APPLICATION FOR CERTIFICATION OF A ROAD COURSE

Name of event:	**Siberian Running Fest**
City/town:	**Novosibirsk, Russia**
Advertised race distance:	**21,097 km**
Race date:	**07 September 2019**
Race director:	**Evgeny Gusev**
Address:	**Kommunisticheskaya st, 27\29-15, Novosibirsk, Russia**
Phone**: +7 (923) 110-05-52**	Email: e.gusev@mgdecision.ru
Name of measurement team leader:	**Ilya Mikhaylovsky**
Address:	**Mira str, 31\1, Ulyanovka, Omsk region, Russia**
Phone:	**+7(913)968-78-18**
Email:	**ilya.mikhaylovskiy@gmail.com**
Location of start:	**Lenin Square**
Location of finish:	**Lenin Square**
Type of course (please tick)	**Loop** / Out & back / Point to point / Other
Type of terrain (please tick)	**Flat** / Undulating / Hilly
Altitude (in metres above sea level):	**Start: 150** **Finish: 150**
Distance, in a straight line, between start and finish:	**68 meters**

SUMMARY OF MEASUREMENTS

Date(s) of measurement:	**06 September 2019**
How many measurements of the course were made?	**1**
Names of measurers:	**Ilya Mikhaylovsky**

How much of the road width is available to runners throughout the length of the road race course?

Full width is used in both directions

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

Signal cone, barriers and markings on the road and race marshals at each turn point

Length of course after any adjustment:	**21,097 km**
Difference between longest and shortest measurement:	**0**

Which measurement was used to establish the final course length and WHY?

The shorter measurement

OVERVIEW OF THE MEASUREMENT PROCEDURE

The course of the Half Marathon is laid on the central part of the city.

The course of the Half Marathon - 5 laps long at 4205.9 meters each and 68 meters to finish after 5 laps

05.09.2019.

The first day we travelled the route, we discussed the passing's peculiarity, types and quantity of fence, course's marking (km, TP, shortest line). We planned our future work on the measurement of the race course, examined and prepared the equipment provided by the organizer (bike, paint, hammer, nails).

06.09.2019

The day began with meeting with the representatives of the organizing committee and SRSI (State Road Safety Inspectorate) at 11 o'clock. We coordinated our actions and started to work. We calibrated the bicycle wheel. The calibration held on the segment length of 300 meters, which is included in the course. It was sunny day and the temperature was +20° C. We performed the calibration of the bicycle wheel, entered all the necessary coefficients, received the counter value for measurement. We began with the measurement of the course. We began with the start line, in the same time, we marked the approximate kilometer points.

We drove through the whole route, mapped out kilometer points. We re-calibrated the bicycle after the measurement. The weather was the same. We made changes to count value and made calculations.

As a result, the measuring length of the 1 lap was **3984,52** meters, it was **221,38 m shorter** than required. To bring the distance to the required, we moved the TP2 to **110.69 meters.**

We moved the other points considering all necessary adjustments. All points were photographed and described. On the base of the photos made a report for organizers.

DETAIL OF THE CALIBRATION COURSE

1. Name of event:	**Siberian Running Fest**
2. City/town:	**Novosibirsk, Russia**
3. Location of calibration course:	**Krasniy Prospekt**
4. Length of calibration course:	**300 meters**
5. Date(s) measured:	**06 September 2019**
6. Method used to measure calibration course:	**steel tape 50 m**
7. How many times did you measure the calibration course?	**2**
8. Measurement team leader:	**Ilya Mikhaylovsky**
9. Address of team leader:	**Mira str, 31\1, Ulyanovka, Omsk region, Russia**
10. Phone contact of team leader:	**+7(913)968-78-18**
11. Email address of team leader:	**ilya.mikhaylovskiy@gmail.com**
12 List names and duties of team members:	**Sergey Sedov, assistant**
13. Is the calibration course: STRAIGHT? PAVED?	**straight**

14. How are the start and finish points marked?

Start and finish points have been marked with nails for permanence, and adhesive tape for visibility

