



Type of study	COMMUNICATION ANALYSIS
Name and address of the Investment	Construction of the European Film Center CAMERIMAGE
Name and address of the Investor:	Europejskie Centrum Filmowe CAMERIMAGE Rynek Nowomiejski 28 87-100 Toruń
Name and address of the design company:	PRACOWNIA PROJEKTOWA EMDROG Tomasz Wiese ul. Polna 115/214 87-100 Toruń
Industry / Subject of the Study:	TRAFFIC ENGINEERING
Land and mortgage register unit no	046301_1

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Written on: 02.2021**COPY****1**

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- An analysis of communication services in the European Film Center CAMERIMAGE area in Toruń, issued by the Municipal Road Management Authority in Toruń on 29.12.2020.

- Site map

- Throughput analysis (3x)

1. The basis and subject of the study

The analysis was carried out on the basis of the following materials:

- A Contract for the performance of a communication analysis No ECFC.INW.4.2021 dated 20.01.2021;
- Announcement of the Minister of Investment and Development of 8 April 2019 on the consolidated regulation of the Minister of Infrastructure on the technical conditions to be met by buildings and their locations (Journal of Laws of 2019, item 1065, as amended);
- Regulation of the Minister of Infrastructure of 1 August 2019 amending the regulation on technical conditions to be met by public roads and their locations (Journal of Laws of 2019, item 1643, as amended);
- Resolution no. 811/05 dated 30.06.2005 establishing a zoning plan for the “Jordanki” area delimited by the following streets: Wały Gen. Sikorskiego, Czerwona Droga, Al. Jana Pawła II and the Ethnographic Museum;
- Resolution no. 532/09 dated 30.04.2009 amending the zoning plan for the “Jordanki” area marked with the symbol S4-U/ZP1, situated in Toruń;
- Resolution No. 491/13 of the Toruń City Council of 21 February 2013 on the zoning plan for the “Aleja Solidarności” area situated in the vicinity of the following streets: Al. Solidarności, Wały Gen. Sikorskiego and Uniwersytecka in Toruń;
- Draft zoning plan for the “Jordanki” area situated in the vicinity of the following streets: Wały gen. Sikorskiego, Czerwona Droga and al. św. Jana Pawła II in Toruń;
- 1:500 master map
- An analysis of communication services in the European Film Center CAMERIMAGE area in Toruń, issued by the Municipal Road Management Authority in Toruń on 29.12.2020.
- Traffic organization plan for the task titled “Extension of rail and road system in ul. Wały gen. Sikorskiego, Czerwona Droga and al. św. Jana Pawła II, with the construction of a tram-bus lane in Toruń - BiT - City II”;
- Directions and additional guidelines of the Investor;
- Site inspection

2. Subject and scope of the study

The subject of the study is a communication analysis for the purposes of preparing competition documentation for architectural concept for the European Film Center CAMERIMAGE in Toruń - in the context of the future construction of the Center.

The aim of the study is, among others, to:

1. determine the parking needs based on capacity data and the provisions of the Zoning Plan for the subject area,

2. indicate the volume of communication servicing the entire region /quarter/, including a breakdown into passenger cars and deliveries (taking into consideration the traffic associated with the CKK Jordanki building, the CSW building and the Marshal's Office),
3. indications of possible exits from public roads /entrances and exits/, including a determination of minimal technical parameters,
4. indication of threats stated in the road traffic safety analysis for existing and planned connections with public roads.

The analysis takes into consideration the communication needs of the planned investment and the existing buildings, accounting for the current state and the impact of planned investments in the vicinity of the planned ECFC complex.

3. Current state

The planned investment is situated in downtown Toruń (Jordanki area), in the vicinity of the Old Town Complex, in direct neighborhood of the Marshal's Office, the Culture and Congress Center (CKK) Jordanki and the CSW Center of Modern Art.

The area of the planned investment is the quarter delimited by the following streets: Aleja św. Jana Pawła II, Czerwona Droga, Aleja Solidarności and Wały gen. Sikorskiego.

