

Incident Assessment

Incident ID	CIV0018
Location	Kharkiv
Coordinates	49.9872, 36.2612 ¹
Date	24/02/2022 or 25/02/2022 (assessed)
Time	Likely around 11:30 EET

Description of the Events

On 25/02/2022 images surfaced online showing a 9M55k rocket section embedded into a street crossing next to a market in Kharkiv. 25/02/2022 saw heavy shelling of multiple districts of Kharkiv. The general direction of origin of the rocket motor was determined by analyzing the images of the rocket motor. The location of launch origin is likely found in a 20-70 km arc pointing in the direction of areas north of Kharkiv. At the time, Russian forces were in control of these areas.

Key Findings

- On 25/02/2022 at 11:35 EET, an image of the rocket section of a rocket motor embedded in a street crossing was posted on Twitter;
- The rocket motor appears to be a Smerch 9M55K rocket motor;
- The incident was geolocated to 49.9872, 36.2612;
- The impact location is a shopping area that includes a market;
- The area that was affected by the submunitions of this rocket was not identified;
- Due to the date of posting, this incident must have taken place on or before 25/02/2022;
- According to news reports, on that date there were more impacts in the area;
- While the exact location of launch was not identified, it was possible to identify the general direction of origin.

Description of Searches

The CIVHARM sheet lists three sources for this incident (Source 1, 2 & 3). These sources point to an image of the incident within three different Telegram posts.

Further searches were conducted to find any other relevant footage of the incident, search terms included the general location as well as the specific address.

¹ <https://maps.app.goo.gl/c1VUj5yA6gZ777mk6>

Background Summary of Significant Descriptive Content

Media Reports

- [Бойовики обстріляли Харків з "Градів" - фото²](#);
- [Фотофакт: Российские ракеты прилетели на Конный рынок в Харькове³](#);
- [В Харькове не осталось безопасных районов - Терехов - Город X⁴](#);
- ["Привет от Путина": снаряды посреди улиц в Харькове - 24 Канал⁵](#);
- [https://harkiv.novyny.live/ru/rossiiskie-voiska-obstreliali-zhilye-kvartaly-kharkova-iz-uraganov-i-smerchei-foto-40967.html⁶](https://harkiv.novyny.live/ru/rossiiskie-voiska-obstreliali-zhilye-kvartaly-kharkova-iz-uraganov-i-smerchei-foto-40967.html).

Other

- Telegram: message from [Kharkiv City Council](#)⁷ about the situation on February 25th 2022.

Analysis of Examinable Content

Three relevant pieces of examinable content were identified which depict this incident:

Source 1: https://t.me/nexta_live/17149⁸

Posted: 25/02/2022 at 10:40 CET / 11:40 EET

The post shows the rocket motor of a rocket sticking out of the ground on a crosswalk. The source added the following text to the post: “В Харькове засняли неразорвавшуюся ракету”, which translates to “An unexploded rocket was filmed in Kharkiv.” This appears to be the same as the Image 1 of Source 2; and as the Source 3, but without the bottom of the image cropped away.

² <https://parlament.ua/news/bojoviki-obstrilyali-harkiv-z-gradiv-foto/>

³ <https://glavnoe.in.ua/news/n357081031-fotofakt-rossijskie-rakety-prileteli-na-konnyj-rynok-v-harkove>

⁴ <https://gx.net.ua/obshhestvo/region/v-harkove-ne-ostalos-bezopasnyh-rajonov-terehov.html>

⁵ https://24tv.ua/ru/privet-ot-putina-snarjady-posredi-ulic-harkove_n1878557

⁶ <https://harkiv.novyny.live/ru/rossiiskie-voiska-obstreliali-zhilye-kvartaly-kharkova-iz-uraganov-i-smerchei-foto-40967.html>

⁷ <https://t.me/citykharkivua/3411>

⁸ https://t.me/nexta_live/17149



Source 1, Image 1 (S1I1).

Source 2: <https://t.me/vorposte/13720>⁹

Posted: 25/02/2022 at 10:41 CET / 11:41 EET

The post shows two pictures, one picture is the same as source 1. The second picture is the same rocket motor but taken from a different angle. The picture was taken from inside of a car. The source added the following text to the post: "Пешеходный переход в Харькове был успешно поражен", which translates to "A crosswalk in Kharkiv was successfully struck." This appears to be the same image as Source 1, but with the bottom of the image cropped away.

⁹ <https://t.me/vorposte/13720>



Source 2, Image 1 (S2I1) and Source 2, Image 2 (S2I2).

Source 3: <https://t.me/KharkivTODAY1/3065>¹⁰

Posted: 25/02/2022 at 10:37 CET / 11:37 EET

The post shows the same picture as Source 1 Image 1 and Source 2 Image 1. The source added the following text to the post: “Снаряды упали на Конном рынке и на Киевской”, which translates to “Shells fell on Konniy Market and Kievskaya.”