15. Are the start and finish points located in the road where a bicycle wheel can touch them, or elsewhere?

Yes

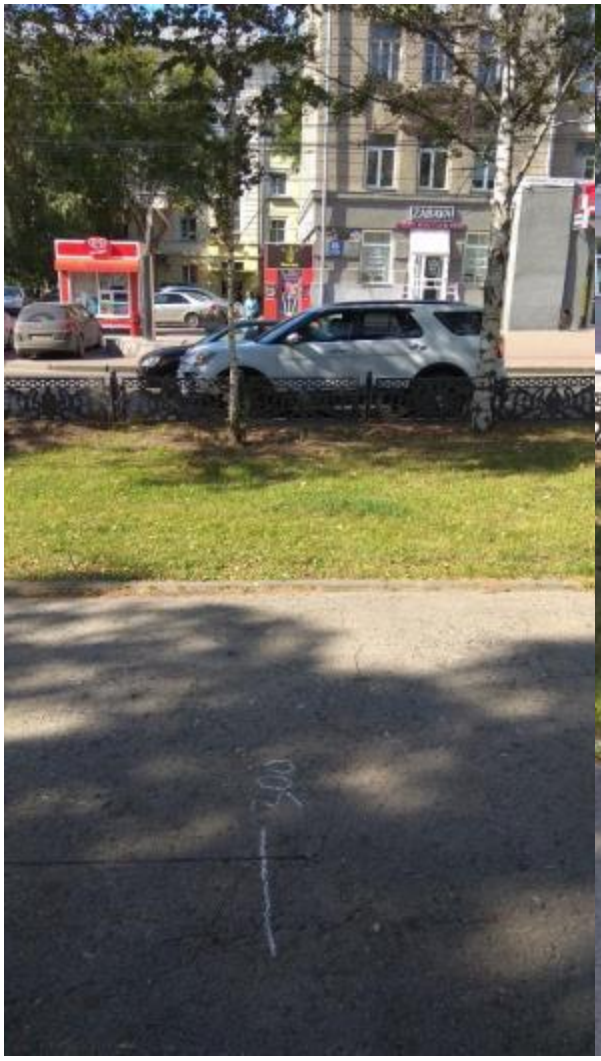
16. Bicycle check. This is a check against miscounting the number of tape lengths.
(if you use a gross measurement check other than a bicycle, please explain.)

A. Counts for full calibration course:	**3547**
B. Counts for one tape length:	**591**
C. Divide A by B:	**6.001692047**
D. Number of full tape lengths:	**6**

17. Submit a map of this calibration course, showing direction of north, the name of the road (and relevant cross streets), and the exact locations of start and finish points, including taped distances from nearby permanent locations.

Start of calibration course: Federal Air Transport Agency

Finish of calibration course: Medical Center (Krasny prospect, 52), 12.1 meters to the bench



STEEL TAPING DATA SHEET
For measuring a calibration course

Name of calibration course:	**Siberian Running Fest**
City/town and State:	**Novosibirsk, Russia**
Date:	**06 September 2019**
Start time:	**12.00**
Finish time:	**13.00**
Pavement temperature: (thermometer shaded from direct sun)	
Start:	**20**
Finish:	**20**
Average:	**20**

Measurements and calculations:

1. First measurement, meters **50x6 = 300**

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. **300**

3. Average raw (uncorrected) measurement of course: **300**

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 + (0.0000116 x (T – 20)) = 1**

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 (line 3) **300** meters

Ad **0** meters

6. Final (adjusted) length of calibration course: **300** meters

BICYCLE CALIBRATION DATA SHEET

Name of event: **Siberian Running Fest**

Date of measurement: **06 September 2019**

Name of measurer: **Ilya Mikhaylovsky**

Length of calibration course: **300 meters**

PRE-CALIBRATION

- ride the calibration course four times, recording data as follows:

Ride	Start count	Finish count	Difference
1 End 1st ride	382800	386347	3547
2 End 2st ride	386400	389950	3550
3. End 3st ride	390000	393547	3547
4. End 4st ride	393600	397150	3550

Working constant	3548.5
Short course prevention factor	3552.05
Divide by 300 meter	**11840.16**

