

COURSE MEASUREMENT REPORT

„MATE” HALF MARATON RACE, GÖDÖLLŐ, HUNGARY

Soma Kovács

WA/AIMS B GRADE | 2025. 08. 25.



APPLICATION FOR CERTIFICATION OF A ROAD COURSE

Name of event: I. MATE Félmaraton – Half Marathon, Hungarian Half Marathon University Championships

City/Town: Gödöllő

Country: Hungary

Advertised race distance(s): half marathon (21,0975 km)

Race date: 2025. 09. 20.

Race director: Zoltán Kovács

Phone: +36-30-691-6286

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Name of measurement team leader: Soma Kovács

Phone: +36308318033

Email: soma.kovacs.athletics@gmail.com

Precise location of start: Gödöllő, Pater Károly u. (47°35'40.66"N, 19°21'39.16"E)

Precise location of finish: Gödöllő, Ady Endre stny. (47°35'47.76"N, 19°20'54.80"E)

Precise location of turn points: Bethlen utca 48. (47°36'27.54"N, 19°21'1.76"E)

Type of terrain (Flat/Undulating/Hilly): undulating, 95% asphalt road, 5% gravel,

Type of course (Loop/Lap/Point to Point/Out & Back): combined

Elevation (in metres above sea level): Start: **219 m** Finish: **206 m**

Distance, in a straight line, between start and finish: **952 m**

SUMMARY OF MEASUREMENTS

Dates of measurements / a mérés dátuma: **2025.07.28. and 08. 23.**

How many measurements of the course were made? / Hány darab mérés történt: **1+1 adjustment**

Name of measurer / : **Soma Kovács** A felmérő neve: **Kovács Soma**

How much of the road width is available to runners throughout the length of the road race course?
A futóknak mekkora útszélesség áll rendelkezésükre a teljes pálya során?

Total width of the road except:

- Ady Endre stny. from Állomás utca to Török Ignác u.; left side of the road
- Tessedik Sámuel u. left side of the road
- Bethlen utca – 1 lane by running direction
- Palace Park entrance/exit – half of the road by running direction

If the route at turns cannot be described as the „shortest possible route”, explain what restrictions will apply, and how these will be enforced?

- On Ady, Tessedik cones will indicate the available road
- On Bethlen utca and Palace Park entrance cones will mark the middle of the road

Length of course after any adjustment/ A pálya teljes hossza bárminemű igazítás után: **21,0975 kilometres**

Difference between longest and shortest measurement/A legrövidebb és leghosszabb mérés közötti különbség:
-

Which measurement was used to establish the final course length and why? / Melyik mérés során kapott eredmény alapján került megállapításra a pálya hossza és miért?

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OVERVIEW OF THE MEASUREMENT PROCEDURE

The organizing committee of the I. MATE Half Marathon competition contacted me to ask for a measurement, in order to certify their event for the Hungarian National University Championships on the HM distance.

The course itself is situated in the town of Gödöllő. The course consists of two main parts: one point-to-point “introduction” course starting from the University of Gödöllő, goes through the main square of the town, and reaches the “Alsópark” and the surroundings of the Palace of Gödöllő. The second part is a lap course which is entirely in this region.

Introduction course: Start line - Pater Károly utca – Szent-Györgyi Albert utca – Szabadság út – Munkácsy Mihály utca – Grassalkovich utca – Bethlen Gábor utca – Lumnitzer Sándor utca – Petőfi tér – Szabadság tér – underpass – Aichach stny.

Lap course: Szabadság út bike path – Palace park (entrance – park – exit) – bike path – Tessedik Sámuel utca – Martinovics utca – Ady Endre sétány – Zywiec sétány – Forssa sétány – Laxenburg sétány – Ady Endre sétány - finish line

The measurement procedure started by establishing a calibration course three days before the first measurement (2025. 07. 25.). The town is quite hilly, so I only found a suitable bike path for the calibration course relatively far from the centre, next to the Isaszegi út.

