

An Analysis of Medal Distribution and Athletes' Average Speeds in the Road Cycling Discipline at The Olympic Games

Olimpiyat Oyunlarında Yol Bisikleti Branşında Madalya Dağılımı ve Sporcuların Ortalama Hızlarının İncelenmesi

*Duran AKBAŞ¹, Işık BAYRAKTAR²¹ Alanya Alaaddin Keykubat Üniversitesi, Spor Bilimleri Fakültesi, Ankara, TÜRKİYE / duran.akbas@alanya.edu.tr / 0000-0002-4030-0935² Alanya Alaaddin Keykubat Üniversitesi, Spor Bilimleri Fakültesi, Ankara, TÜRKİYE / isik.bayraktar@alanya.edu.tr / 0000-0003-1001-5348

* Corresponding author

Abstract: Road cycling has been part of the Summer Olympic Games since the beginning of the modern Olympic Games. The current study aims to examine the results of athletes who have achieved rankings in various disciplines in road cycling between the 1896 Athens and 2024 Paris Olympic Games. The research group for this study consisted of athletes who placed in the top three in the men's (n=162) and women's (n=57) categories in the Olympic Games between 1896 and 2024. The athletes' data was obtained from the official results of the International Olympic Committee (IOC) and the Pro Cycling Stats website. The frequency table of the countries of cyclists who placed in the top three in the men's and women's categories, their average race speeds, race distances, elevation gains, and the ratio of elevation gain to race distance are provided. While individual rankings are determined based on athletes' completion times and finishes, road team results are calculated based on the combined finishing time of the top four athletes, and team time trials are calculated based on the finishing time of the team's third athlete. According to the findings, the highest average speed in the men's road cycling race (45.3 km/h) was recorded at the 1996 Atlanta Olympic Games, whilst the highest average speed in the women's category (40.7 km/h) was recorded at the 1988 Seoul Olympic Games. The average length of road races in the men's category between the 1896 and 2024 Olympic Games was determined to be 193.5±45.2 km, and the average length of road races in the women's category between the 1984 and 2024 Olympic Games was determined to be 116.6±25.9 km. In the men's road races, France and Belgium were the countries with the most podium finishes, winning nine medals (12.5%), while the United Kingdom won five medals (13.9%) in the individual time trials and Sweden won eight medals (14.8%) in the team time trials. In the women's category, the Netherlands won the most medals in road races with seven (21.2%), while the United States won the most medals in individual time trials with six (25%). As a result, race distances and average speeds varied depending on the Olympic Games. Changes in cyclists' average speeds may depend on the race format, course length, and elevation gain.

Keywords: Road cycling, olympic games, medal, road race, individual time trial.

Özet: Mevcut çalışmada Atina 1896-Paris 2024 olimpiyat oyunları arasında yol bisikleti branşındaki çeşitli disiplinlerde derece elde eden sporcuların sonuçlarının incelenmesi amaçlanmıştır. Çalışmanın araştırma grubunu 1896-2024 olimpiyat oyunları arasında erkekler (n=162) ve kadınlar (n=57) kategorisinde ilk üç dereceye giren sporcular oluşturmıştır. Sporcuların verileri uluslararası olimpiyat komitesi (IOC) ve Pro Cycling Stats web sayfasındaki resmi sonuçlardan elde edilmiştir. Erkekler ve kadınlar kategorisinde ilk üç giren bisikletçilerin ülkelerinin frekans tablosu, ortalama yarış hızları, yarış mesafeleri, irtifa kazanımları ve irtifa miktarının yarış mesafesine oranları verilmiştir. Elde edilen bulgulara göre, yol bisikleti yarışı erkekler kategorisinde en yüksek ortalama hızı (45,3 km/s) Atlanta 1996 ve kadınlar kategorisinde en yüksek ortalama hızı (40,7 km/s) Seoul 1988 olimpiyat oyunlarında ulaşılmıştır. Erkekler kategorisi 1896-2024 olimpiyat oyunları arası yol yarışmaları ortalama uzunluğu 193,5±45,2 km ve kadınlar kategorisi 1984-2024 olimpiyat oyunları arası yol yarışları ortalama uzunluğu 116,6±25,9 km olarak tespit edilmiştir. Erkekler kategorisi yol yarışlarında Fransa ve Belçika dokuz madalya (%12,5) ile en fazla kürsiye çıkan ülke, bireysel zamana karşı yarışlarında Birleşik Krallık beş madalya (13,9) ve takım zamana karşı yarışlarında İsveç sekiz madalya (%14,8) ile en fazla derece elde eden ülkelerdir. Kadınlar kategorisinde ise yol yarışlarında Hollanda yedi (%21,2) madalya, bireysel zamana karşı yarışlarında Amerika Birleşik Devletleri altı (%25) madalya ile en fazla derece elde eden ülkeler olarak bulunmuştur. Sonuç olarak yarış mesafeleri ve ortalama hızlar Olimpiyat Oyunlarına göre değişkenlik göstermiştir. Bisikletçilerin ortalama hızlarındaki değişimin düzenli parkur uzunluğuna ve irtifa kazanımına bağlı olabilir.

Anahtar Kelimeler: Yol bisikleti, olimpiyat oyunları, madalya, yol yarışı, bireysel zamana karşı.

Received: 02.03.2026 / Accepted: 08.07.2026 / Published: 31.07.2026

<https://doi.org/10.22282/tojras.1901303>

Citation: Akbaş, D., & Bayraktar, I. (2026). An analysis of medal distribution and athletes' average speeds in the road cycling discipline at the olympic games. *The Online Journal of Recreation and Sports (TOJRAS)*, 15(3), 352-361.

INTRODUCTION

Bicycles are categorized into disciplines such as road bikes, track bikes, e-sports bikes, track bikes, mountain bikes (MTB), BMX bikes, indoor bikes, cyclo-cross, and gravel bikes (Morpa, 1997; UCI, 2025).

Road cycling is an extremely demanding sport discipline. In this discipline, athletes train approximately 30,000-35,000 km per year. The competition season for athletes begins at the end of winter and ends in autumn. Athletes participate in competitions for an average of 90-100 days throughout the season. The types of competitions athletes participate in include one-day races (classic races), one-week tours (tours consisting of four or five stages and individual time trials), and tours lasting from one to three weeks (Giro d'Italia, Tour de France, and Vuelta a España) (Lucia, et al., 2001; UCI, 2025). Road cycling races vary in duration from one hour (e.g., the World Championship time trial) to 100 hours (e.g., the Tour de France). As an example of a grand tour, the Tour de France consists of 21 stages, with athletes racing for approximately 100 hours and covering more than 3,500 kilometers (Lucia et al., 2001). Although this discipline is a team sport, athletes' competition rankings are determined individually (Mujika & Padilla, 2001; UCI, 2025).

Professional road cyclists have variable anthropometric characteristics. When examining the aerobic capacity of these cyclists, peak power output ranges from 370 to 570 watts,

maximal oxygen uptake ranges from 4.4 to 6.4 L/min, and the power output at which blood lactate accumulation begins (OBLA) varies between 300 and 500 watts (Mujika & Padilla, 2001). This discipline involves the most intense endurance exercises (El Helou et al., 2010).

The first official road cycling race was held in 1868 at Parc de Saint-Cloud. The race was won by British cyclist James Moore. The first inter-city race took place on November 7, 1869, between Paris and Rouen. James Moore completed the 123-kilometer race in 10 hours and 25 minutes to finish first. The purpose of these races was to promote bicycle use and demonstrate that long distances could be traveled by bicycle. Road cycling was subsequently included as part of the 1896 Athens Olympic Games (UCI, 2025).