Source 3, Image 1 (S3I1).

¹⁰ <https://t.me/KharkivTODAY1/3065>

Source 1 through Source 3 all show the same munition remnant at the same location. The investigator determined that the munition remnant fell at the following location: [49.9872, 36.2612](#)¹¹.

The investigator took the following steps to confirm the location where this incident took place:

Step 1: Source 3 names a location 'Конном рынке' or 'Konniy Market'. A search on [Google Maps](#)¹² showed a market in Kharkiv with the same name.

Step 2: Comparing the satellite images to the pictures from Source 1, 2 and 3 gives enough indications it might be the right location, including:

- Wide road with double lanes;
- A median strip with streetcar rails;
- Multiple crossovers

In the background of Source 1 there is a store with a red storefront. Checking the crossroad, a store with a similar storefront and name can be found on [Google Street View](#).¹³

Step 3: A reverse image search was conducted to find the earliest available copy of Source 1 to determine the time of this specific attack. It was not possible to determine the exact time of the attack. Source 3 was identified as having been posted 3 minutes earlier than Source 1, but with the bottom of the image cropped away.

This [post](#)¹⁴ was found by doing the reverse image search and was posted on 25/02/2022 at 10:35 CET / 11:35 EET.

¹¹ <https://maps.app.goo.gl/AhJg7QPdTdRZVPkg9>

¹² <https://goo.gl/maps/x8tabtJ42vjQCgTXA>

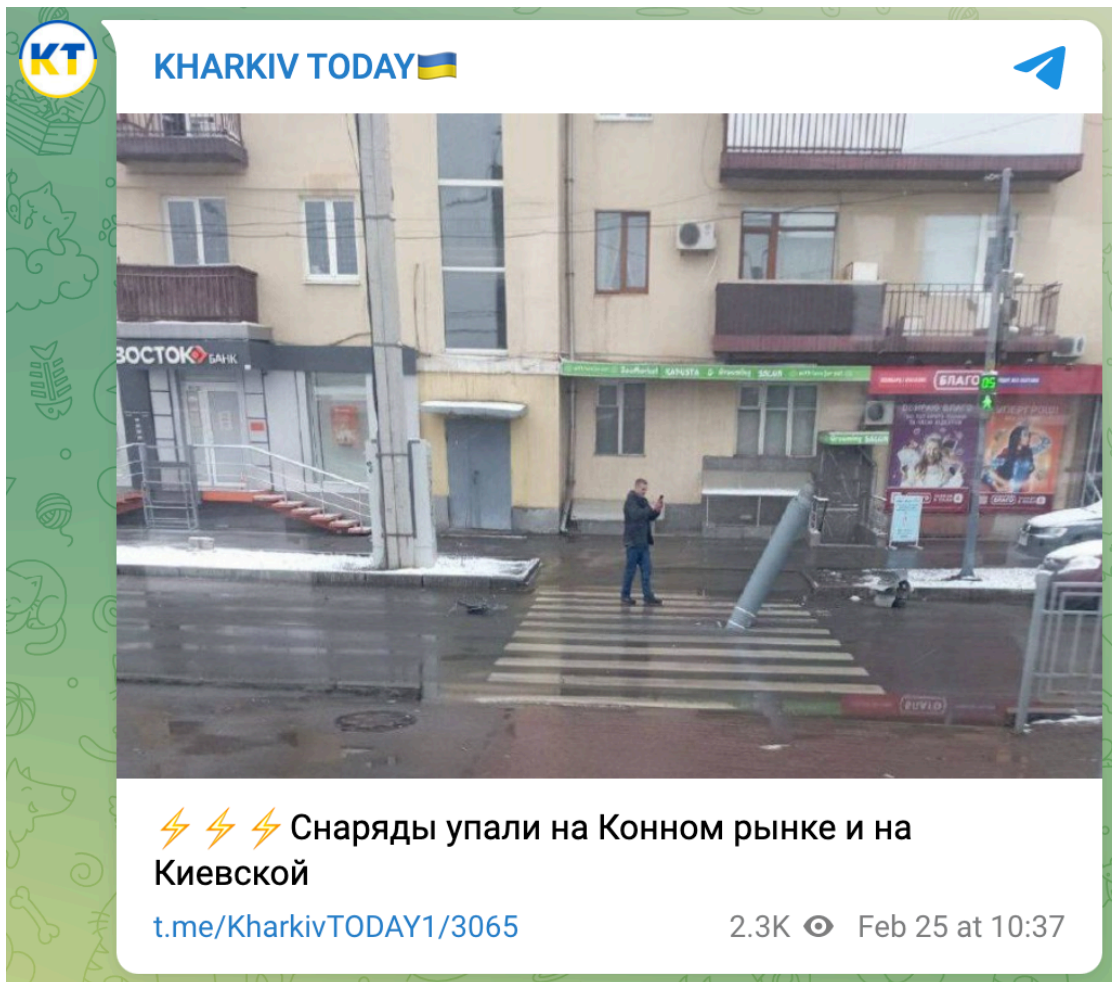
¹³ <https://goo.gl/maps/zHYYVfvKYu9zf8xV6>

¹⁴ <https://twitter.com/bazabazon/status/1497143218206613504>

Questions to Investigate

Where Was the Incident?