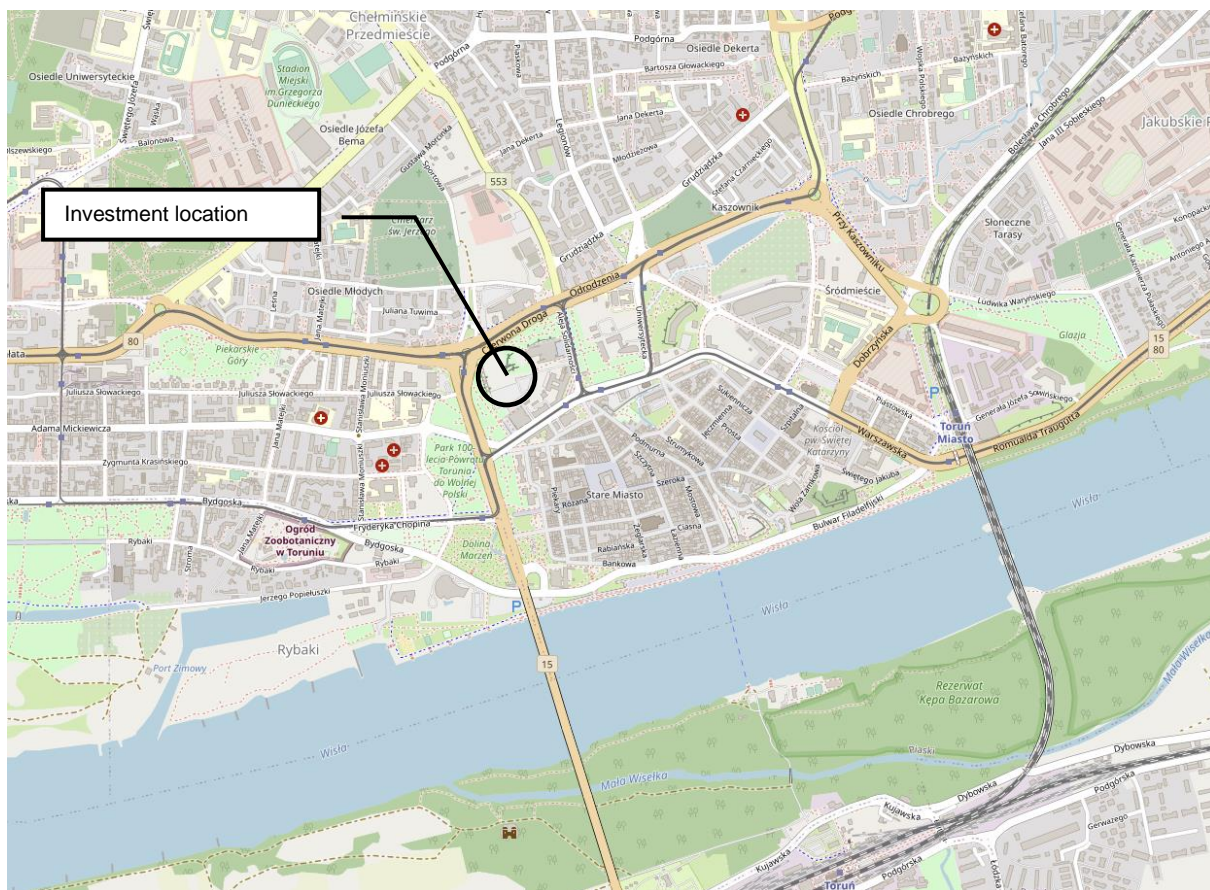


Fig. 1.0- General overview on a map of Toruń (Source <https://www.openstreetmap.org>)



Fig. 2.0 - General overview with a marking of the ECFC area (source <https://mtorun.webewid.pl/>)

3.1. Existing road system

The area of the planned investment is the quarter delimited by four streets:

Aleja św. Jana Pawła II national road no. 15	after the investment project titled <i>“Extension of rail and road system in ul. Wały gen. Sikorskiego, Czerwona Droga and al. św. Jana Pawła II, with the construction of a tram-bus lane in Toruń - BiT - City II”</i> is completed, it will be a two-lane, dual carriageway with a 3.25 m right-of-way (with a tonnage limitation to 12t), with accompanying pedestrian and bicycle infrastructure on both sides, and with a tram track in the middle main street (G)
Ul. Czerwona Droga national road no. 15 and 80	two-lane, dual carriageway with a primary right-of-way of 3.25m, including pedestrian-bicycle infrastructure on both sides, additional right- and left-turn lanes executed in junction areas; a tram track shall be located on the green belt in the middle main street (G)
Aleja Solidarności poviat road	Two-lane, dual carriageway restricted to mass transit vehicles, with a tonnage limitation to 3.5t, excluding municipal services; on the roadway, a separated bicycle lane in the northern direction and a tram track; pedestrian infrastructure present on both sides service road (Z)
Wały gen. Sikorskiego poviat road 3247C	two-land, dual carriageway with a right-of-way of 3.5m, with a tonnage limitation of 8t; separated bus lanes and a tram track on the roadway; sidewalks on both sides and bicycle lanes on the roadways service road (Z)

Traffic on all junctions in this quarter is controlled by traffic lights.

3.1.1. Traffic volume and measurements

Based on data obtained from the Municipal Road Authority on measurements and observations, it is hereby claimed that:

1. Primary traffic is conducted on the national roads, i.e. Czerwona Droga and Aleja Jana Pawła II, where the traffic volume will be 32000 vehicles/day in section by 2025 and 31000 vehicles/day
2. They are several times higher, compared to the poviat roads of Al. Solidarności (3000 vehicles/day) and Wały gen. Sikorskiego (8 000 vehicles/day).
3. On 21.01.2021, a measurement of pedestrian and bicycle traffic was carried out at 3.00-4.00 pm. in the area of the planned investment site, from the side of Rondo Niepodległości and the transfer hub in Aleja Solidarności, in order to estimate the

proportion of volume pertaining to unprotected road traffic participants from the western, northern and eastern sides of the investment site.

4. A significant difference in the volume of pedestrian traffic was noted; in the Rondo Niepodległości area, pedestrian traffic was minimal, compared to traffic reported for the eastern side (31 vs. 125 pedestrians/h);
5. Due to the closure of CKK Jordanki and the CSW Museum of Modern Art, the only “normally” functioning exit is the access road for the employees of the Marshal’s Office, where 122 people leaving the parking lot within an hour were counted.

A record of traffic volumes (together with forecasts for 2025) is presented below, together with completed measurements.