The current study aims to examine the country distribution of athletes who have achieved rankings in various disciplines in road cycling between the 1896 Athens and 2024 Paris Olympic Games, as well as their average race speeds, average race distances, elevation gains, and the ratio of elevation gain to race distance. It is important to see the distribution of countries that have won medals in road cycling throughout the Olympic Games and to track the change in the average race speeds of their athletes over the years.

METHODS

Research Group: It consists of the results of athletes and teams that placed in the top three in road cycling events (road race, individual time trial, and team time trial) at the Summer Olympic Games held between Athens 1896 and Paris 2024.

Data Collection: The results are taken from the International Olympic Committee (IOC) and the official competition results on the Pro Cycling Stats website. Since the men's cycling category was included in the first Olympic Games held, the results between the Athens 1896 and Paris 2024 Olympic Games (n=162) were taken. Although the 1906 Athens Intercalated Games were not officially included in the Olympic Games, they have been included in this study to preserve their historical context, as road cycling competitions were held as part of that event. Individual rankings are determined based on each athlete's race time and finishing position. Road race team results are based on the combined finishing times of the top four athletes, while in team time trials—where athletes start together—team rankings are determined based on the results of the top three athletes. However, data for the second and third cyclists could not be obtained for some Olympic Games. The women's category was included starting with the 1984 Los Angeles Olympic Games. Results from the 1984 Los Angeles and 2024 Paris Olympic Games (n=57) were included in our study (IOC, 2024; Procyclingstats, 2024).

Data Analysis: The study provides frequency and percentage tables showing the number of medals won by countries. In addition, the average speeds of medalists in the Olympic Games, competition distances, total elevation gain, and the ratio of total elevation gain to race length are presented in a graph in Excel. The cyclists' average speeds were calculated by dividing the race distance by the finishing time.

Ethical Considerations: Ethical committee approval for the present research was obtained from the Scientific Research and Publication Ethics Committee of the Faculty of Social and Human Sciences at Alanya Alaaddin Keykubat University on 22 July 2024, with decision number 2024/09 and decision number 13.

FINDINGS

Within the scope of the research, the country frequency table and percentages of athletes who placed in the top three in road races at the Olympic Games are presented in Table 1, the country frequency table and percentages of athletes who placed in the top three in individual time trials are presented in Table 2, while the country frequency table and percentages of athletes who placed in the top three in team time trials are presented in Table 3. The average race speeds, race distances, race elevation gains, and the ratio of total elevation to race length for the men's and women's categories are given in Graphs 1-13.

Table 1. Frequency table and percentages of athletes from countries that placed in the top three in road races at the Olympic Games

	N	Country Name	Number of Medals	Percentage (%)
Male	72	Germany	4	5,6
		German Democratic Republic	1	1,4
		Australia	1	1,4
		West Germany	2	2,8
		Belgium	9	12,5
		United Kingdom	4	5,6
		Denmark	5	6,9
		Ecuador	1	1,4
		France	9	12,5
		Netherlands	3	4,2
		Spain	1	1,4
		Sweden	3	4,2
		Switzerland	3	4,2
		Italy	7	9,7
		Canada	1	1,4
		Kazakhstan	2	2,8
		Colombia	1	1,4
		Latvia	1	1,4
		Norway	2	2,8
		Poland	3	4,2
		Portugal	1	1,4
		Russia	1	1,4
		Slovenia	1	1,4
		Soviet Union	3	4,2
		United States of America	1	1,4
		New Zealand	1	1,4
		Greece	1	1,4
Woman	33	Germany	2	6,1
		United States of America	3	9,1
		Australia	2	6,1
		Austria	1	3,0
		West Germany	2	6,1
		Belgium	1	3,0
		United Kingdom	2	6,1
		France	2	6,1
		Netherlands	7	21,2
		Sweden	2	6,1
		Italy	4	12,1
		Canada	1	3,0
		Lithuania	1	3,0
		Russia	2	6,1
		Soviet Union	1	3,0

In the men's road race category at the Olympic Games, France and Belgium are the countries that have won the

most medals with nine, while in the women's category, the Netherlands has won the most medals with seven.

Table 2. Frequency table and percentages of athletes from the top three countries in individual time trials at the Olympic Games

	N	Country Name	Number of Medals	Percentage (%)
Male	36	Germany	2	5,6
		United States of America	3	8,3
		Australia	2	5,6
		Belgium	3	8,3
		United Kingdom	5	13,9
		France	3	8,3
		South Africa	2	5,6
		Netherlands	2	5,6
		Spain	3	8,3
		Sweden	3	8,3
		Switzerland	2	5,6
		Italy	3	8,3
		Russia	2	5,6
		Slovenia	1	2,8
Woman	24	Germany	1	4,2
		United States of America	6	25,0
		Austria	1	4,2
		United Kingdom	2	8,3
		France	2	8,3
		Netherlands	5	20,8
		Switzerland	3	12,5
		Canada	1	4,2
		Russia	3	12,5

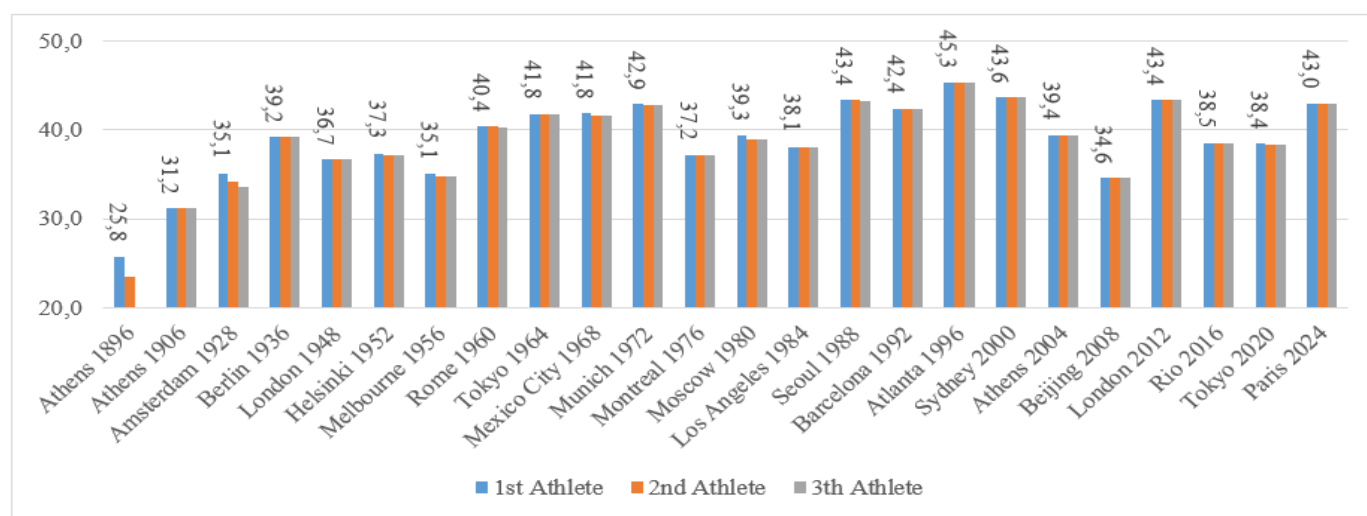
In the men's individual time trial category at the Olympic Games, the United Kingdom won five medals, while in the

women's category, the United States of America won six medals, making them the countries with the most medals.