The image from Source 3 was posted on Telegram in the [Kharkiv Today](https://t.me/KharkivTODAY1)¹⁵ channel on 25/02/2022 at 11:37 EET with the following caption: “Снаряды упали на Конном рынке и на Киевской”, which translates to: “Shells fell on Konniy Market and Kievskaya.”



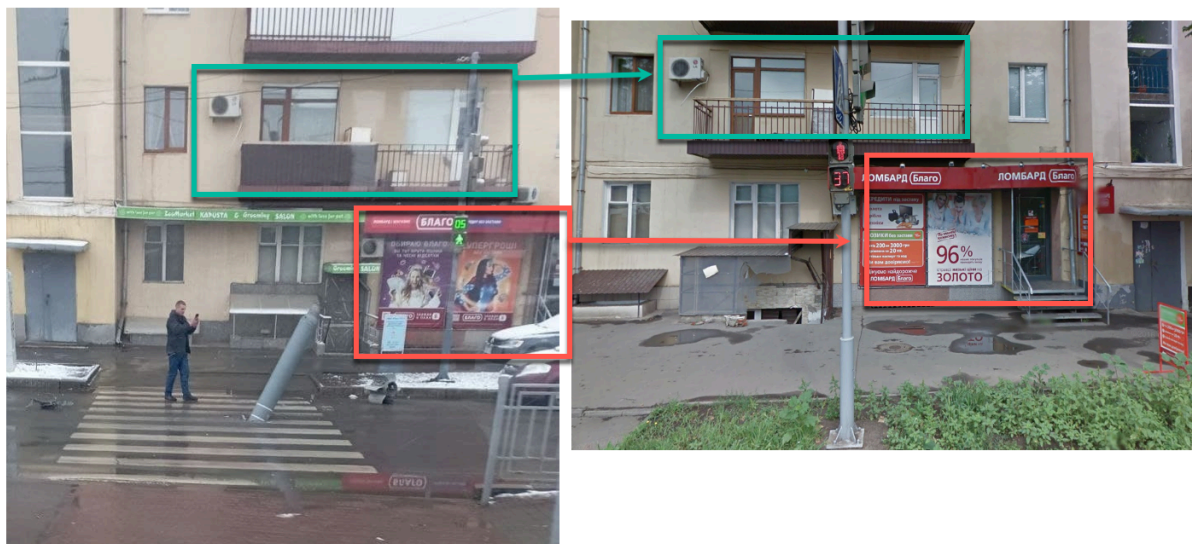
S3I1: A picture of what appears to be a Smerch 9M55K rocket sticking out of the crosswalk. In the background a store with a red storefront can be seen.

The location mentioned in the caption helped to geolocate the incident. The investigator determined that the location of the incident was Ukraine’s Defenders’ Square (майдан Захисників України), Kharkiv at [49.9873, 36.2612](https://maps.app.goo.gl/3JE4HBkR8iQsvTGV8)¹⁶.

¹⁵ <https://t.me/KharkivTODAY1/>

¹⁶ <https://maps.app.goo.gl/3JE4HBkR8iQsvTGV8>

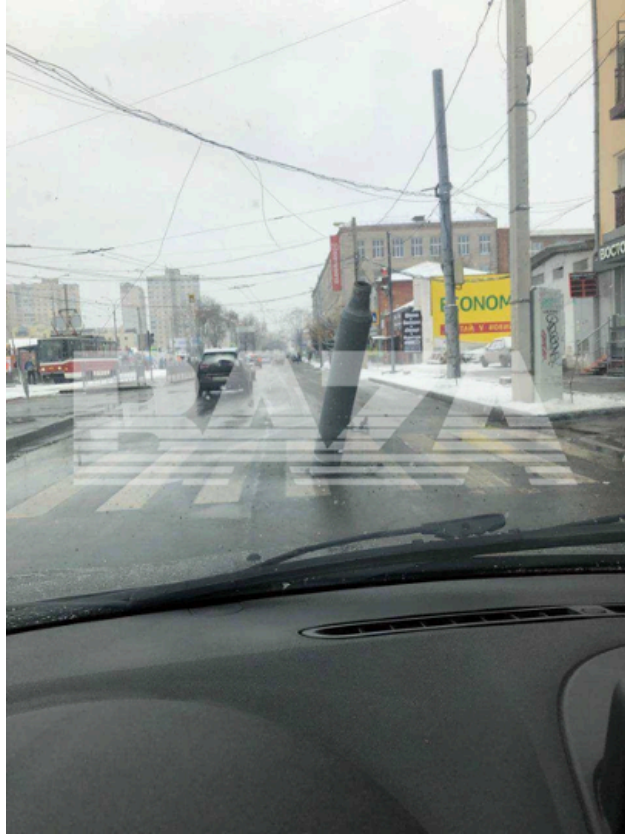
The location was identified with Google Street View. Note that this Street View imagery is from June 2015, and as such some details have changed at this location. Despite that, the location is still easily identifiable.