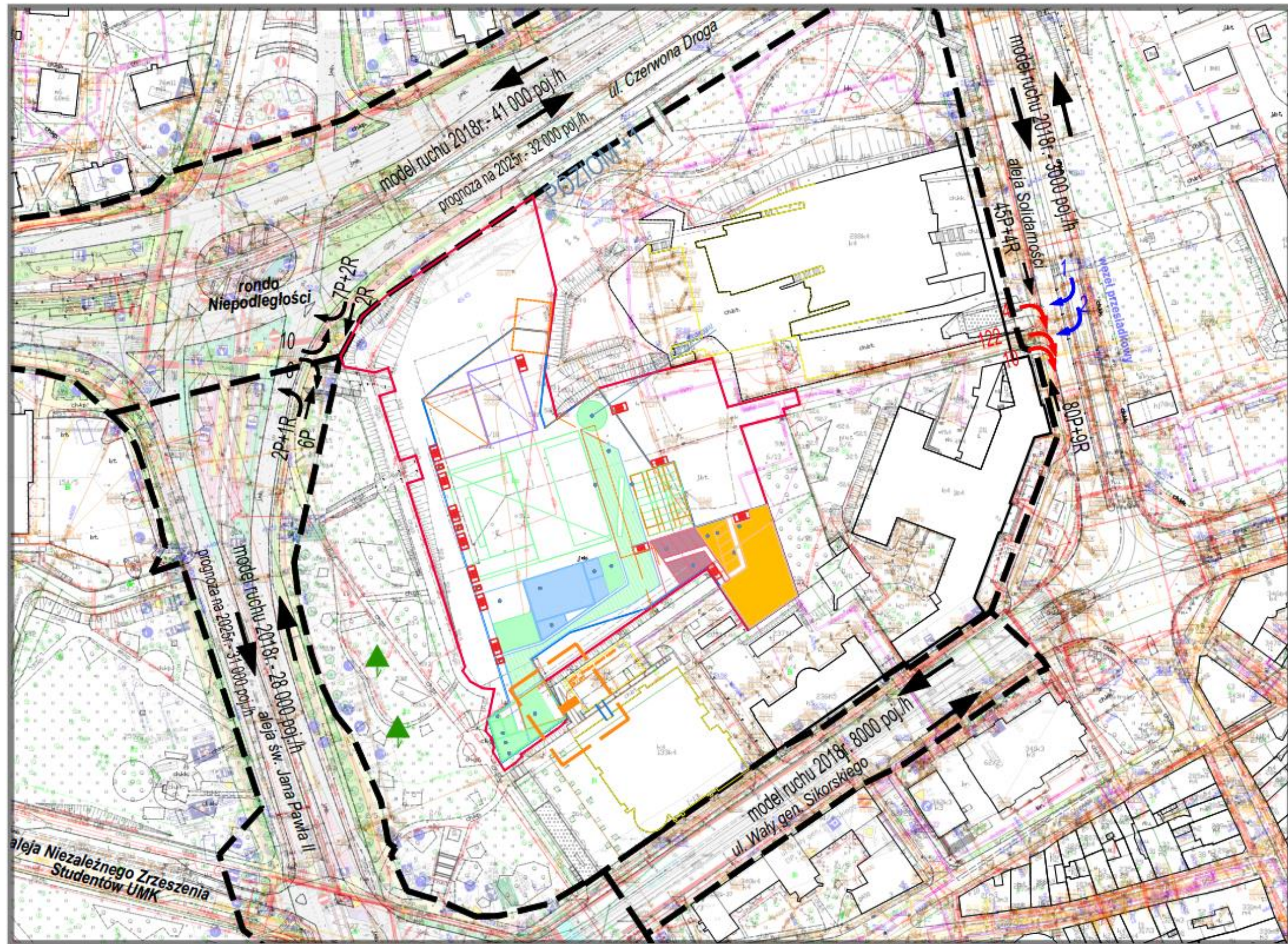


Fig. 3.0 - Traffic volume and measurements

3.2. Zoning Plan

Zoning Plans have been adopted for the areas surrounding the planned investment site, for which amendments are currently proceeded in connection with the ECF Camerimage project.



Fig. 4.0 - Effective Zoning Plan (source <http://mpu-torun.pl/?cat=3>)

1. Official Journal No. 89, item 1663 dated 28.07.2005 S4 - Zoning Plan "Jordanki" for the area delimited by: Wały Gen.Sikorskiego, Czerwona Droga, Al.Jana Pawła II and the Ethnographic Museum area
2. Official Journal No. 63, item 1254 of 24.06.2009 28.06 - amendment to the Zoning Plan "Jordanki" for the area marked with the symbol S4-U/ZP1
3. Official Journal Item 925 28.02.2013 74.06 -Zoning Plan "Aleja Solidarności" area situated in the vicinity of the following streets: Al. Solidarności, Wały Gen.Sikorskiego and Uniwersytecka
4. Official Journal Item 1396 dated 5.04.2017 104.07 - Zoning Plan "Nowe Centrum" for the area delimited by the following streets: Szosa Chełmińska, Czerwona Droga, Aleja 700-lecia Torunia, Sportowa, Morcinkaand Bema

The Zoning Plan in item 1 determines the intended purpose of the areas as communication development (a road system around the subject area) and the area which is the subject of the study. Zoning Plan no. 2 is a reference to the preceding document and changes the method of development of the investment area. However, the Zoning Plan is currently undergoing amendment no. 1 (item 4.1).

