009, which took place in Maribor Slovenia.

The starting point of the track has been provided with a Start gate that continues with a steep slope in order for the bikers to gain speed quickly (figure 4).

In the figure 5, one can see a berm following a series of multiple jumps section. Berms are built so that the outer sections are higher than the inner sections, hence contributing to maintaining the accumulated speed and taking the turn with high velocity. This helps with the next section of the trail which implies gap jumps. These technical parts, not only will be testing bikers' skills, core strength and endurance, but will help setting them apart and decide the winner. The best trained contestant will be the fastest.

<sup>1</sup> <http://www.cycling.org.au/?Page=7956>

<sup>2</sup> <http://www.cycling.org.au/?Page=7956>

<sup>3</sup> <http://www.harta-romaniei.org/>

<sup>4</sup> [http://www.tripadvisor.co.uk/Flights-g274874-Maribor\\_Styria\\_Region-Cheap\\_Discount\\_Airfares.html](http://www.tripadvisor.co.uk/Flights-g274874-Maribor_Styria_Region-Cheap_Discount_Airfares.html)

Natural obstacles can be seen in the figure 6. Tree trunks are horizontally placed on tracks 4-6 metres apart. Some parts of the trail are close to trees and their roots, which are very slippery on rainy weather - adding to the difficulty level.



**Figure 5.** Berm and jumps on the Four Cross track from the World Cup in Maribor



**Figure 6.** Natural obstacles (left) and protections added for biker's security (right) from the Four Cross trail in Maribor



**Figure 7.** TV broadcasting scaffold during the World Cup, Four Cross competition in Maribor

The full length of the track is marked and accordingly signposted, with clear demarcations for the viewer's area and protections placed to ensure competitor's safety.

Several TV broadcasting points were erected to cover the competition. They are located on the best watching spots (figure 7). Tourists and participants have a plethora of accommodation facilities in Maribor and the immediate vicinity of the track during the Four Cross competition.<sup>5</sup>

## CONCLUSIONS

Study results show that cycling is a practiced (performed) activity which is placed on top of favourite undertakings of Americans and Australians. Therefore, building racing tracks to practice various mountain cycling categories, in this case, Four Cross, draws a high number of tourist bikers, instructors and viewers that gather for this event.

The track set-up we presented in this work, is for a Four Cross trial, and it can be adapted to the terrain features, given that it maintains the racing characteristics that will test and add validate bikers' technical expertise. This model can be used both for competition and/or recreational purposes. The Maribor, Slovenia Four Cross track is an example which comes to highlight the fact that cycling competitions can benefit the area by increasing tourism economics. This track is built according to Four Cross competition requirements and can be used as a model for future similar events.

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<sup>5</sup> <http://www.slovenia.info>