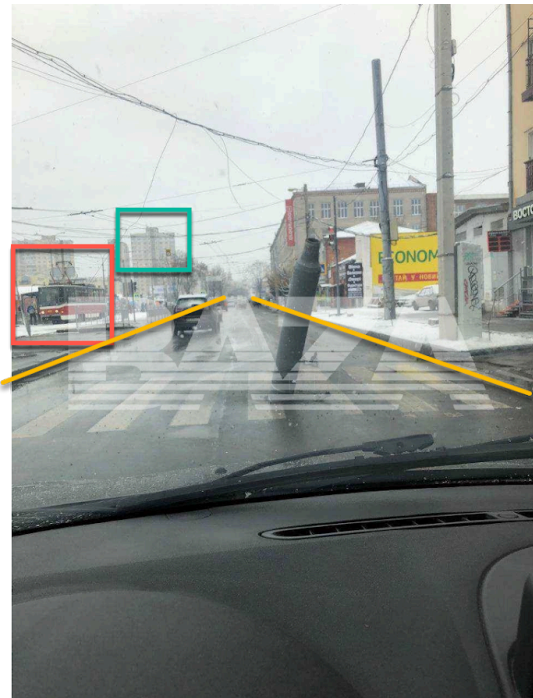
*Left: S3I1 shows matching features of the building in the back, highlighted in red and green squares.
Right: These features can also be seen in Street View images.*

The image 2 from Source 2 was posted on the Telegram channel [Vorposte](https://t.me/vorposte/)¹⁷ along with the following caption: “Пешеходный переход в Харькове был успешно поражен”, which translates to “A crosswalk in Kharkiv was successfully struck.” It was posted on 25/02/2022 at 11:41 EET.

¹⁷ <https://t.me/vorposte/>



S2I2: A picture of what appears to be a Smerch 9M55K rocket with the double lane and the median strip with streetcar rails.

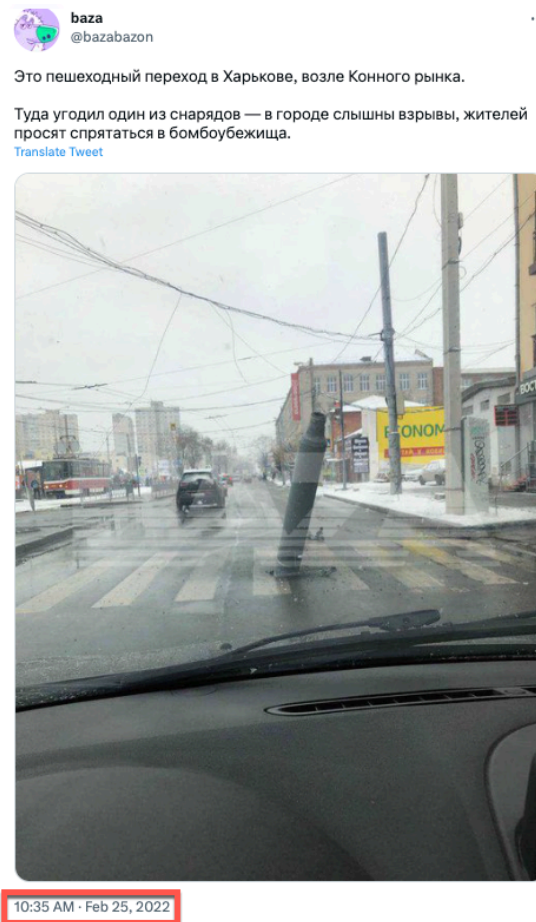


Left: S2I2. Right: A view from Google Street View, highlighting a tram stop (red square), the same high rise (green square) and the double lane (yellow lines).

When Was the Incident?

The earliest identified [Twitter post](#)¹⁸ regarding this incident is the post shown below, which was posted on 25/02/2022 at 11:35 EET. The invasion of Ukraine began on 24/02/2022, making it implausible that this incident took place before that date. The reverse image search on the source revealed no other images of the same rocket or location before 25/02/2022. The weather seen in the sources, including visible snowfall, is also consistent with 25/02/2022, as it snowed in Kharkiv on that date, but not 24/02/2022.¹⁹ Based on this information, the investigator determined that the incident likely occurred on 25/02/2022.

Due to the earliest post showing this incident having been made at 11:35 EET, the event must have occurred before that time. One news [report](#)²⁰ states that the city was shelled at “about 11:30”²¹, which would be consistent with content being posted shortly after.