Purpose of the area:

- Aleja Jana Pawła II - S4-KD (G) 1 – main street
- Czerwona Droga - S4-KD (G) 2 – main street
- Aleja Solidarności - S4-K 5 – public communication areas - passenger service areas
- Wały gen. Sikorskiego - S4-KD (Z) 3 – service road

- area covered with plan no. S4-8/ZP 1 - public services in: culture, science and administration, with cultivated greenery

All of the listed areas, with the exception of the Aleja Solidarności area - S4-K 5 are covered with the draft Zoning Plan amendment.

3.3. Mass transit

The planned investment site is located in the city center, in the vicinity of the Old Town Complex. Due to the presence of the Marshal's Office and the CKK Jordanki center, it is a major hub in the public transport system.

In Aleja Solidarności, there are tram and bus stops used by 14 mass transit lines (excluding night routes). It is also the main pedestrian traffic route for people traveling in the direction of the Old Town or in the direction of the CKK Jordanki building, as well as those visiting the Marshal's Office building.

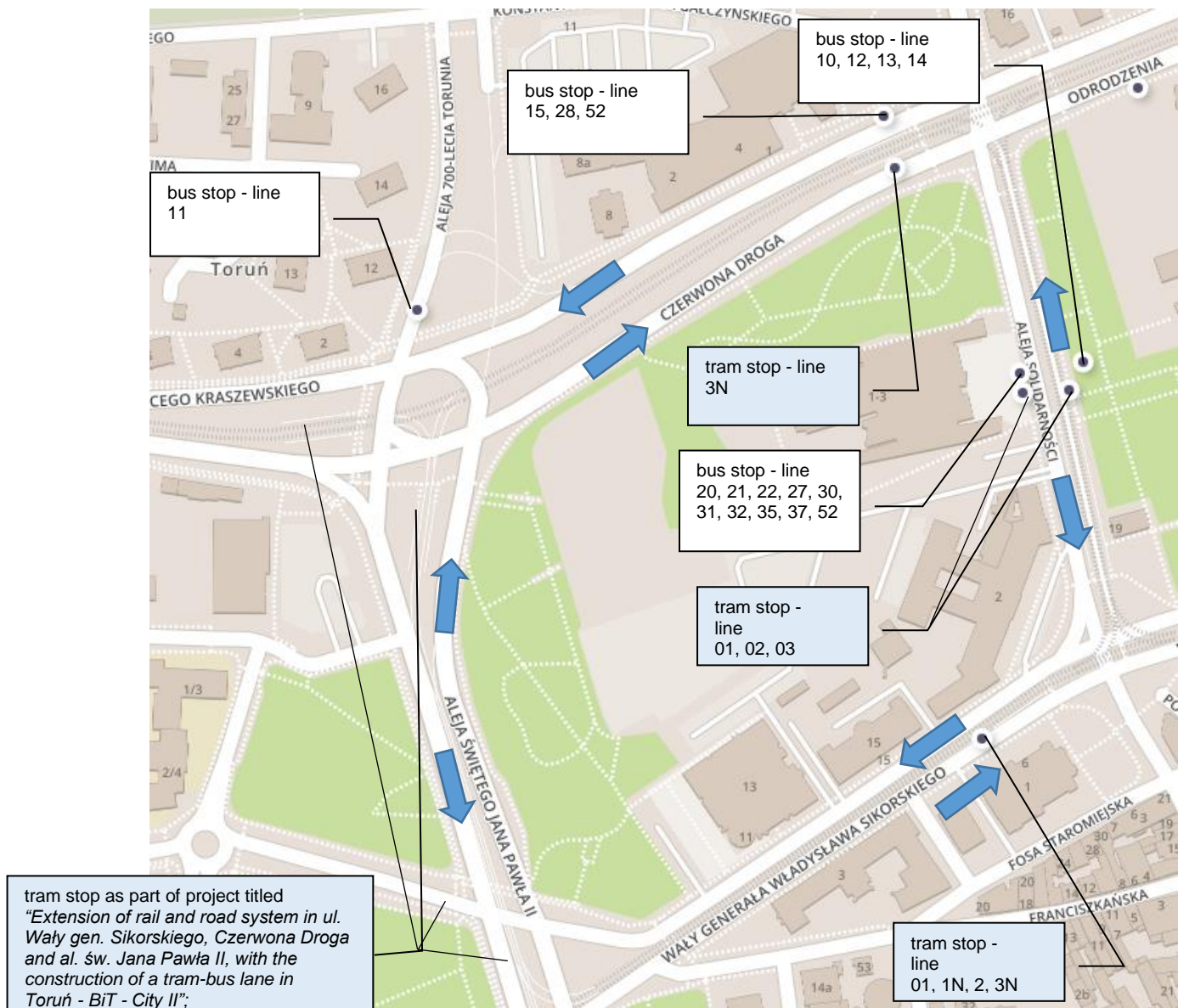


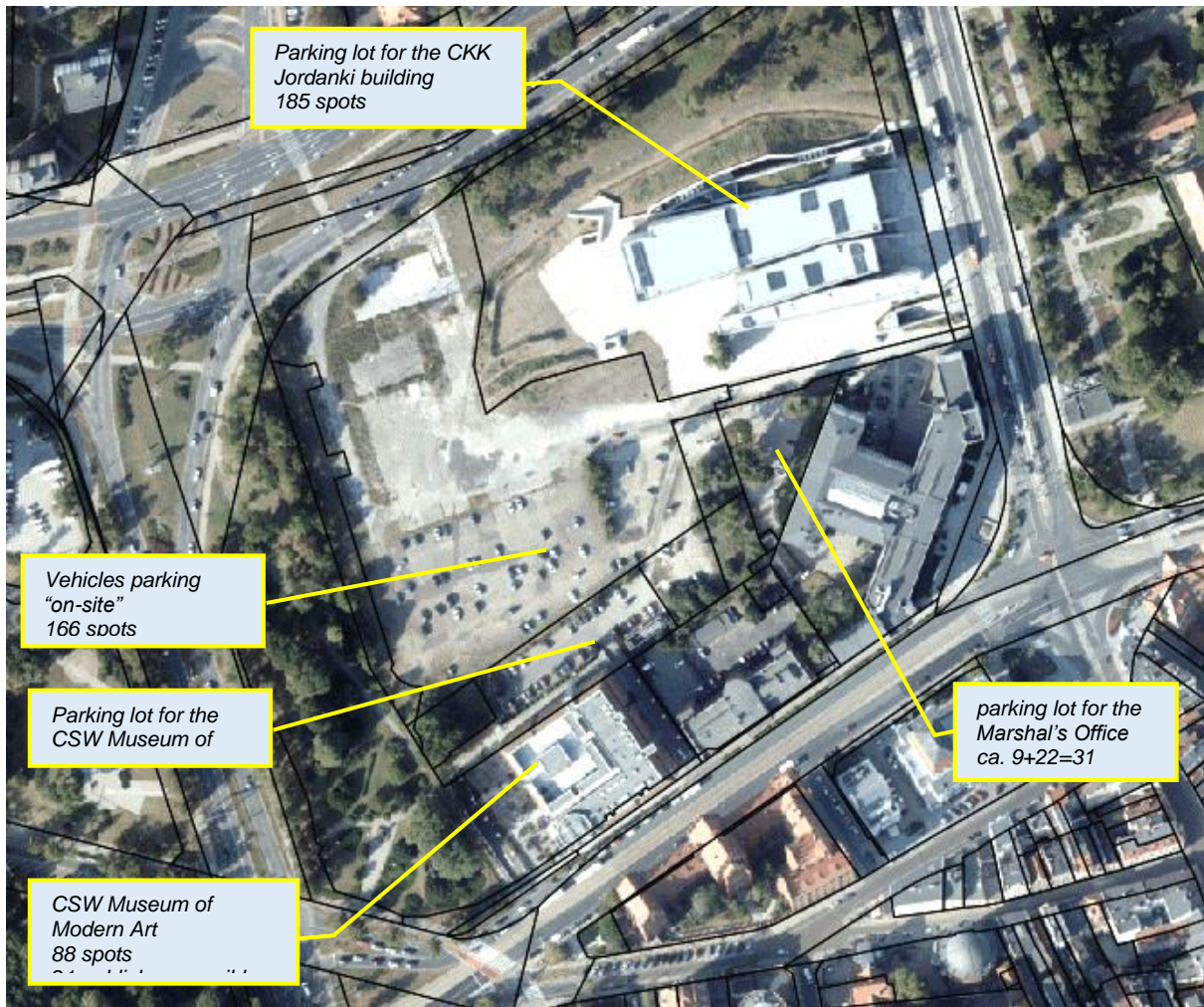
Fig. 5.0 - Location of public transport stops

3.4. Parking spots

Due to the location in the city center, and the neighborhood of facilities inducing traffic, the investment site is in high demand for parking spots.

Currently, each of the existing institutions has its own parking lot for staff and guests (a part of the parking spots in the form of paid envelopes). A record of the number of parking spots and their average occupancies is presented below.

The following record does not take into account the bank's parking lot, since it is a commercial parking lot, not publicly accessible.



3.4.1. Parking spots in the vicinity of the investment area

Apart from the aforementioned parking spots, the institutions neighboring with the planned investment are responsible for providing parking spots which could be (and are) by the visitors of the “Jordanki” area, situated within the walking distance of ca. 10 min. from the Investment site.

- a. next to the City Market - for ca. 135 vehicles
- b. along Al. 700-lecia Torunia - ca. 65 parking spots (nearly entirely occupied by the residents of the Osiedle Młodych residential estate).
- c. Near Cinema City, ca. 250 parking spots (hindered use due to payment at the cinema box office)



The remaining parking spots are located within the paid parking zone.

3.5. Paid parking zone

No.	Street name	envelopes	Current number of spots	Handicapped spots	total
1	Fosa Staromiejska	-	50	7	57
2	Pl. Rapackiego	-	13	-	13
3	Franciszkańska	2	-	10	10
4	Horzycy	-	5	2	7
5	Piekary	15	20	2	29
6	Kopernika	5	11	6	22