First measurement on 07. 28.:

- I planned the measurement with 13 intermediate points (K1.1, K1, K2, K2.1 etc.), as the course layout was not fixed and to make additional measurements easier
- the half marathon distance adds up from the point-to-point “introduction course”, a partly ran lap, and 3 total laps
- after pre-calibration, I measured most parts of the introduction course (start line to K2.1), and I started to measure the lap course against the direction of running which was safer to execute and this way I measured a shorter race’s course by its running direction
- after the lap course I measured the rest of the introduction course (K2.1 to K3) and the last remaining part of the lap (K2.2 to finish line) then I went to post-calibrate, and the rest of the shorter race (K8 to Finish line)

As there was a necessary change in the lap course to establish a clearer finish straight, it became longer so the LOC decided to change the introduction course (green).

The second measurement on 08. 23.

- the modified introduction course was measured from K2.1 point to K1 because the other parts were unchanged
- I remeasured the K2.2 to finish line section in order to establish the final place of the turnaround point on Bethlen utca. The original finish straight was too short so we added a left turn to Laxenburg sétány at the end of Forssa sétány.

For the first measurement, the course layout is indicated in yellow. The final length of the course was determined after the second measurement.

DETAILS OF THE CALIBRATION COURSE / A KALIBRÁCIÓS PÁLYA ADATAI:

Name of event / A Verseny neve: **I. MATE Félmáraton**

Town/ Város: **Gödöllő**

Location of calibration course / A kalibrációs pálya helye: **Gödöllő, Isaszegi út**

Length of calibration course / A kalibrációs pálya hossza: **300,000 m**

Date of measurement / A mérés napja: **2025. 07. 25.**

Method used to measure calibration course / Mérési módszer: **steel tape/ acél mérőszalag**

How many times was the calibration course measured? / Hány alkalommal került megmérésre a kalibrációs pálya? **2**

Measurement team leader / A mérés vezetője: **Kovács Soma** (Soma Kovács)

Phone contact of team leader/ Telefonszáma: **+36 30 831 80 33**

Email address of team leader / E-mail címe: **soma.kovacs.athletics@gmail.com**

List names and duties of team members/ Egyéb személyek neve és feladata, akik részt vettek a mérésben:

György Gadanez, assistant

Is the calibration course straight and paved? / A kalibrációs pálya egyenes és burkolattal ellátott? **yes/igen**

How are the start and finish points marked? / A kezdő és végpontok miképpen kerültek megjelölésre? **nails**

Are the start and finish points located in the path where a bicycle wheel can touch them?/ Ezek a pontok olyan helyen vannak, ahol a bicikli kereke hozzá tud érni? **yes / igen**

Total length / Teljes hossz: **300,000 m**

Bicycle check:

- A.** Counts for full calibration course: 3550,5
- B.** Counts for one tape length: 592
- C.** Divide A by B: 5,997
- D.** Number of full tape lengths: 6

STEEL TAPING DATA SHEET (for measuring a calibration course)

Name of calibration course: **Isaszegi út**

City/town and State/: Gödöllő, Hungary

Date: 2025. 07. 25.

Start time: 15:27

Finish time: 16:15

Pavement temperature: Start 34°C Finish 36°C Average 35°C (no direct sun)

Measurements and calculations:

1. First measurement. This establishes tentative start and finish marks which should not be changed until the final adjustment on line 6 below.

$$\begin{array}{ccccccc} 6 & \times & 50,00 & + & / & = & 300,000 \text{ m} \\ \text{\#tape} & & \text{distance} & \text{per} & \text{partial} & \text{tape} & \text{distance} \\ \text{lengths} & & \text{tape length} & & \text{length} & & \text{measured} \end{array}$$

2. Second measurement. This checks the distance between the SAME tentative start and finish points marked in the first measurement, but use new intermediate taping points.

$$\begin{array}{ccccccc} 5 & \times & 50,00 & + & 49,994 & = & 299,994 \\ \text{\#tape} & & \text{distance} & \text{per} & \text{partial} & \text{tape} & \text{distance} \\ \text{lengths} & & \text{tape length} & & \text{length} & & \text{measured} \end{array}$$

3. Average raw (uncorrected) measurement of calibration course: *299,996 m*

4. Temperature correction. Use the average pavement temperature during measurement. Work out answer to at least seven digits beyond the decimal point.

Correction factor = $1.0000000 + (0.0000116 \times [35-20])$ Correction factor = 1,000147

NOTE: For temperatures below 20C, factor is less than one
For temperatures above 20C, factor is greater than one

5. Multiply the temperature correction factor by the average raw measurement of the course

$$1,000147 \times 299,996\text{m} = 300,048 \text{ correction factor avg. raw measurement corrected measurement}$$

6. I moved the finish mark 4,8 cm backwards and I put nails into the road and painted yellow line for visibility.

Final (adjusted) length of calibration course: 300,000 m

CALIBRATION MEASUREMENTS

PRE-CALIBRATION:

Date: 2025. 07. 28.