Note that the time shown above is in CET, an hour behind EET.

¹⁸ <https://twitter.com/bazabazon/status/1497143218206613504>

¹⁹

https://open-meteo.com/en/docs/historical-weather-api#latitude=49.98&longitude=36.25&start_date=2022-02-24&end_date=2022-02-27&hourly=snowfall&timezone=Europe%2FMoscow

²⁰ https://24tv.ua/ru/privet-ot-putina-snarjady-posredi-ulic-harkove_n1878557

²¹ https://24tv.ua/ru/privet-ot-putina-snarjady-posredi-ulic-harkove_n1878557

What Kind of Munition Was Used?

The munition seen appears to be a rocket motor of a Smerch 9M55K rocket, a surface-to-surface cluster munition rocket with a payload of cluster submunitions.

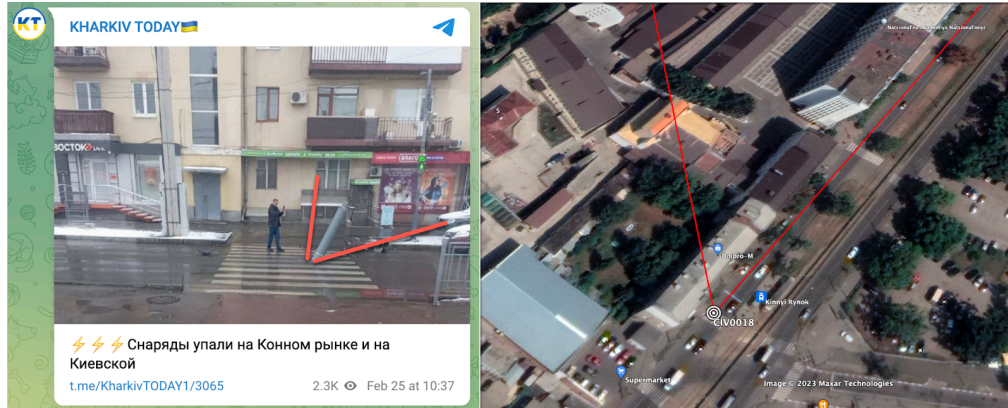


Left: S3I1. Right: Smerch 9M55K reference photos and identifiers (Twitter: [Mark Hiznay](https://twitter.com/MarkHiznay)²²).

Is There Any Evidence of the Direction the Munition Came from?

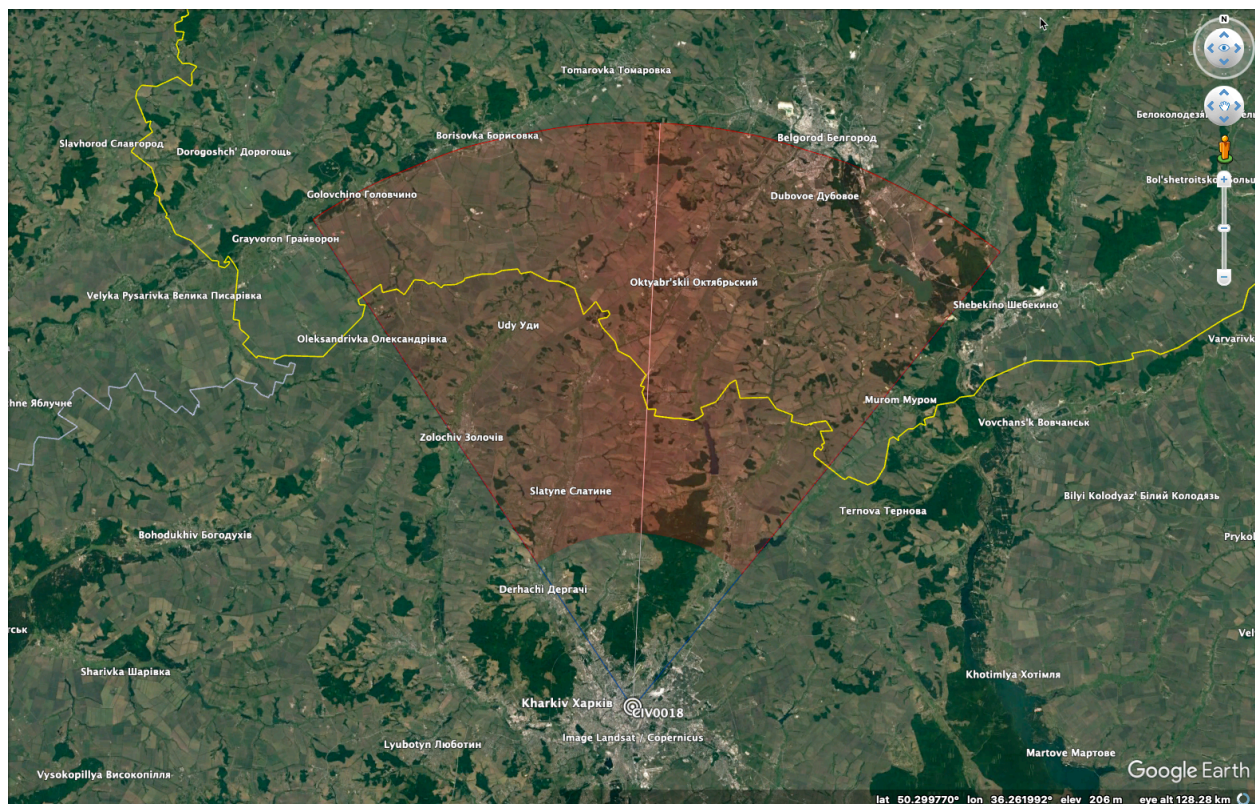
The general direction of origin was established by assessing the further left and furthest right of the arc that the rocket could have originated from, based on the observed angle of impact. This resulted in an arc of 74 degrees. The direction of origin was then assessed using this left and right of arc as guidelines. This resulted in an assessed direction of origin of 4 degrees from north.