Time of day: **16.00**

POST-CALIBRATION

- ride the calibration course four times, recording data as follows:

Ride	Start count	Finish count	Difference
1 End 1st ride	454900	458446	3546
2 End 2st ride	458500	462050	3550
3. End 3st ride	462100	465646	3546
4. End 4st ride	465700	469249	3549

Working constant	3547.75
Short course prevention factor	3551.30
Divide by 300 meter	11837.66

Constant for the day	3548.125
Short course prevention factor	3551.67
Divide by 300 meter	**11838.91**

COURSE MEASUREMENT DATA SHEET

Name of event: **Siberian Running Fest**

Name of measurer: **Ilya Mikhaylovsky**

Date of measurement: **06 September 2019**

Start time: **13.00** Temperature: **20**

Finish time: **16.00** Temperature: **20**

Constant for the Day: **11838.91**

MEASUREMENT DATA

Measured point	Counter reading	Cumulative Counts	Cumulative Distance (km)	Adjustment (m)
Start	403000.00			
1 km	414840.16	11840.16	**1.00011**	
TP1	417186.00	14186.00	**1.19825**	
2 km	426680.32	23680.32	**2.00021**	
TP2	427515.00	24515.00	**2.07071**	+110.69
3 km	438520.49	35520.49	**3.00032**	
TP3	442067.00	39067.00	**3.29988**	
4 km	450360.65			
4.2059 (End of the 1 lap)	**450124.00**	**47124.00**	**3.98043**	