Table 3. Country frequency table and percentages of athletes who placed in the top three in team time trials at the Olympic Games

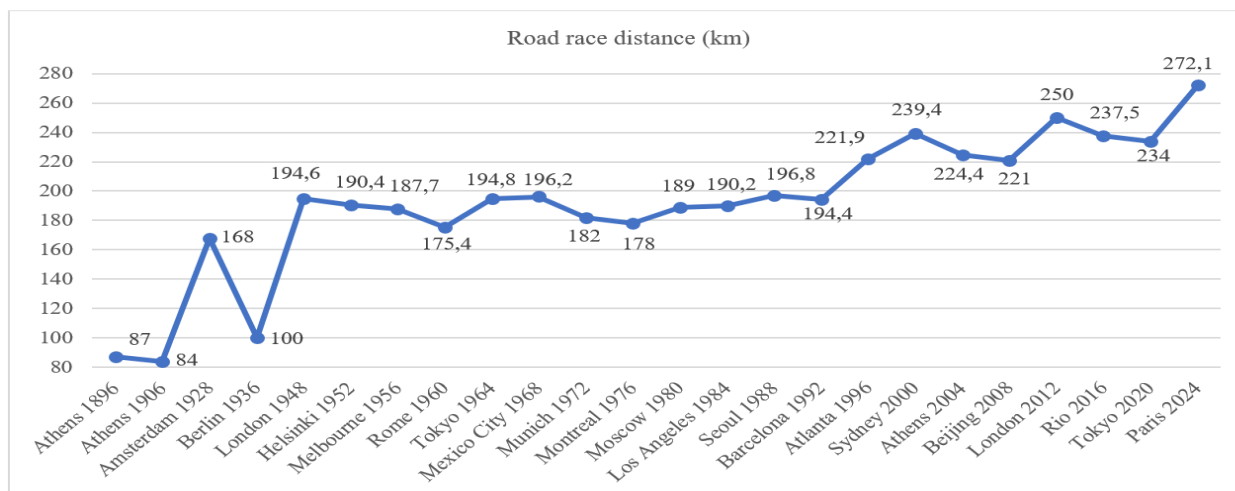
	N	Country Name	Number of Medals	Percentage (%)
Male	54	Germany	3	5,6
		United States of America	2	3,7
		Belgium	6	11,1
		United Kingdom	4	7,4
		Czechoslovakia	1	1,9
		Denmark	3	5,6
		East Germany	2	3,7
		France	7	13,0
		Netherlands	2	3,7
		Sweden	8	14,8
		Switzerland	2	3,7
		Italy	7	13,0
		Poland	3	5,6
		Union of Soviet Socialist Republics	4	7,4

Sweden was found to be the country that won the most medals in the men's team time trial category at the Olympic Games, with eight medals.

**Graph 1.** Average speeds in the men's road cycling race at the Olympic Games

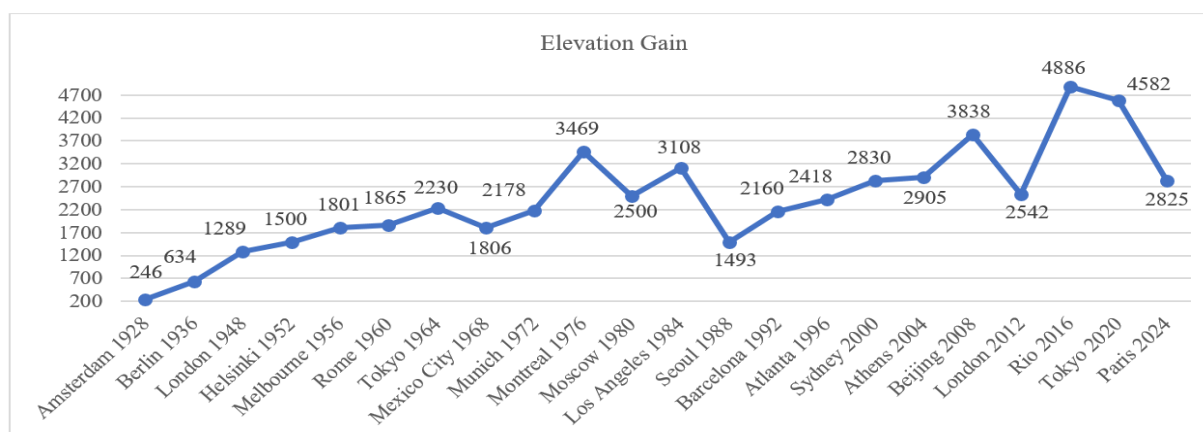
The athlete who came in first in the men's road race at the Olympic Games reached the highest speed of 45.3 km/h at the 1996 Atlanta Olympic Games. The first athlete completed the

1896 Athens Olympic Games at an average speed of 25.8 km/h, the lowest average speed recorded.



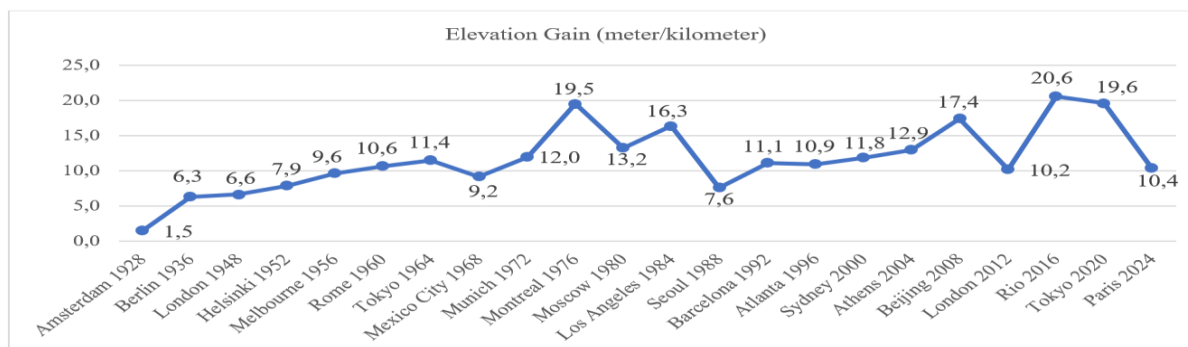
Graph 2. Lengths of men's road cycling races at the Olympic Games

The average distance for men's road cycling races at the Olympic Games was found to be 193.5 ± 45.2 km.