²² <http://twitter.com/markhiznay/status/562642484938149888>



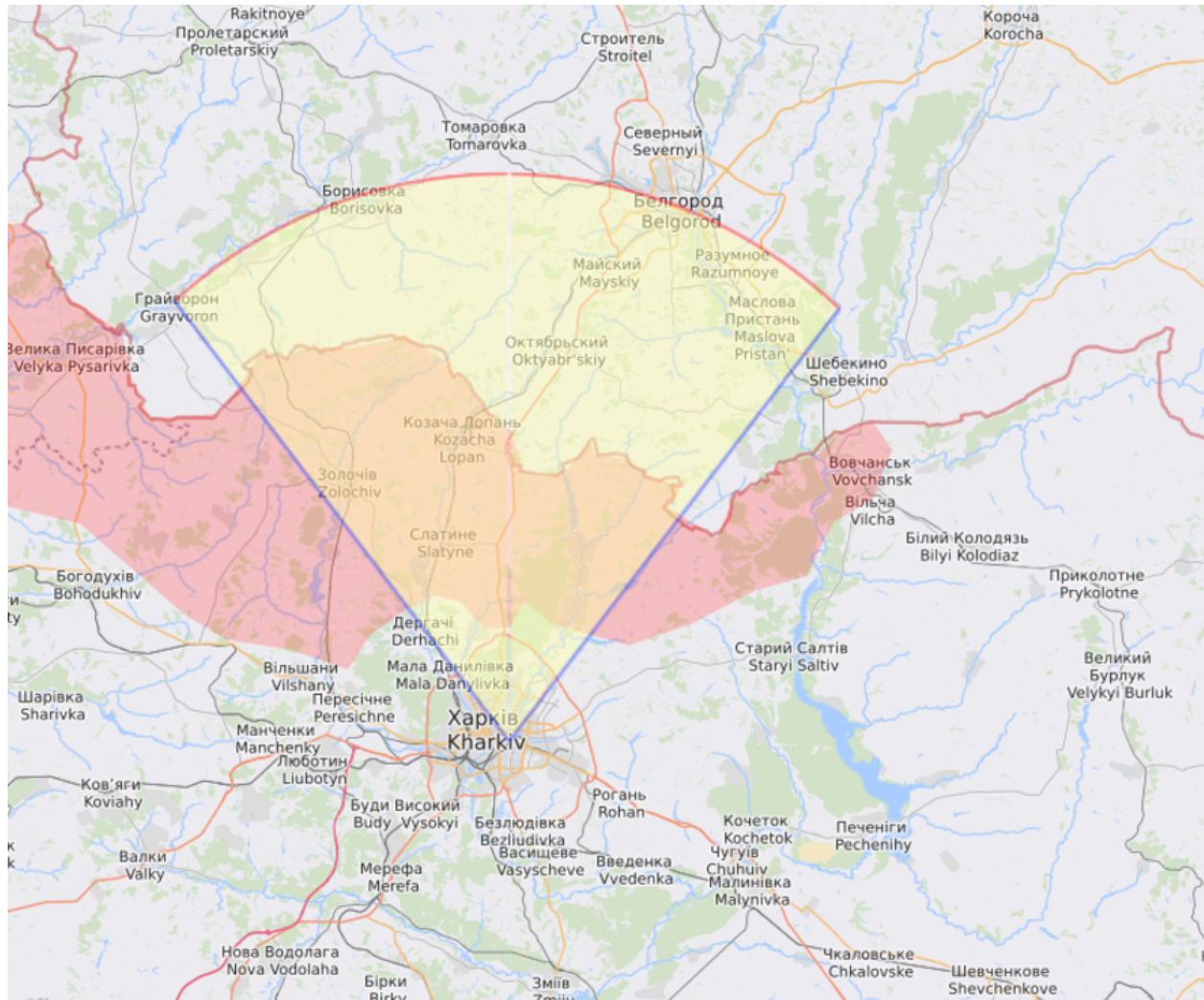
Left: assessment of angle of origin using Sources 1,2,3. Right: representation of an angle in satellite imagery from 08/02/2021 (Credit: Google Earth Pro/Maxar Technologies).