R, m= 1.3

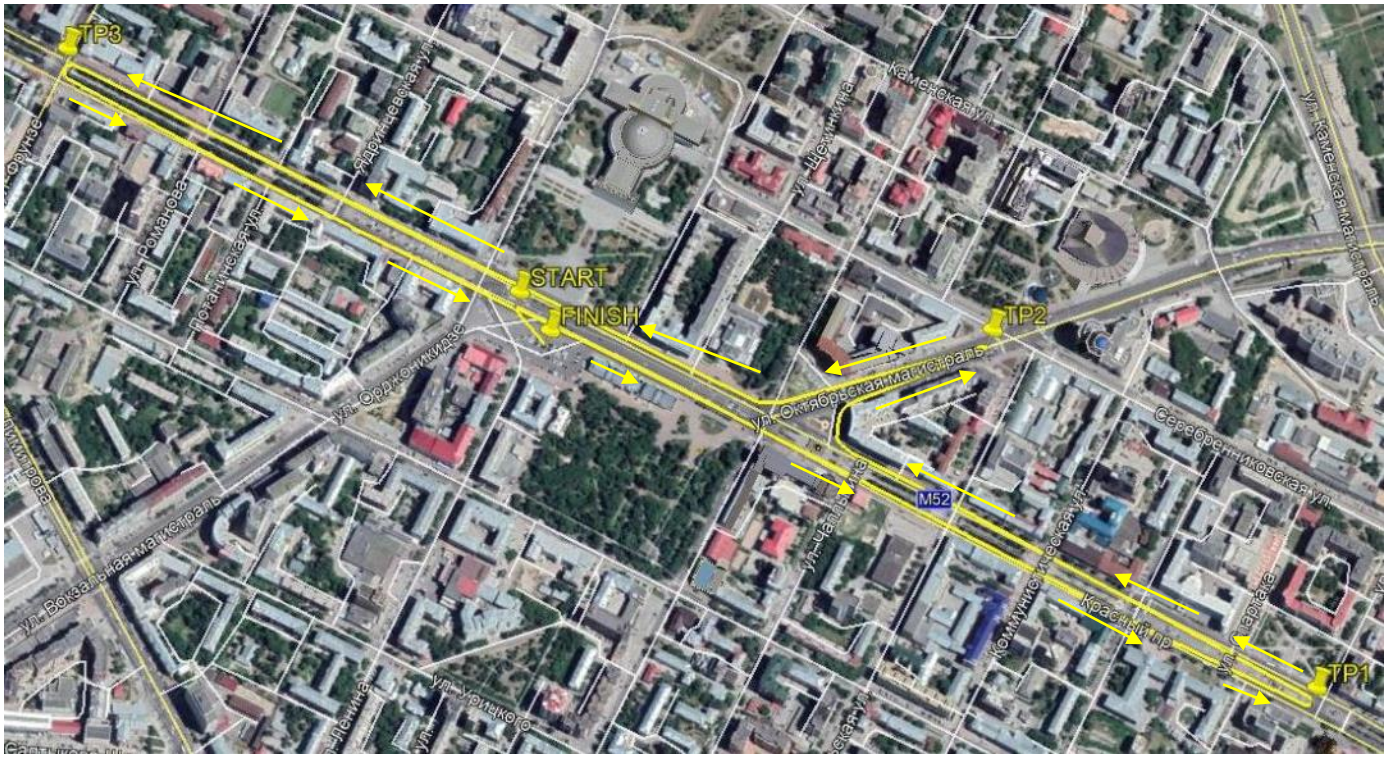
L(TP) = R*π = 4.08

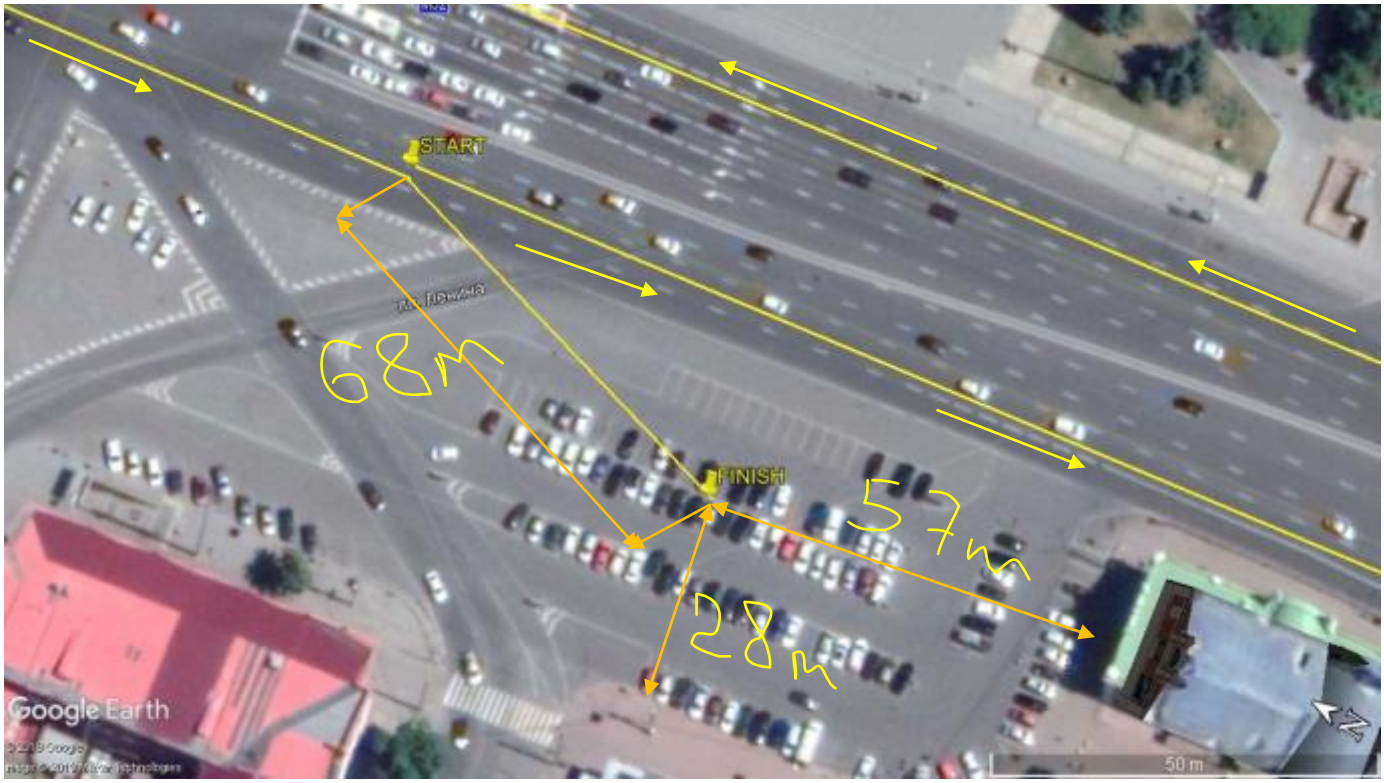
Length of 1 lap as measured:	**L1+L(TP)=**	**3984.52**	**meters**
Desired length of course 1 lap:		**4205.9**	**meters**
Final adjustment for 1 lap:		**+221.38**	**meters**