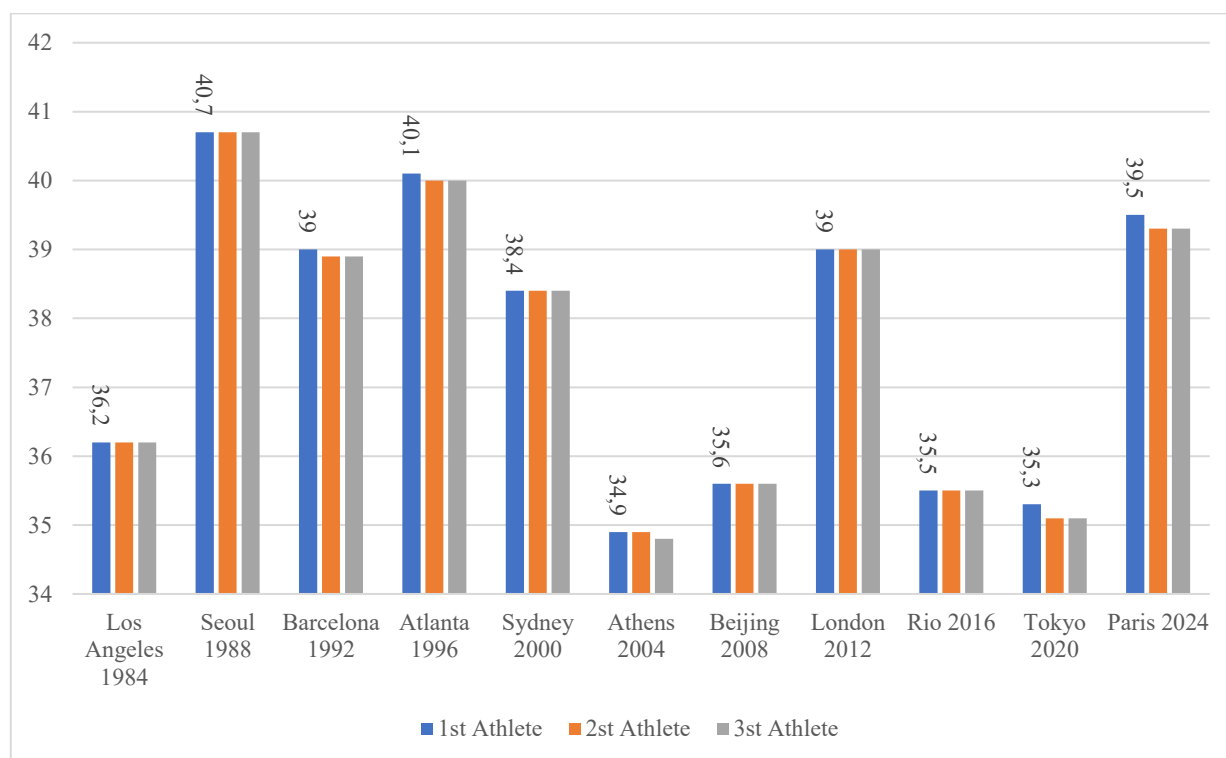
Graph 3. Total elevation gains in men's road races between Olympic Games

The highest altitude at which the Amsterdam 1928-Paris 2024 Olympic Games have been held was achieved at Rio 2016 at 4,886 meters.



Graph 4. Ratio of total elevation gain to race length for the men's road race category between the 1928 Amsterdam and 2024 Paris Olympic Games

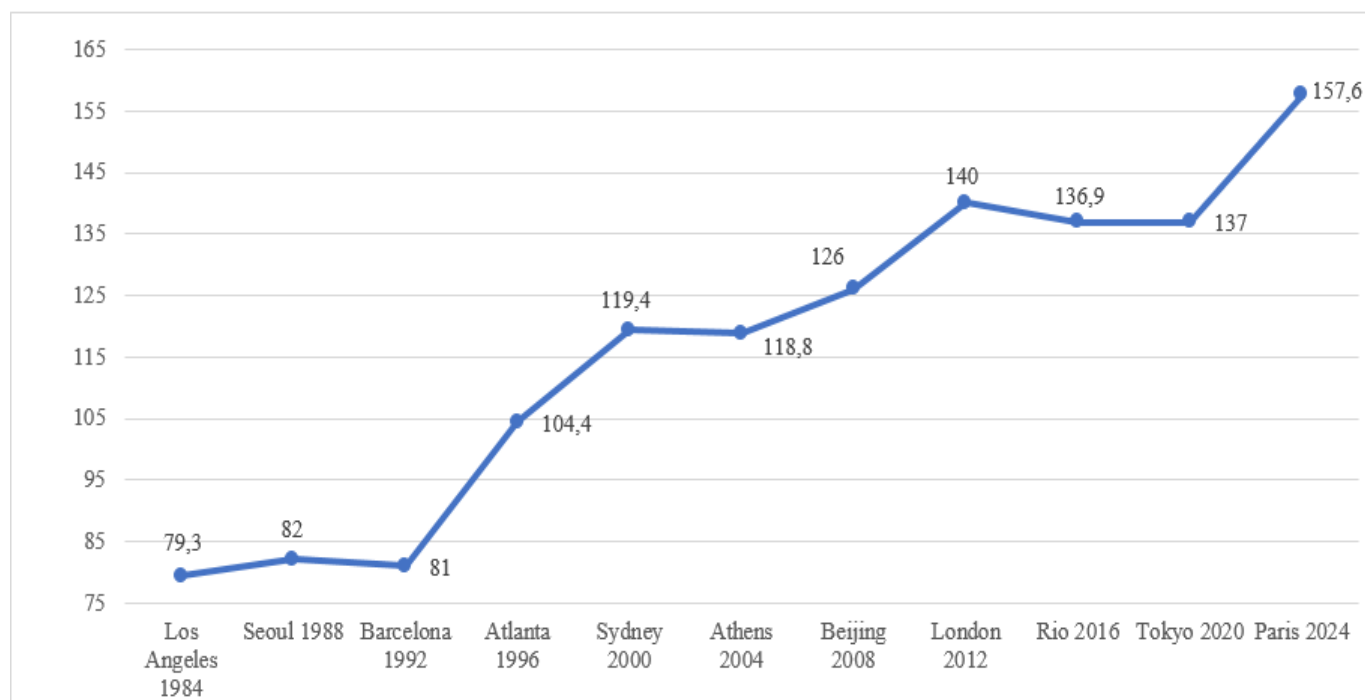
When examining the Amsterdam 1928 and Paris 2024 Olympic Games, it was determined that cyclists gained the most elevation per kilometer at Rio 2016, at 20.6 meters.



Graph 5. Average speeds in women's road cycling races at the Olympic Games

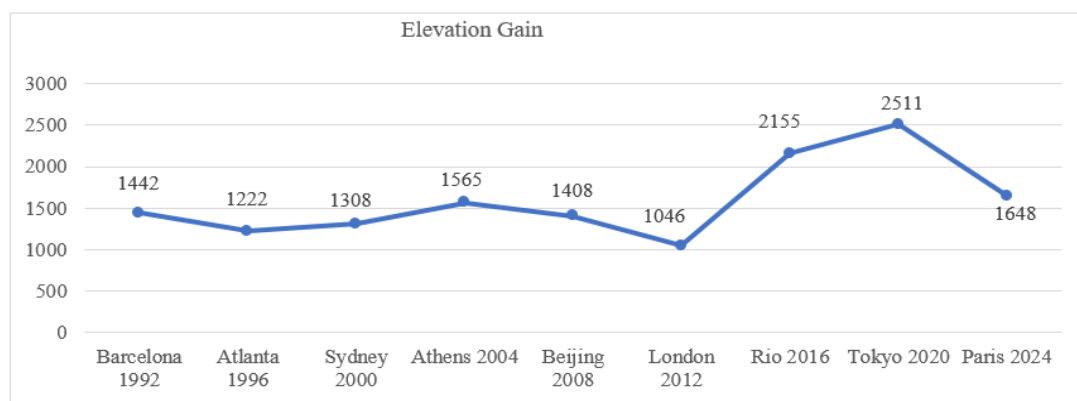
The athlete who won the women's road race at the Olympic Games reached the highest speed of 40.7 km/h at the 1988 Seoul Olympics. The athlete who finished with the lowest

average speed completed the 2004 Athens Olympics at a speed of 34.9 km/h.