Start time: 5:18 Temp.: 17°C end: 5:27 Temp.: 17°C

	1.	2.	3.	4.
Start:	144100	147650,5	151200	154751,5
End:	147650,5	151200	154751,5	158302
Difference:	3550,5	3549,5	3551,5	3550,5
Average:	3550,5			
1000m	11 835			
Working constant:	11 846,8350			

POST-CALIBRATION:

Start time: 7:15 Temp.: 19°C End: 7:25 Temp.: 20°C

	1.	2.	3.	4.
Start:	366500	370049,5	373597	377145,5
End:	370049,5	373597	377145,5	380692,5
Difference:	3549,5	3547,5	3548,5	3547
Average:	3548,125			
1000m	11 827,08333			
Working constant:	11 838,91042			

Constant of the day:	11 842,87271
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COURSE MEASUREMENT DATA SHEET

Name of calibration course: Isaszegi út

Finish time: 6:54

City/town and State: Gödöllő, Hungary

Temperature: Start 17°C Finish 19°C Average 18°C

Date: 2025.07.28.

First measurements and calculations:

Start time: 5:51

	Counter reading	Counts	Distance (m)	Cumulated counts	Cumulated distance (m)
Starting count at SL:	200000	0	0	0	0
K1.1 (post at Szabadság út – Munkácsy M. corner)	211768	11768	993,68	11768	993,68
K1 (stop sign post at Grassalkovich – Munkácsy corner)	219146	7378	622,99	19146	1616,67
K2 (stop sign post at Árpád u. – Mátyás k. utca corner)	223825	4679	395,09	23825	2011,76
K2.1 (end of ped. underpass)	240787	16962	1432,25	40787	3444,01
K2.2 (beginning of Forssa stny.)	243022	2235	188,72	43022	3632,73
K10 (Żywiec-stny)	247971	4949	417,89	47971	4050,62
K9 (barrier at the swimming arena)	253979	6008	507,31	53979	4557,93
K8 (Ady sty – Martinovics utca, old lamp post)	260647	6668	563,04	60647	5120,97
K7 (Martinovics – Honvéd corner, sign post)	268032	7385	623,58	68032	5744,55
K6 (Tessedik – Szabadság út bike path intersection lamp post)	276106	8074	681,76	76106	6426,31
K5 (PalacePark entrance)	282468	6362	537,20	82468	6963,51
K4 (Palace Park exit)	289892	7424	626,87	89892	7590,39
K3 (ped. cross at the end of bike path)	292390	2498	210,93	92390	7801,32
Finish line	293325	935	78,95	93325	7880,27

K3	299116		
K2.1	297100	2016	170,17
K8	302883		
Finish line	305502	2619	221,07
K2.2	294752		
Finish line	293325	1427	120,45

Length of a lap: Sum of K10 until Finish line (4247,53) +120,45 = 4367,98 m

Total provisional length for half marathon:

$$3444,01 + 170,17 + (7801,32 - 3632,73) + 120,45 + 3 \times 4367,98 = 21\,007,18$$

90,32 metres missing – the start line could not be moved so far back to achieve the required distance. ->
changes were made

The original measurement line until K8 point is part of a shorter distance of this event which will not be submitted for certification: $5120,97 + 221,07 = 5342,04$ metres

Second Measurement Day

PRE-CALIBRATION:

Date: 2025. 08. 23.

Start time: 8:16 Temp.: 16°C end: 8:26 Temp.: 16°C

	1.	2.	3.	4.
Start:	518900	522456,5	526012	529569,5
End:	522456,5	526012	529569,5	533125,5
Difference:	3556,5	3555,5	3557,5	3556
Average:	3556,375			
1000m	11 854,58333			
Working constant:	11 866,4379			

POST-CALIBRATION:

Start time: 9:33 Temp.: 19°C End: 9:43 Temp.: 19°C

Ride:	1.	2.	3.	4.
Start:	664000	667555	671108	674662
End:	667555	671108	674662	678215
Difference:	3555	3553	3554	3553
Average:	3553,75			
1000m	11 845,83333			
Working constant:	11 857,67917			

Constant of the day:	11 862,05854
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Measurement:

Date: 2025.07.28.