COURSE MAP

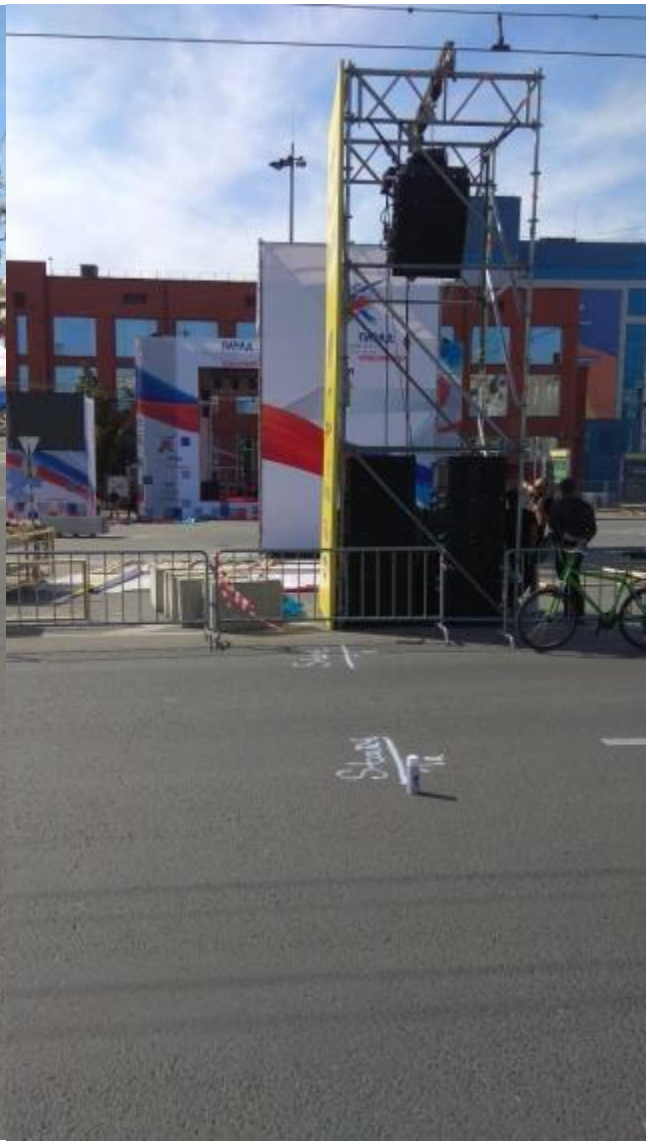
The course of the **Siberian Running Fest** passes on the streets (1 lap – 4205.9 meters; 21097,5 = 5 laps+68 meters):