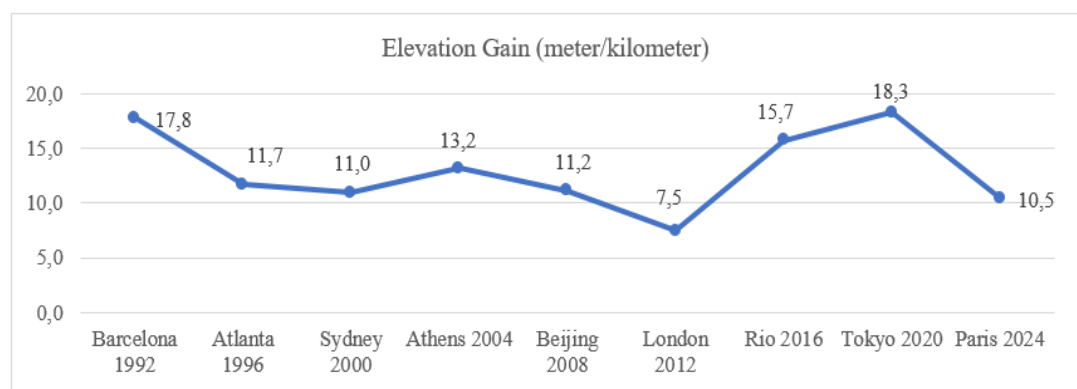
Graph 6. Lengths of women's road cycling races at the Olympic Games

The average distance for women's road cycling races at the Olympic Games was found to be 116.6 ± 25.9 km.



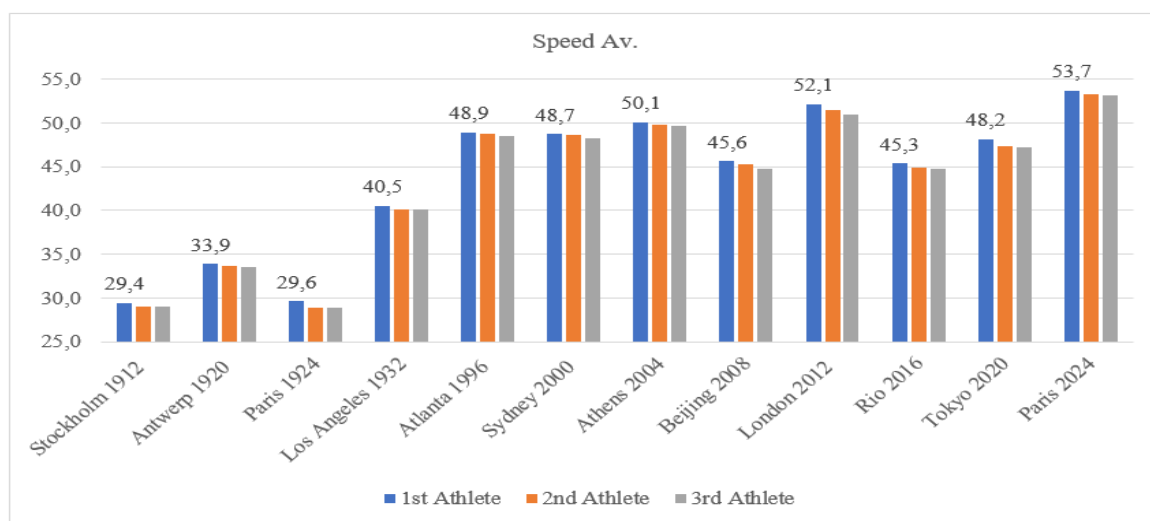
Graph 7. Total elevation gains in women's road races between Olympic Games

The highest altitude at which the Barcelona 1992 -Paris 2024 Olympic Games have been held was achieved at Tokyo 2020 at 2,511 meters.



Graph 8. Ratio of total elevation gain to race length for the women's road race category between the Barcelona 1992 and Paris Olympic Games 2024

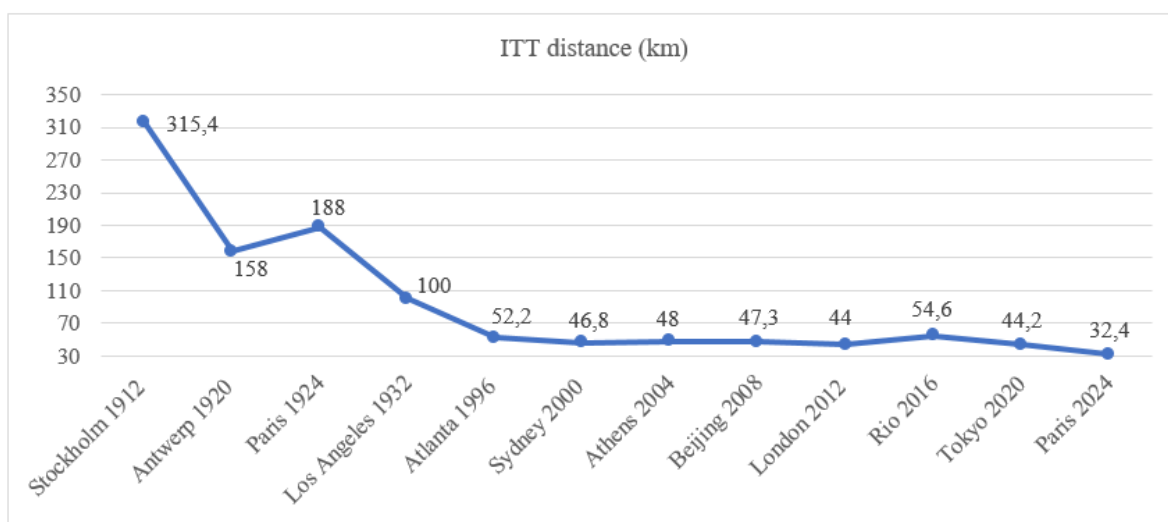
When examining Barcelona 1992 and Paris 2024 Olympic Games, it was determined that cyclists gained the most elevation per kilometer at Tokyo 2020, at 18.3 meters.



Graph 9. Average speed results of male athletes in individual time trials at the Olympic Games

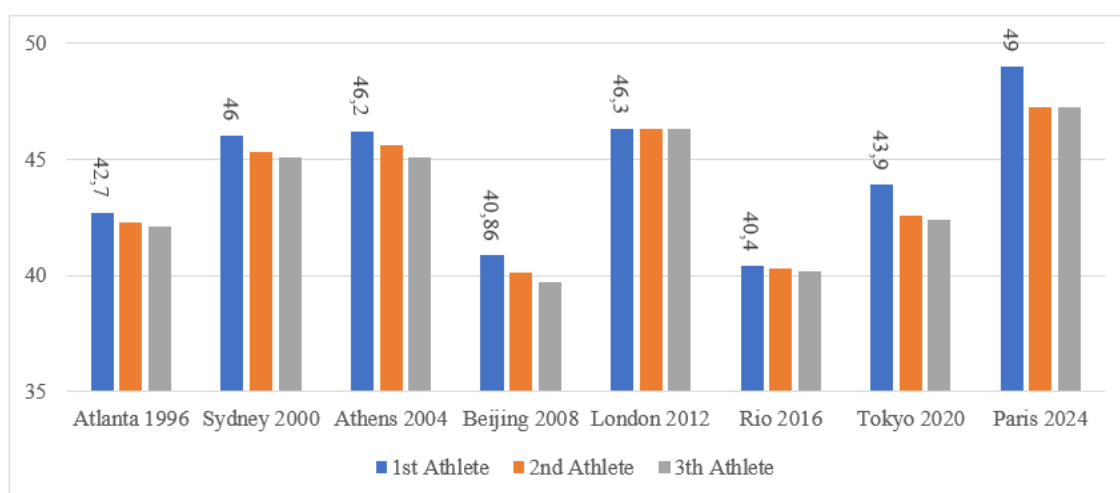
The athlete who came first in the men's individual time trial at the Olympic Games reached the highest speed of 53.7 km/h at the Paris 2024 Olympic Games. The first athlete completed

the Stockholm 1912 Olympic Games at an average speed of 29.4 km/h, the lowest average speed recorded at the Olympic Games.