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7	Żeglarska	-	-	4	4
8	Ducha Świętego	4	-	4	8
9	Rabińska	4	16	-	20
10	Bankowa	-	8	-	8
11	Św. Jana	-	23	-	23
12	Łazienna	2	6	5	13
13	Mostowa	10	6	8	24
14	Ciasna	-	11	-	11
15	Podmurna	1	-	2	2
16	Strumykowa	-	-	5	5
17	Zaulek Prosowy	-	20	-	20
18	Dominikańska	-	10	-	10
19	Prosta	2	18	5	25
20	Małe Garbary	2	11	1	14
21	Ślusarska	-	8	-	8
22	Wielkie Garbary	1	3	4	8
23	Wola Zamkowa	-	42	4	46
24	Pl. Św. Katarzyny	-	60	6	66
25	Przedzamcze	-	10/7 hybrydy	-	17
26	W. G. Sikorskiego	-	37	-	37
27	Szczytna	2	-	4	6
28	Wysoka	-	13	-	13
29	Międzymurze	-	6	1	7
30	Sukiennicza	-	37	2	39
31	Jęczmienna	6	46	-	52
32	Browarna	-	8	3	11
33	Szumana	-	24	4	28
34	Piernikarska	1	15	-	16
35	R. Nowomiejski	1	11	2	14
36	Szpitalna	-	12	-	12
37	Uniwersytecka	-	23	8	31
38	Dąbrowskiego	-	45	4	49
39	Gregorkiewicza	-	27	-	27
40	Poniatowskiego	-	24	-	24
41	Warszawska	-	7	3	10
42	Św. Jakuba	-	86	-	86
43	Bulwar Filadelfijski	-	56	5	61
44	Św. Katarzyny	-	15	-	15
45	Pl. Związku Nauczycielstwa Polskiego	-	5	-	5
46	Panny Marii	5	-	-	4
47	Pod Krzywą Wieżą	1	-	-	1
Total "A"		64	848	111	959
1	W. G. Sikorskiego	-	190	7	197
2	Gregorkiewicza	-	108	3	111
3	Poniatowskiego	-	20	1	21
4	Piastowska	-	32	4	36
5	Jagiellończyka	-	15	1	16
6	Pl. 18 stycznia	-	-	6	6
7	Al. 500-lecia	-	15	-	15
8	Tujakowskiego	-	20	3	23
9	Mickiewicza	-	20	2	22
10	Legionów	-	40	-	40
11	Skrzyńskiego	-	67	3	70
Total "B"		0	527	30	557
TOTAL		64	1375	141	1516

A list of streets which, by resolution of the Toruń City Council (Resolution no. 281/03 of the Toruń City Council dated 4 December 2003, as amended - the last amendment on 01.08.2020), were included in the paid parking zone, is presented below. The resolution regulates both the size of the zone and the parking rates. The charges for parking on public roads in the Paid Parking Zone in Toruń are collected on business days, i.e. from Monday to Friday, from 8.00 am to 6.00 pm.

The range of the paid parking zones in the background of the Investment area (the red color is sub-zone A, the green color is sub-zone B) is presented below. It should be however taken into account that, due to the direct vicinity of the Old Town Complex, these spots are predominantly occupied by residents, tourists, hotel guests and apartment guests.