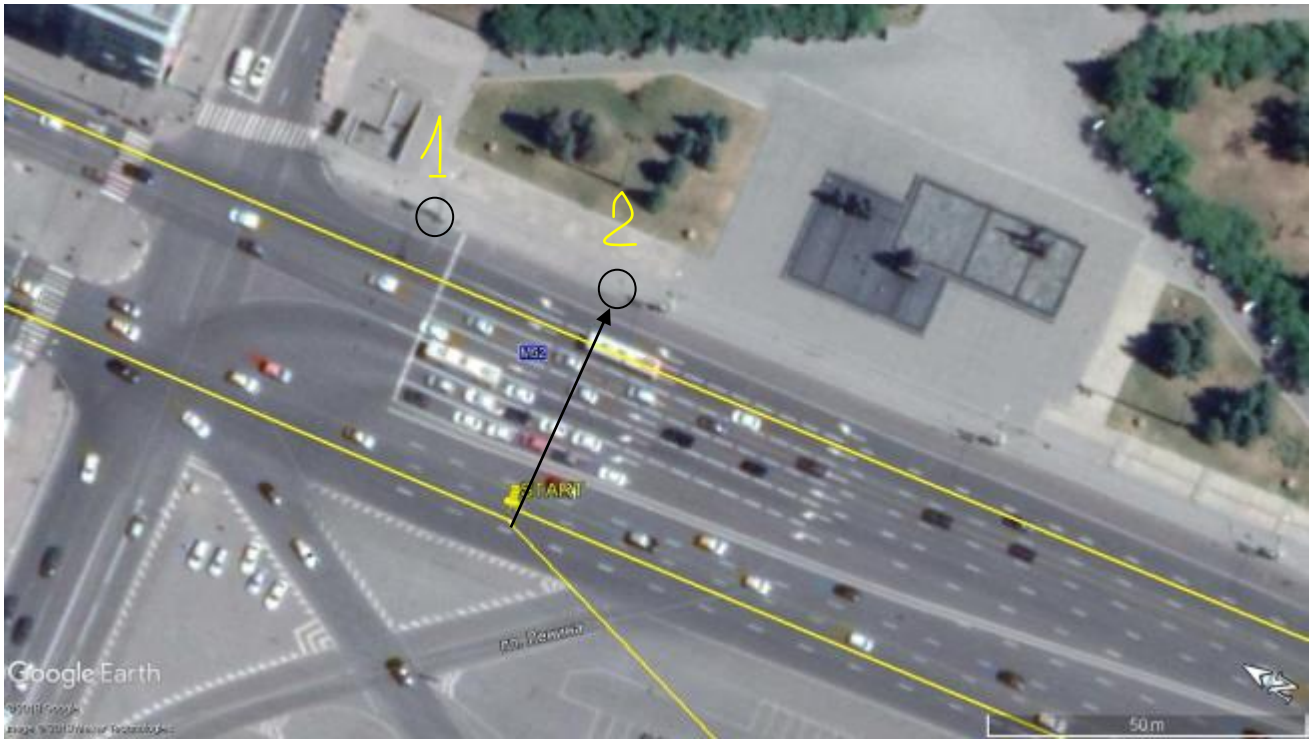
Lenin Square (Start) – Krasny ave. – **TP 1** – Krasny ave. – Oktyabrskaya st. **– TP 2** – Oktyabrskaya st. – Krasny ave – **TP 3** – Krasny ave **- Lenin Square (Finish)**