Start time: 8:46

Finish time: 9:13

Temperature: Start 18°C Finish 19°C Average 18,5°C

	Counter reading	Counts	Distance (m)	Cumulated counts	Cumulated distance (m)
Starting count at K2.1:	580 300	0	0	0	0
K1	595 304	15 304	1265,34	-	-
K2.2	617 200	0	0	0	0
Finish line	619 658	2458	207,29	-	-

New length for the lap is 4454,82 metres.

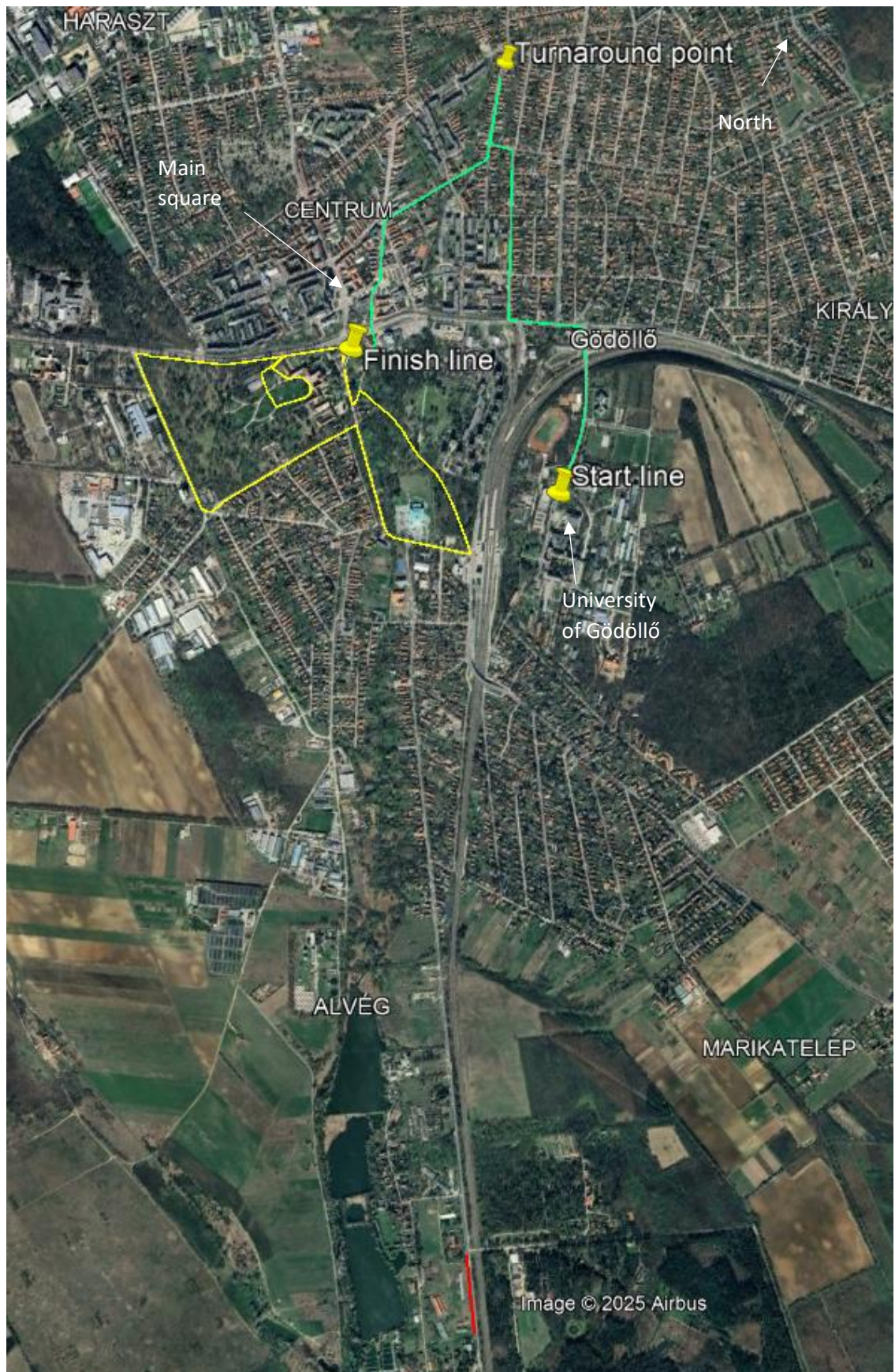
$$1616,67 + 1265,34 + 170,17 + (7801,32 - 3632,73) + 207,29 + 3 \times 4454,82 = 20\,792,52$$

304,98 metres is missing -> turnaround point should be moved 152,49 metres north.