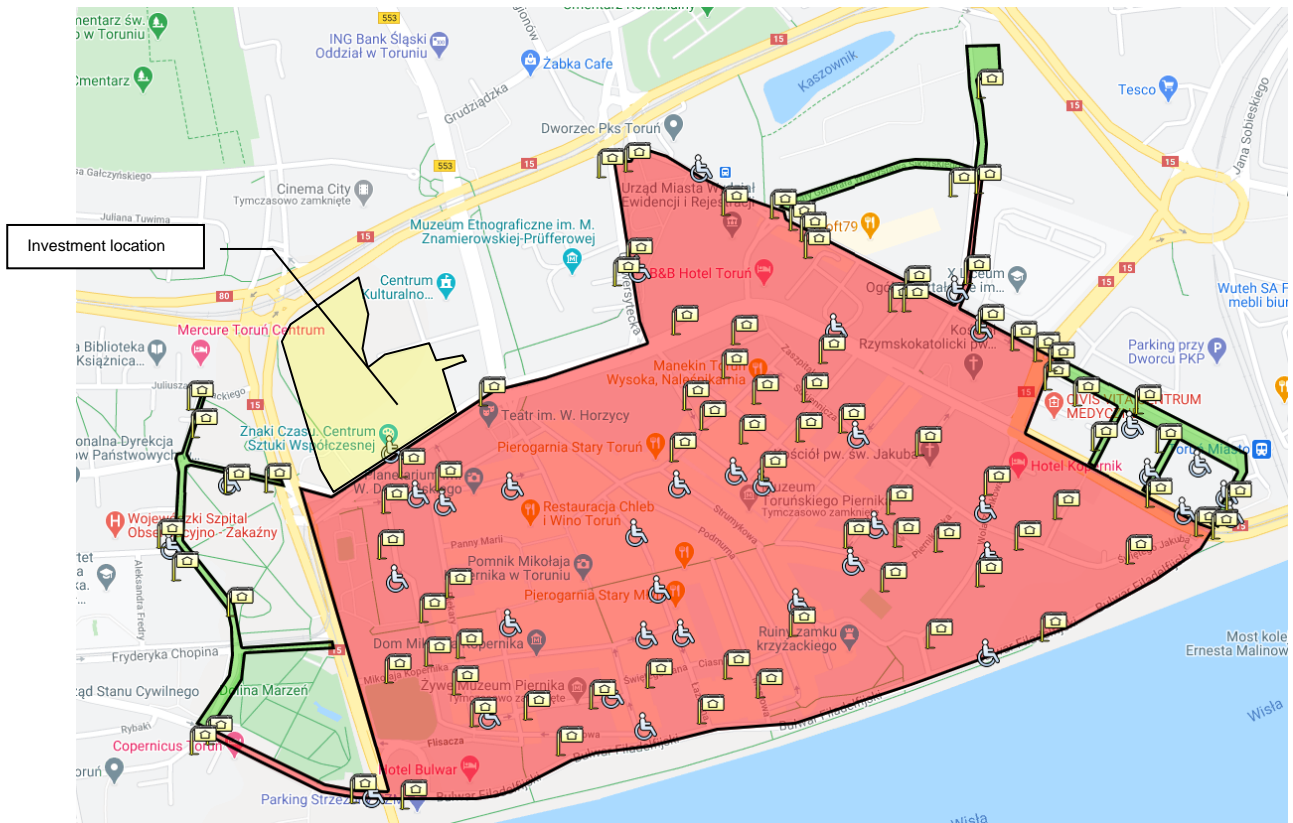


Fig. 7.0 - Paid parking zone (source *Municipal Road Management Authority in Toruń*)

3.6. Existing communication service

Communication in the area generally takes place in Al. Solidarności and Wały gen. Sikorskiego (no exit to the area from the national roads).

Each of the institutions located in the analyzed area has its own parking lot and exit.

The CKK Jordanki building has its own underground parking lot exit ramp (exit with a mandatory right turn) and a nearby exit ramp for deliveries and access to the back of the building.

The exit ramp used by CKK Jordanki for deliveries also serves as access road to the Marshal's Office parking lot, including to a non-arranged green area, ultimately for the purpose of the ECFC building.



Al. Solidarności. From the left: access to the parking lot for the Marshal's Office, "internal" (gate) / access to the parking lot and non-arranged areas; deliveries to the CKK Jordanki building / entrance to the underground garage for the CKK building



Wały gen. Sikorskiego From the left: pedestrian route / entrance to the underground garage for the CSW building / entrance to the underground garage for the CSW building



Wąły gen. Sikorskiego From the left: access road to the CSW building / access road to the BNP Paribas building



Wąły gen. Sikorskiego Gate between the BNP Paribas bank and the Office

3.7. Planned investments

The following investments are planned for the analyzed area:

1. extension of the CSW Museum of Modern Art shall consist in the construction of a new building to the North of the existing building, and the reconstruction of the site in the eastern part of lot no. 6/21 in area 14 (currently a parking lot for passenger cars); the project assumes the ground floor surface elevation for the new building at the same level to the existing building (+50.70 m

a.s.l.); the project also assumes the construction of 24 parking spaces accessed from ul. Wały gen. Sikorskiego;

2. extension of the Marshal's Office, together with the reconstruction of the area in lots no. 6/6, 6/13 and 6/15 area 14 intended for parking lots containing 86 parking spaces at ground level ("0") (from the northwestern side) and containing 99 parking spots at level "-1", accessed from Aleja Solidarności (parking lot at level "-1", respectively at -3.18m and -3.46 m relative to level $\pm 0,00$ of the building at ++52.22 m a.s.l.).

4. Designed state - the European Film Center CAMERIMAGE

The planned project assumes the following land development:

- Festival Center;
- House of Cinema (cinema auditoriums, cafe);
- Education Center;
- Film studio - Sound stage;
- Market (exhibition spaces);
- Foyer;
- Administration, communication, technical rooms;
- Grand square.
- underground garages

of ca. 25-26.000 m² in total area (without parking lot space).

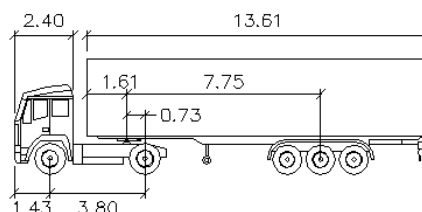
5. Communication analysis

1. The demand for parking spaces of the subject investment according to the draft amendment to the Zoning Plan is estimated for 250 parking spots, which should be situated in the underground garage at level "-1" (and possibly "-2"). Considering the ECFC complex itself (as a traffic-inducing facility) and the demand for parking spaces in the strict city center, it may be claimed that the construction of a parking lot for min 400-500 passenger cars would be justified. This potential is the result of slightly overestimated indicators (compared to the Zoning Plan) used to convert the number of individual 100m² parts of the usable space of services and 10 seats in the auditorium into parking spots; the Zoning Plan stipulates:
 - a. 1 spot for 100m² of usable service area,
 - b. 1 spot for 10 seats in entertainment facilities,
2. In order to guarantee the efficiency of communication for the entire "Jordanki" area, the Investor should strive to connect the ECFC, CKK Jordanki and CSW parking lots and the planned parking lot for the Marshal's Office, thus creating a common parking space of min $350+185+88+99=722$ spots (excluding the parking lot for the Marshal's Office at level "0"). Considering the official working hours of the office

(primarily 7.00 am - 4.00 / 5.00 pm), the hours of cultural events (late afternoon and evening), and the small likelihood of major events taking place in these three institutions at the same time, a parking space containing 600-650 parking spots can be obtained (a part of the spots will always be reserved - service vehicles, VIP, lease); this approach, combined with an efficient parking management system will significantly increase the comfort and attractiveness of each of the said institutions;