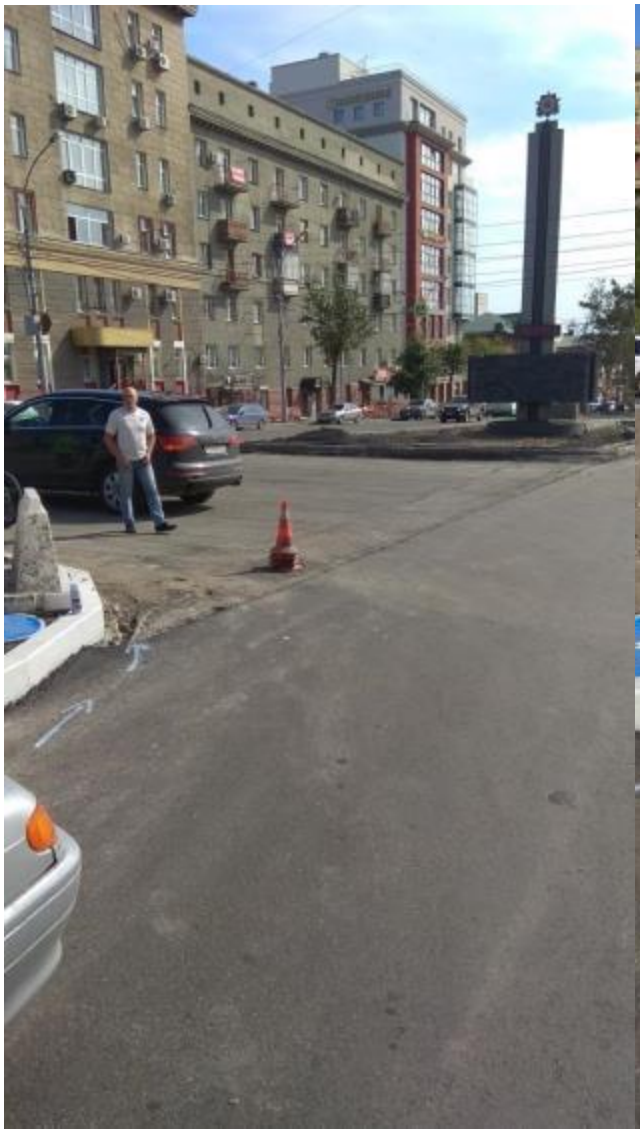


Start (The second pillar from Ordzhonikidze st., Latitude: 55.030427° longitude: 82.920129°)