Graph 10. Average distances of individual time trials by male athletes in the Olympic Games

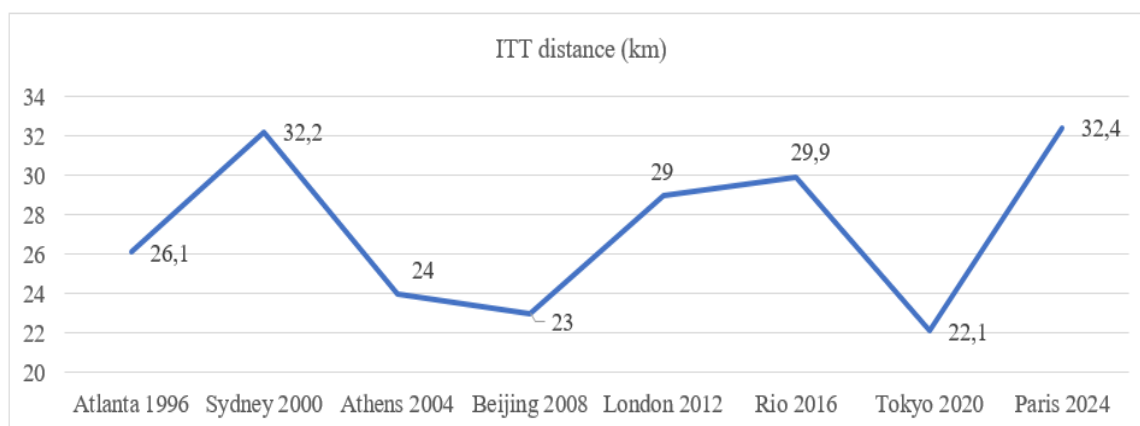
The average distance for individual time trials by male athletes in the Olympic Games was determined to be 94.2 ± 83.1 km.



Graph 11. Average speeds of female athletes in individual time trials at the Olympic Games

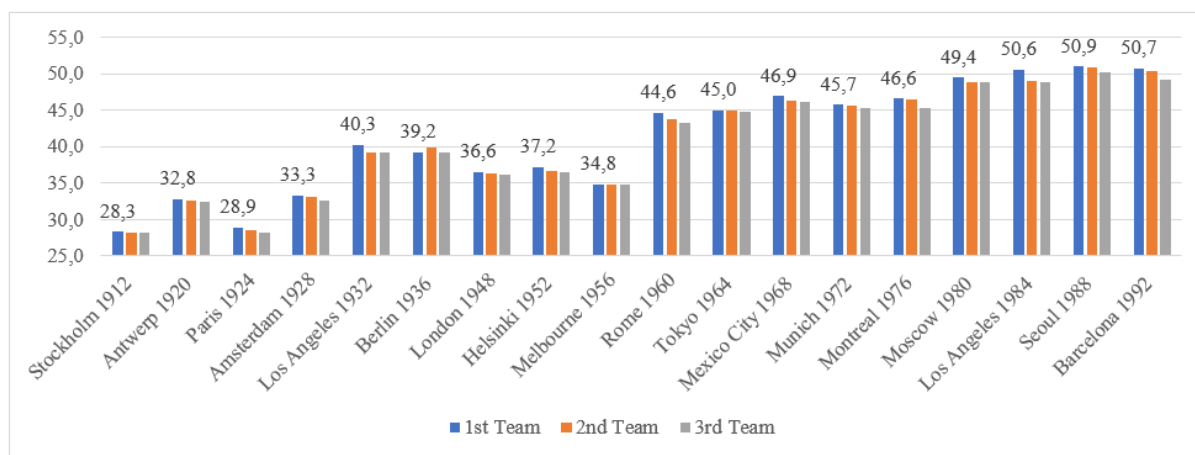
The athlete who came first in the women's individual time trial at the Olympic Games achieved the highest speed of 49.0 km/h at the Paris 2024 Olympic Games. It was found that the

first athlete completed the Rio 2016 Olympic Games at an average speed of 40.4 km/h, which was the lowest average speed.



Graph 12. Individual time trial distances for female athletes in the Olympic Games

The average distance for women athletes' individual time trials at the Olympic Games was found to be 27.3 ± 3.9 km.



Graph 13. Average speeds of male athletes in team time trials at the Olympic Games

The team that came in first in the men's team time trial at the Olympic Games achieved the highest speed, completing the race at 50.9 km/h at the 1988 Seoul Olympics. The first-place team completed the race at a low average speed of 28.3 km/h at the 1912 Stockholm Olympics.

DISCUSSION

This study examines the frequency and percentage tables of countries that have won medals in road cycling, average race speeds, race distances, total elevation gain, and the ratio of total elevation gain to race length. A review of the literature reveals various studies related to road cycling competitions.

In a study conducted on international road cyclists, the average speed for the prologue TT was 46.3 ± 2.8 km/h, for the short TT 43.1 ± 3.0 km/h, long TT 44.7 ± 2.0 km/h, hilly TT 32.5 ± 2.0 km/h, and team TT 53.4 ± 1.8 km/h (Padilla et al., 2000). The average speed of athletes in the red jersey classification of the Presidential Turkey Cycling Tour between 2013 and 2022 was determined to be 40.4 ± 1.4 km/h (Akbaş et al., 2023). The study, which examined the racing speed strategies of mountain bike athletes throughout the season, found that cyclists made a fast start in the Olympic mountain bike race and that elite athletes with high performance levels were able to maintain high speeds in the final lap of the race (do Carmo et al., 2020). It was determined that the average speeds of the eight classic races and three major European tours between 1892 and 2008 increased from 21.13 km/h to 41.19 ± 2.03 km/h (El Helou et al., 2010). Ebert et al. (2006) between 1999 and 2004, the average speed for the criterium stages of the Tour Down Under was 44.9 ± 1.2 km/h, the road race was 38.0 ± 2.2 km/h, and the mountain stages were 38.4 ± 2.2 km/h. Garvican-Lewis et al. (2015) It has been determined that the speed obtained from the average power output of 60 and 240 seconds at medium and high altitudes is higher than the test result applied in a laboratory near sea level. It was found that female road cyclists completed the flat sections of the World Cup at a speed of 37.6 ± 2.6 km/h and the hilly sections at a speed of 33.9 ± 2.7 km/h (Ebert et al., 2005). In the current study, the highest average speeds in the men's and women's road race categories at the Olympic Games were achieved at the 1996 Atlanta Olympics with 45.3 km/h and at the 1988 Seoul Olympics with 40.7 km/h. In the individual time trials at the Olympic Games, the highest average speeds in the men's and women's

categories were recorded at the Paris 2024 Olympic Games at 53.7 km/h and 49.0 km/h, respectively.