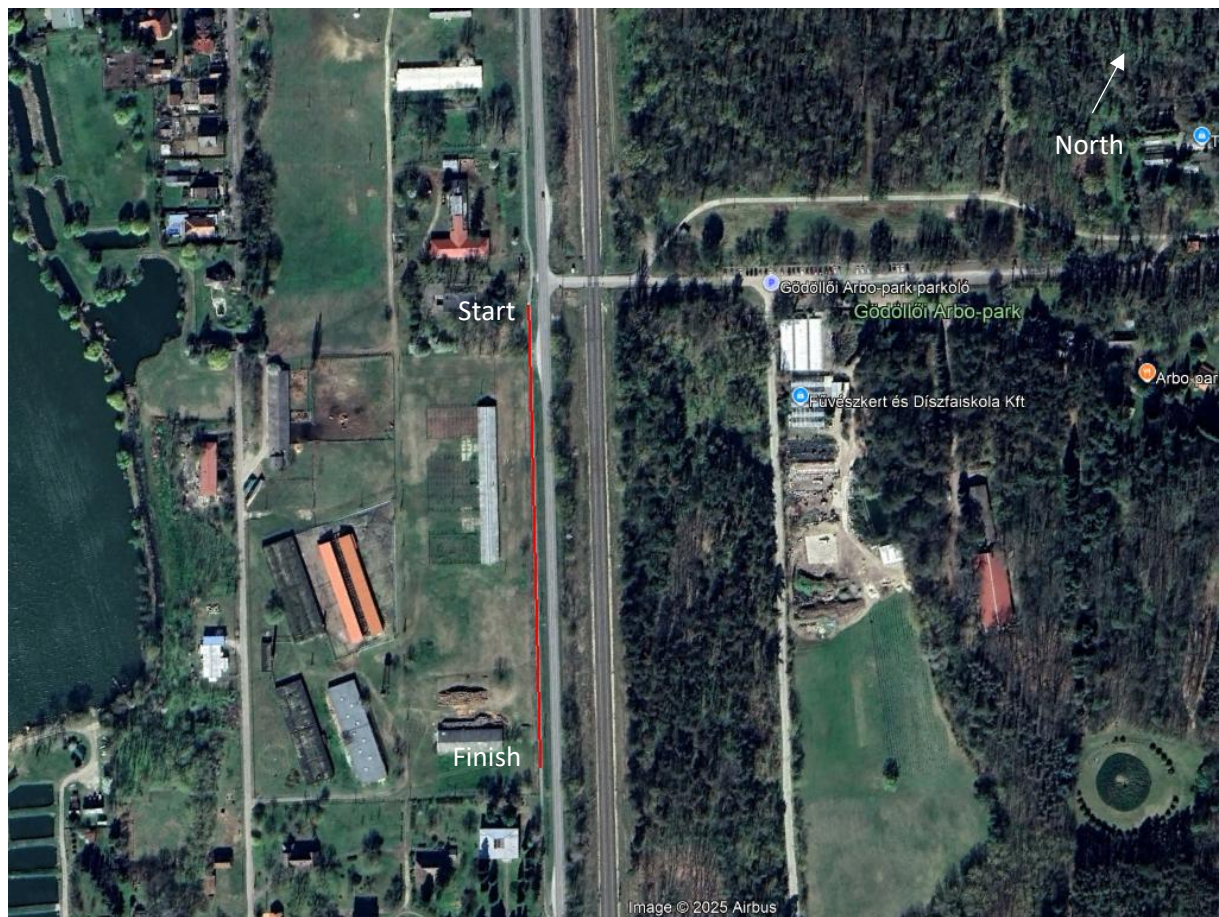
The change in the introduction course changed the shorter distance too:

$$1616,67 + 1265,34 + 304,98 + 1676,96 + 221,07 = 5085,02$$

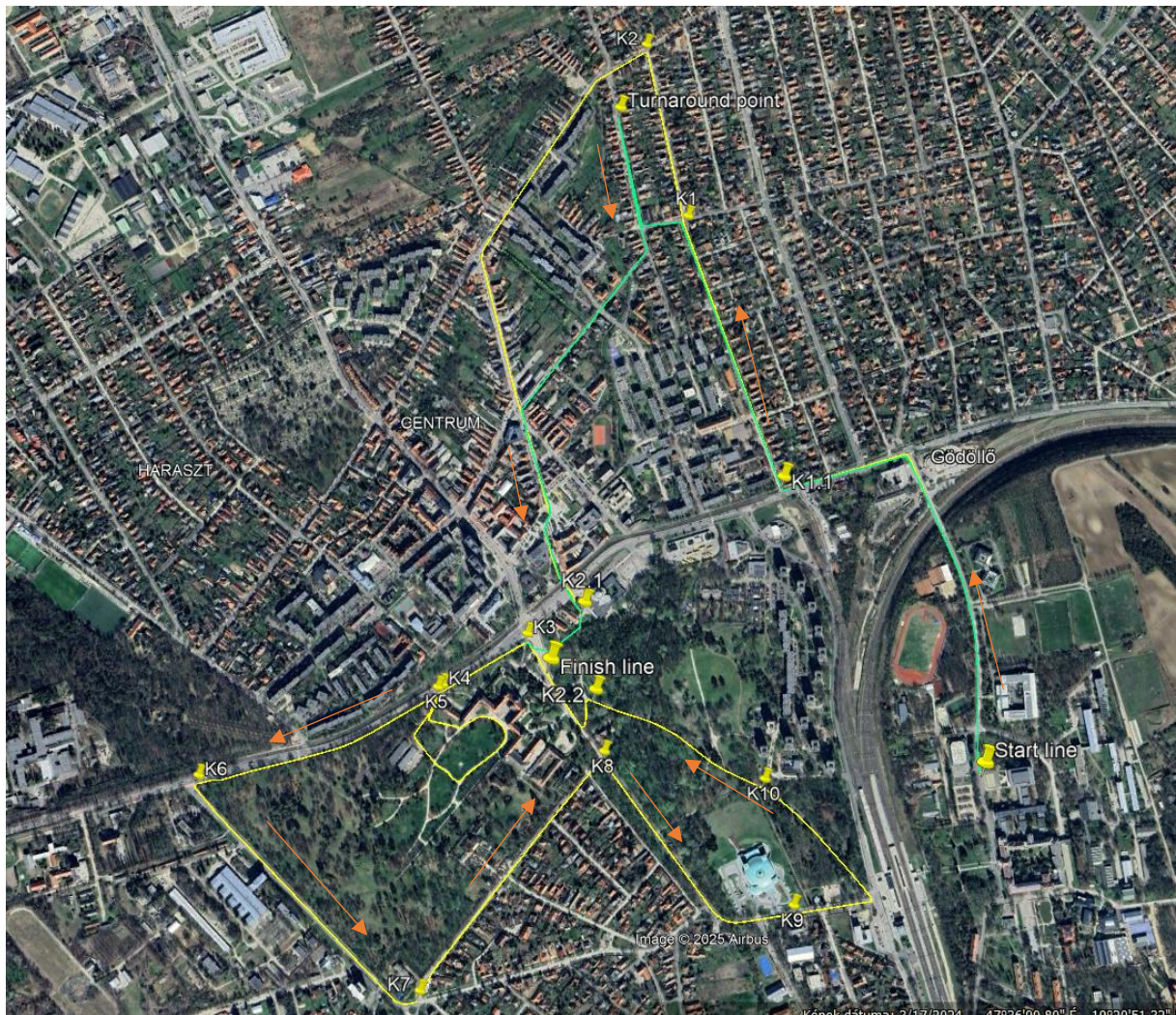
Attachments:



1. figure Final course layout with the calibration course



2. figure Calibration course at Isaszegi út bike path



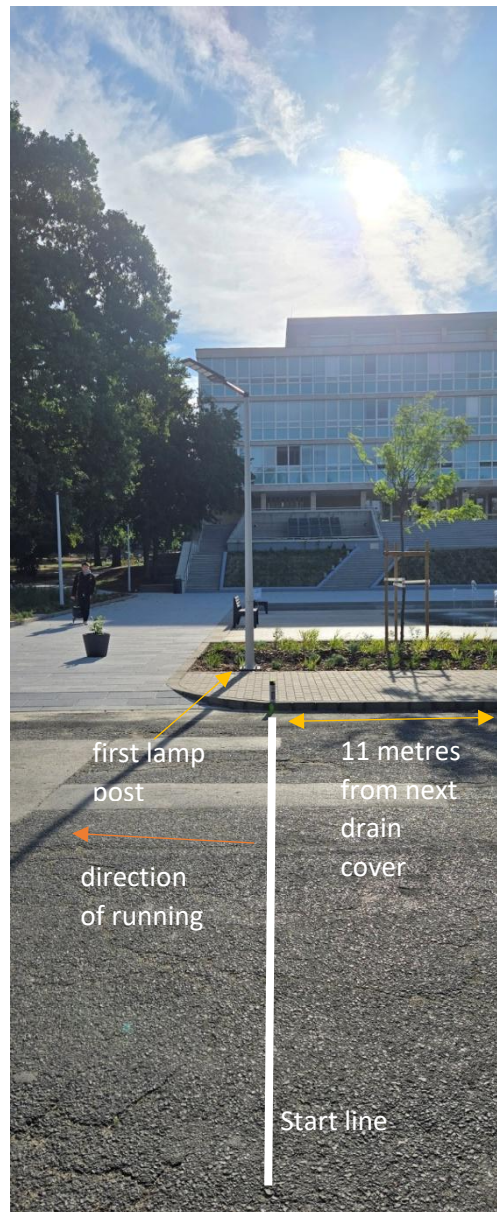
3. figure Former (yellow) and new (green) introduction course - lap course (yellow) with intermediate points



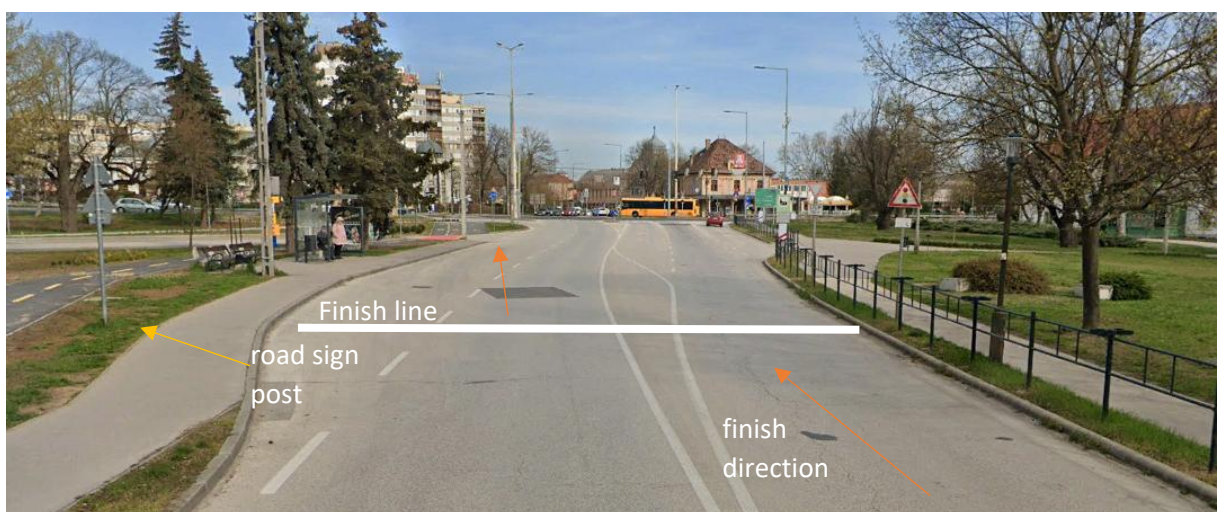
4. figure Finish line area - end of introduction course



5. figure Palace Park section



6. figure Start line at Pater K. utca



7. figure Finish line on Ady Endre sétány / in front of Gödöllő Palace



8. figure Turnaround point at Bethlen utca 48. (at the edge of the house)



9. figure Start of calibration course on Isaszegi út



10. figure End of calibration course on Isaszegi út