The 9M55k rocket is fired from a BM 30 system which, according to [Army Recognition](https://www.armyrecognition.com/russia_russian_army_vehicles_system_artillery_uk/bm-30_smerch_9k58_300mm_multiple_rocket_launcher_system_technical_data_sheet_information_description.html)²³, has a range of 20 to 70 km. When combined with a standardized arc placed over the direction of origin, this gives us a likely area of origin within which this 9M55K was fired.



Satellite image from Google Earth Pro, center of arc in blue and 20 km to 70 km arcs plotted in red (Credit: Google/Landsat/Copernicus).

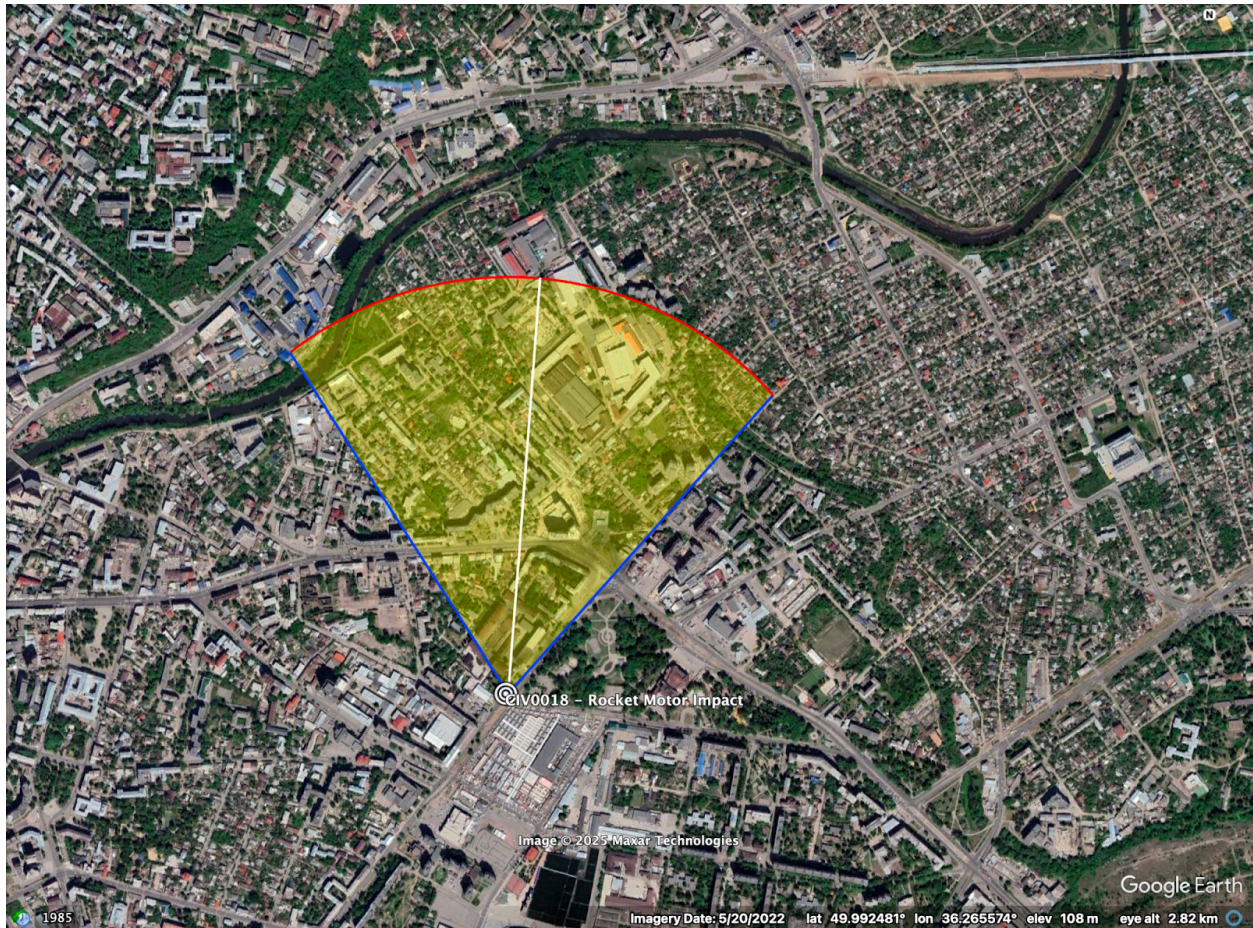
The 20 km - 70 km arcs can be compared to a map of areas which were reported to be under Russian control for the period starting on 25/02/2022, which is the earliest reported date of the incident. It should be noted that the areas of control within the graphic below should be regarded as rough estimates.