The following time trial distances were recorded for international road cyclists competing in the same team: prologue TT 7.3 ± 1.1 km, short TT 28.0 ± 8.6 km, long TT 49.2 ± 8.0 km, hilly TT 40.6 ± 4.8 km, team TT 67.0 ± 0.5 km (Padilla et al., 2000). In the 1997 Tour de France, three time trial races were held: one short TT (eight km) and two individual TTs (55 and 63 km). In the 2002 Tour de France, four time trial races were held: one short time trial (seven km), one team time trial (67.5 km), and two individual time trials (52 and 50 km) (Earnest et al., 2009). The individual time trial distance for the Tour of Spain was determined to be 29.9 ± 16 km, with an average stage length of 191 ± 33 km, while the individual time trial distance for the Tour de France was determined to be 24.5 ± 27.3 km, with an average stage length of 199.8 ± 33.5 km (Fernandez-Garcia et al., 2000). Ebert et al. (2006) Between 1999 and 2004, the average distance of the Tour Down Under criterium races was 68.2 ± 24.7 km, the road race distance was 146.9 ± 9.8 km, and the hilly stages were 156.8 ± 12.6 km. The 2015 Tour of Spain stage lengths were 168 ± 53.5 km and the average race completion times for athletes were 260 ± 85 min. The 2017 Giro d'Italia stage lengths were 181 ± 55.1 km and the average stage times were 272 ± 95 min. The average stage length of the 2018 Italy Tour was 176 ± 58.2 km and the average stage time was 266 ± 91 min. The average stage length of the 2018 France Tour was 167 ± 55.4 km and the average race completion time was 255 ± 86 min. (Van Erp et al., 2020). In the current study, the average length of road races in the men's category between the 1896-2020 Olympic Games was found to be 193.5 ± 45.2 km, and the average length of road races in the women's category between the 1988-2024 Olympic Games was found to be 116.6 ± 25.9 km. The average distance of individual time trials for male athletes in the Olympic Games was found to be 94.2 ± 83.1 km, and the average distance of individual time trials for female athletes was found to be 27.3 ± 3.9 km.

Öztürk et al. (2022) at the Tokyo 2020 Olympic Games, the athletes who finished first, second, and third in the men's road race were from Ecuador, Belgium, and Slovenia, respectively. In the individual time trial, the top three countries were Slovenia, the Netherlands, and Australia. In

the women's road race, the athlete who finished first was from Australia, the second was from the Netherlands, and the third was from Italy. In the individual time trial, the athlete who finished first was from the Netherlands, the second was from Switzerland, and the third was from the Netherlands. When examining the medal conversions of the countries of athletes at the London 2012 Olympic Games, it was found that the United States won 104 medals, China 88 medals, Germany 65 medals, Switzerland 44 medals, and Australia 35 medals (Seiler, 2013). China has won one medal in cycling at the Sydney 2000, Athens 2004, and Beijing 2008 Olympic Games, and three medals at the London 2012 Olympic Games (Zheng, 2016). Akbaş et al. (2023) noted that Switzerland was the country that won the most medals in the men's and women's categories in the mountain biking (MTB) discipline between the 1996 Atlanta and 2020 Tokyo Olympic Games. In the current study, Belgium and France are the countries with the most medals in the men's road race category, with nine medals each, while the United Kingdom has five medals in the individual time trial and Sweden has eight medals in the team time trial. In the women's category, the Netherlands won the most medals in road races with seven medals, while the United States won the most medals in individual time trials with six medals. This can be explained by the fact that road cycling has a deep-rooted sporting culture in Belgium, France, and the Netherlands, and that athletes have the opportunity to develop from an early age within club, racing, and youth development systems.

References

- Akbaş, D., Bayraktar, I., & Bayrakdar, A. (2023). Olimpiyat oyunlarında MTB branşı madalya dağılımı ve sporcuların ortalama hızlarının incelenmesi. In İ. Epray & N. Sümer (Eds.), *2. Bilsel International Truva Scientific Researches and Innovation Congress* (pp. 135–142). Bilgesina. https://bilselkongreleri.com/panel/uploads/pdf/Truva_Kitap_son_.pdf
- Akbaş, D., Satılmış, N., Bayrakdar, A., & Bayraktar, I. (2023). Cumhurbaşkanlığı Türkiye Bisiklet Turu kırmızı mayo klasmanındaki sporcuların çeşitli değişkenle yönüyle incelenmesi. In A. H. Zajmi & Ç. Tan (Eds.), *3rd International Artemis Congress on Healty and Sport Sciences* (pp. 243–250). BZT Akademi Yayınevi. <https://www.artemiscongress.com/>
- do Carmo, E. C., Inoue, A., Abad, C. C. C., dos Santos Andra, F. A., Tricoli, V., & Barroso, R. (2020). Pacing strategy during Olympic Cross-Country Mountain Bike: effects of performance level, age and sex. *Journal of Science and Cycling*, 9(1), 13–24.
- Earnest, C. P., Foster, C., Hoyos, J., Muniesa, C. A., Santalla, A., & Lucia, A. (2009). Time trial exertion traits of cycling's Grand Tours. *International Journal of Sports Medicine*, 30(4), 240–244. <https://doi.org/10.1055/s-0028-1105948>
- Ebert, T. R., Martin, D. T., McDonald, W., Victor, J., Plummer, J., & Withers, R. T. (2005). Power output during women's World Cup road cycle racing. *European Journal of Applied Physiology*, 95(5), 529–536. <https://doi.org/10.1007/s00421-005-0039-y>
- Ebert, T. R., Martin, D. T., Stephens, B., & Withers, R. T. (2006). Power output during a professional men's road-cycling tour. *International Journal of Sports Physiology and Performance*, 1(4), 324–335. <https://doi.org/10.1123/ijssp.1.4.324>
- El Helou, N., Berthelot, G., Thibault, V., Tafflet, M., Nassif, H., Champion, F., Hermine, O., & Toussaint, J. F. (2010). Tour de france, giro, vuelta, and classic european races show a unique progression of road cycling speed in the last 20 years. *Journal of Sports Sciences*, 28(7), 789–796. <https://doi.org/10.1080/02640411003739654>
- Fernandez-Garcia, B., Perez-Landaluce, J., Rodriguez-Alonso, M., & Terrados, N. (2000). Intensity of exercise during road racepro-cycling competition. *Medicine & Science in Sports & Exercise*, 32, 1002–1006. <https://doi.org/10.1097/00005768-200005000-00019>
- Garvican-Lewis, L. A., Clark, B., Martin, D. T., Schumacher, Y. O., Gore, J., & Menasp, P. (2015). Impact of altitude on power output during cycling stage racing. *PLoS ONE*, 10(12), 1–15. <https://doi.org/10.1371/journal.pone.0143028>
- IOC. (2024, December 20). *International Olympic Committee*. <https://olympics.com/ioc/overview>
- Lucia, A., Hoyos, J., & Chicharro, J. L. (2001). Physiology of professional road cycling. *Sports Medicine*, 31(5), 325–337. <https://doi.org/10.2165/00007256-200131050-00004>
- Morpa. (1997). *Spor ansiklopedisi* (M. Yakın, İ. Bodur, & A. Yalman (eds.); 1st ed.). Morpa Kültür Yayınlar Ltd. Şti.
- Mujika, I., & Padilla, S. (2001). Physiological and performance characteristics of male professional road cyclists. *Sports Medicine*, 31(7), 479–487. <https://doi.org/10.2165/00007256-200131070-00003>
- Öztürk, O., Kurt, Y., & Ilkim, M. (2022). A Review of the Participation in the Olympics by Country and the Success in the Cycling Branch at the Tokyo 2020 Olympic Games. *Pakistan Journal of Medical and Health Sciences*, 16(6), 514–517. <https://doi.org/10.53350/pjmhs22166514>

Result

As a result, the race distances and average speeds varied depending on the Olympic Games. The factors influencing the increase or decrease in these average speeds may stem from the length of the race course and the total elevation gain. It is recommended that future studies examine the changes in medal counts over the years and athlete development models in road cycling competitions for the countries that have won the most medals.