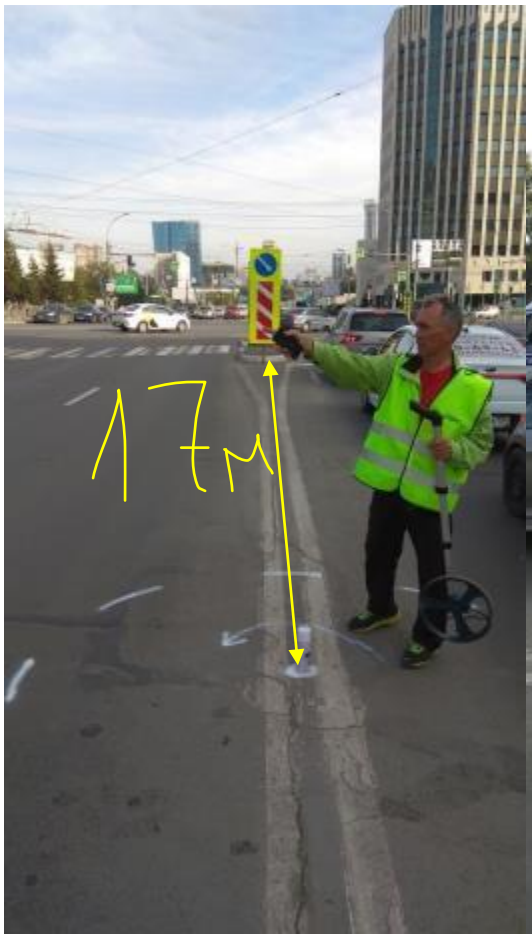




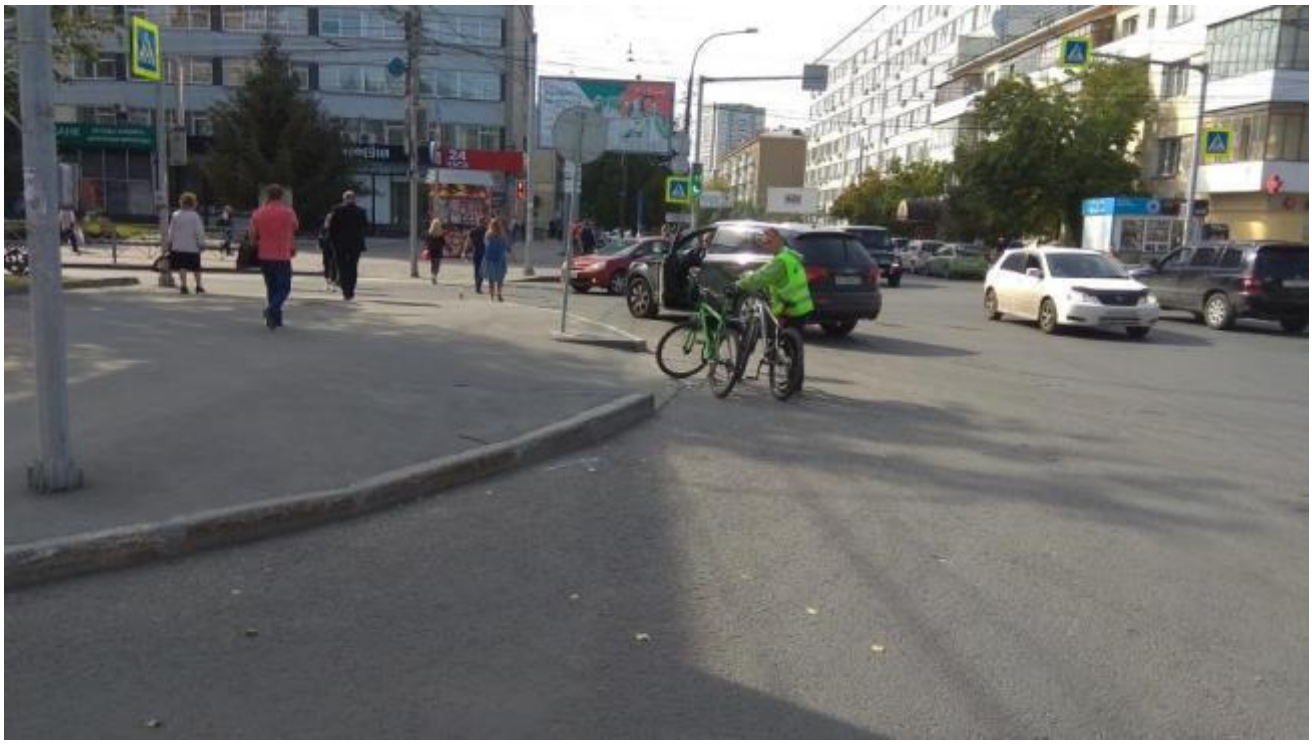
TP1 (Crossroad Krasny ave\Sibrevkom st,
dist.: 1.19km\5.396km\9.6km\13.807km\18.014km)



TP2 (Oktyabrskaya st.\Deputatskaya st. 17 meters to direction sign dist.: 2.17km\6.376km\10.582km\14.788km\18.994km)



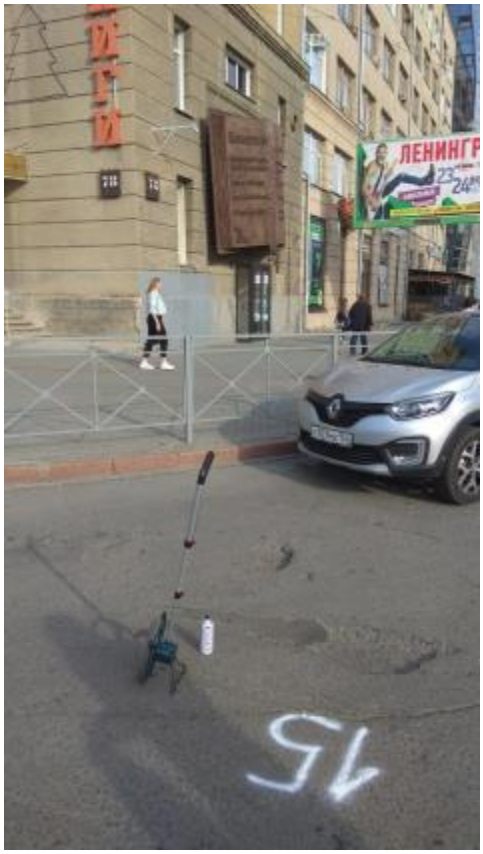
TP3 (Crossroad Krasy ave\Frunze st
dist.: 3.52km\7.726km\11.932km\16.138km\20.344km)



5 KM (Krasny ave, 11)

10 KM (Cofee shop “Chashka kofe”)

15 KM (Krasny ave. 78)



20KM (Krasny ave, 46)

Finish (Lenin Square, Parking. Krasny ave., 25. Latitude: 55.029859° longitude: 82.919848°)