Map of areas which were reported to be under Russian control on 25/03/2022. Source: [Liveuamap](https://liveuamap.com/en/time/25.02.2022#)²⁴.

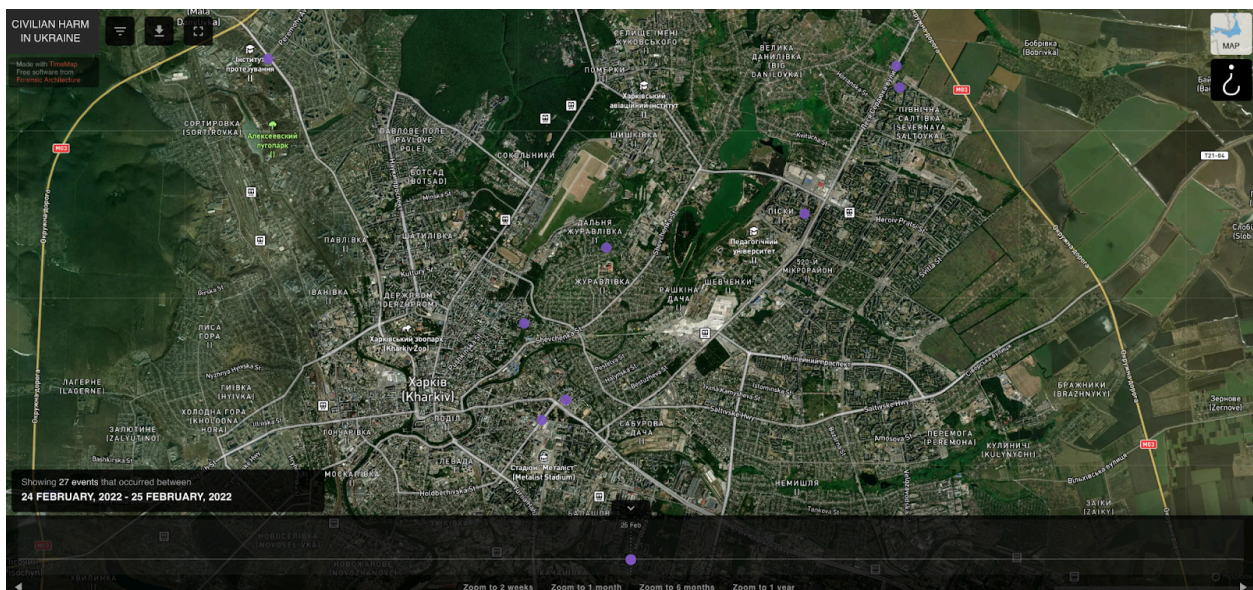
The possible area of impact for submunitions fired from this rocket can be calculated by plotting an arc ranging 1 kilometer from the point of impact of the rocket motor:

²⁴ <https://liveuamap.com/en/time/25.02.2022#>



Satellite imagery taken from Google Earth Pro, with 1 km arc indicating possible area in which the submunitions impacted (Credit: Google/Maxar Technologies).

On the same date there were multiple cases of civilian harm within the standardized arc shown above:



These incidents correspond to the following reports:

- CIV0018
- CIV0019
- CIV0035
- CIV0031
- CIV0460
- CIV0027
- CIV0023

Are There Any Indications of What the Location Was Being Used for?

The location where the rocket motor landed is a street crossing, close to a market in a shopping area.

The possible area of impact of the submunitions is partly occupied by a shopping area. The area is mostly residential and features public transport stations.

Were There Military Structures, Installations or Other Assets in the Area?

No military structures, installations or other assets were identified in the area.

Timeline of the Incident

A 9M55K rocket section impacted into the ground near a market in Kharkiv. The incident likely occurred on 25/02/2022.

Online searches could not find a reference to this incident prior to 11:35 EET, making it likely that it occurred at approximately this time.

Statements from Parties of the Conflict

Ukraine

- Telegram: message from the [Kharkiv City Council](#)²⁵ about the situation on February 25th 2022.

Russia

- Kremlin spokesperson Dmitry Peskov [denies cluster munitions use](#)²⁶ in Ukraine.

²⁵ <https://t.me/citykharkivua/3411>

²⁶ <https://www.gazeta.ru/politics/2022/03/01/14589073.shtml>

Conclusion

On 25/02/2022 footage surfaced online showing a 9M55k rocket section embedded into a street crossing next to a market in Kharkiv. It is unknown what its intended target was. The area in which the rocket section landed, and in which its submunitions were possibly dispersed contains a mix of residential and commercial buildings.

Although open sources demonstrate that Kharkiv was under bombardment at this time, it was not possible to identify where the submunitions from this cluster munition impacted exactly.

Further Action

- Obtain and compare satellite imagery for dates 24/02/2022 - 25/02/2022.