Limitations

For very old Olympic Games, such as the 1928 Amsterdam Games, the “total elevation gain” data from the Procyclinstats website has been estimated using current maps, as there are no GPS records of the races from that period. In the present study, the data on the ancient Olympic Games were obtained largely from secondary sources. Caution should be exercised when making cross-period comparisons regarding the accuracy of the competition results.

Ethics Statement: In the present article, the ethical rules of the journal were followed in the research process in the current article. The responsibility for any violations that may arise regarding the article belongs to the author. The approval of Alanya Alaaddin Keykubat University Ethics Committee dated 22.07.2024 and numbered 2024/09 was obtained.

Conflict of Interest: There is no personal or financial conflict of interest between the authors in the present study.

Author Contribution Rate: In the present study, the contribution rates of all authors are equal.

- Padilla, S., Mujika, I., Orbañanos, J., & Angulo, F. (2000). Exercise intensity during competition time trials in professional road cycling. *Medicine and Science in Sports and Exercise*, 32(4), 850–856. <https://doi.org/10.1097/00005768-200004000-00019>
- Procylingstats. (2024, December 10). *Olympic Games*. <https://www.procylingstats.com/race/olympic-games>
- Seiler, S. (2013). Evaluating the (Your Country Here) olympic medal count. *International Journal of Sports Physiology and Performance*, 8(2), 203–210. <https://doi.org/10.1123/ijspp.8.2.203>

UCI. (2025, December 16). *UCI*. <https://www.uci.org/>

Van Erp, T., Hoozemans, M., Foster, C., & De Koning, J. J. (2020). Case report: Load, intensity, and performance characteristics in multiple grand tours. *Medicine and Science in Sports and Exercise*, 52(4), 868–875. <https://doi.org/10.1249/MSS.0000000000002210>

Zheng, J. (2016). The development of elite cycling in China: 1992–2012. *International Journal of the History of Sport*, 33(5), 586–606. <https://doi.org/10.1080/09523367.2016.1167684>

GENİŞLETİLMİŞ ÖZET

Çalışmanın Amacı: Mevcut çalışmada ise Atina 1896-Paris 2024 olimpiyat oyunları arasında yol bisikleti branşında çeşitli disiplinlerde dereceye girmiş sporcuların ülke dağılımları, yarışma ortalama hızları, ortalama yarış mesafeleri, irtifa kazanımları ve irtifa miktarının yarışa mesafesine oranlarının incelenmesi amaçlanmıştır.

Literatur Araştırması: Resmi olarak yapılan ilk yol bisikleti müsabakası 1868 yılında Parc de Saint-Cloud'da düzenlenmiştir. Müsabakayı İngiliz asıllı James Moore isimli sporcu kazanmıştır. İlk şehirlerarası müsabaka 7 Kasım 1869 tarihinde Paris-Rouen arasında düzenlenmiştir. 123 kilometrelik müsabakayı James Moore 10 saat 25 dakika sürede tamamlayarak birinci olmuştur. Bu müsabakaların amacı bisiklet kullanımının teşvik edilmesini sağlamak ve bisiklet ile uzun mesafeler gidilebildiğini göstermektir. Yol bisikleti bu gelişmelerden sonra 1896 Atina olimpiyat oyunlarının bir parçası olarak dahil edilmiştir (UCI, 2025).

Yöntem: Mevcut çalışmanın araştırma grubu Atina 1896 ve Paris 2024 olimpiyat oyunları arasında gerçekleştirilen yaz olimpiyat oyunlarında yol bisikleti branşında (yol yarışı, bireysel zamana karşı ve takım zamana karşı yarışlarında) ilk üçe giren sporcuların ve takımların sonuçlarından oluşmaktadır. Çalışmanın verileri Uluslararası olimpiyat komitesi (IOC) ve Pro Cycling Stats web sayfasındaki resmi yarışma sonuçları alınmıştır. Bisiklet branşında erkekler kategorisi ilk düzenlenen olimpiyat oyunlarında yer aldığı için Atina 1896 ve Paris 2024 olimpiyat oyunları arasındaki sonuçlar (n=162) alınmıştır. Fakat bazı olimpiyat oyunlarında ikinci ve üçüncü bisikletçinin verilerine ulaşılamamıştır. Kadınlar kategorisi ise Los Angeles 1984 olimpiyatlarına dahil olmuştur. Los Angeles 1984 ve Paris 2024 olimpiyat oyunları arasındaki sonuçları (n=57) çalışmamıza dahil edilmiştir (IOC, 2024; Procylingstats, 2024). Araştırmada ülkelerin elde ettikleri madalya sayıları frekans ve yüzdelik tablosu verilmiştir. Ayrıca olimpiyat oyunlarında dereceye giren sporcuların ortalama hızları, yarışma mesafeleri, toplam irtifa miktarı ve toplam irtifa

miktarının yarış uzunluğuna oranları excel üzerinde grafikte sunulmuştur. Mevcut araştırma için Alanya Alaaddin Keykubat Üniversitesi Sosyal ve Beşeri Bilimler Alanı Bilimsel Araştırmalar ve Yayın Etik Kurulundan 22.07.2024 tarihinde 2024/09 karar numaralı 13 karar sayısı ile etik kurul izni alınmıştır.

Bulgular: Mevcut çalışmada olimpiyat oyunları yol bisikleti yarışı erkekler kategorisinde en yüksek ortalama hız (45,3 km/s) Atlanta 1996 ve kadınlar kategorisinde en yüksek ortalama hız (40,7 km/s) Seoul 1988 olimpiyat oyunlarında elde edilmiştir. Erkekler kategorisi 1896-2024 olimpiyat oyunları arası yol yarışmaları ortalama uzunluğu 193,5±45,2 km ve kadınlar kategorisi 1984-2024 olimpiyat oyunları arası yol yarışları ortalama uzunluğu 116,6±25,9 km olarak bulgulanmıştır. Yol yarışı en yüksek irtifa kazanımı erkekler katogorisinde Rio 2016'da 4886 metre ile kadınlar kategorisi ise Tokyo 2020'de 2511 metre ile elde etmiştir. Erkekler kategorisi yol yarışlarında Fransa ve Belçika dokuz madalya (%12,5) ile en fazla madalya kazanan ülke, bireysel zamana karşı yarışlarında Birleşik Krallık beş madalya (13,9) ve takım zamana karşı yarışlarında İsveç sekiz madalya (%14,8) ile en fazla derece elde eden ülke olduğu tespit edilmiştir. Kadınlar kategorisinde ise yol yarışlarında Hollanda yedi (%21,2) madalya, bireysel zamana karşı yarışlarında Amerika Birleşik Devletleri altı (%25) madalya ile en fazla derece elde eden ülkelerdir.

Sonuç ve Değerlendirme: Sonuç olarak yarış mesafeleri ve ortalama hızlar Olimpiyat Oyunlarına göre değişkenlik göstermiştir. Bu ortalama hızların artması veya azalmasındaki etken, düzenlenen yarışma parkurunun uzunluğundan ve toplam irtifa kazanımından kaynaklanmış olabilir. İleride yapılacak çalışmalarda yol bisikleti müsabakalarında en fazla madalya elde eden ülkelerin yıllara göre madalya değişimleri ve sporcu gelişim modellerinin incelenmesi önerilmektedir.