3. Based on information received from the managers of CKK Jordanki and CSW (data for 2019), a large part of the available parking spaces provided for the aforementioned institutions is leased against subscription; consequently, 67 parking spots remain in the CKK and 21 - in CSW. Implementing the recommendations/assumptions stated above, these institutions would be forced to change their parking policy;
4. Due to territorial limitations, direct vicinity to the Old Town Complex, the presence of buildings and green areas entered to the register of monuments (the Regional Railway Directorate building in Plac Teatralny 2 (record no. A/1383), the State Agricultural Bank building in ul. Wały gen Sikorskiego 15 (record no. A/1607), the greenery of the inner ring of the fortifications of the Toruń Stronghold in Al. św. Jana Pawła II and ul. Czerwona Droga, the idea to eliminate vehicles from the ground level, the possibility of communicating the analyzed area is limited.
5. According to the conditions for communication services of the Municipal Road Management Authority in Toruń dated 29.12.2020, traffic data, site accessibility and a preliminary concept for the arrangement of main ECFC components, 4 communication service areas are hereby designated:
 - a. "primary" (main) access road from the ul. Czerwona Droga - generally accessible:
 - i. access to the underground garage at level "-1" and possibly "-2";
 - ii. guaranteed access for delivery vehicles (including heavyweight tractors);
 - iii. guaranteed access for fire service vehicles, continued along the western frontage, and partially along the southern frontage, up to the exit near the CSW building towards ul. Wały gen. Sikorskiego;
 - iv. guaranteed access to the maneuvering yard next to the CKK Jordanki building (including for heavyweight tractors);
 - v. Due to one-way traffic on the southern roadway in ul. Czerwona Droga, the entrance / exit arrangement shall allow for right turns only.

- b. from Al. Solidarności - through the underground garage of CKK Jordanki - for passenger cars only - generally accessible;
 - c. from ul. Wały gen. Sikorskiego - through the underground garage of the CSW Museum of Modern Art - generally accessible
 - d. from ul. Wały gen. Sikorskiego - through a maneuvering road between the CSW building and the bank building (BNP Paribas) for delivery vehicles, fire service vehicles - limited-accessibility.
6. Considering the large-volume traffic in ul. Czerwona Droga (national road no. 15 and 80), access must be provided via a dedicated right-turn lane of sufficient width to accommodate trucks (min 3.25m in width and min 40.0m in length + 1:7 inclination and higher). The turn radius should guarantee full accessibility for delivery vehicles (including for heavyweight trucks, according to the following diagram) and for fire service vehicles (the exit will be the beginning of the fire service road).



Ciągnik siodłowy z naczepą

	metres		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 20.6
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

Passability shall be guaranteed to heavyweight tractors

- 7. The complex substrate conditions in the area significantly increase the cost of construction of level -2 of the underground garage.
- 8. Alternatively, delivery vehicles can access the site from ul. Wały gen. Sikorskiego and exit to ul. Czerwona Droga. However, for this purpose, it would be necessary to change the current traffic organization, due to the limited tonnage in Al. Solidarności (limitation to 3.5t) and ul. Wały gen. Sikorskiego (limitation to 8t).
- 9. The geometrical solutions proposed in the drawing should be treated only as rough estimations; detailed solutions must take into consideration environmental guidelines, the requirements of utility administrators, etc.
- 10. Accessibility for pedestrians;
 - a. The main pedestrian access route to the ECFC area is planned from Al. Solidarności, between the Marshal's Office building and the CKK Jordanki building - lots no. 6/1 and 7/1 in area 14. It is one of the primary roads routing pedestrian traffic to the Old Town Complex; it is also situated next to the

largest public transport hub in this part of the city; Ultimately: a grand passageway / pedestrian tract;

- b. Vehicle traffic on the said internal road should be limited to the bare minimum. Deliveries to the CKK Jordanki building should be performed only using the newly built access road from ul. Czerwona Droga.
- c. Other pedestrian access routes:
 - i. from the Northwest - on a sidewalk from ul. Czerwona Droga and pl. Niepodległości; Note! A pedestrian crossing should be provided on the Plac Niepodległości - Aleja Solidarności line, as an alternative to the passage along Al. Św. Jana Pawła II, thus creating a shortcut and a connection with the transfer hub in Al. Solidarności;
 - ii. from the West - passage next to the monument of St. John Paul II;

- 11. Expansion of Al. 700-lecia will limit the number of parking spaces available to local residents, and the generally available parking spaces found there will be eliminated (ca. 65 parking spots; the design does not assume any parking spots along the roadway). This will only increase the overall parking space deficit in this area.
- 12. Accessibility for the fire service must be also designed / ensured A fire service road conforming to the requirements of the Regulation of the Minister of the Interior and Administration of 24 July 2009 on the water supply for fire safety purposes and on fire safety roads (Journal of Laws of 2009, no. 124, item 1030) - shall be provided from the northern, western and southern side, via the fire safety road of $s=4.0\text{m}$ in width and situated at 5.0m from the building. From the East, the building will be accessible through the central square. Attention should be paid to the permissible longitudinal inclination of the fire safety road, which should be maximally 5% (this may apply to the southern facade of the building);
- 13. The data presented above, pertaining to the availability of parking lots, pedestrian traffic and bicycle traffic, is encumbered with error caused by the SARS-CoV-2 pandemic (closed cultural and education facilities, a large part of the Marshal's Office staff working remotely).

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