# War in Donbass: Assessing Attacks on Ukrainian Infrastructure

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## Introduction

In 2014, Ukraine was thrust into armed conflict with Russian-backed separatists and eventually Russian military units. With the government of Ukraine attempting to organize after the ouster of President Yanukovych, the country was a prime target for Russia's aggression. The annexation of Crimea by Russia was well-covered by the media, however another region of Ukraine seemed to slip through the cracks and avoid heavy attention.

The Donetsk and Luhansk oblasts (which make up the Donbas region) have seen active military conflict since late spring/early summer, fighting that continues to plague the region to this day. Non-military infrastructure in particular has been hard hit by the conflict. Our work has sought to map attacks on this critical infrastructure (hospitals and schools) in order to better assess the scale of damage done to the region, as well as to make assessments on state capacity. Attacks range from windows being shot out, building occupation, and to building shelling by artillery.
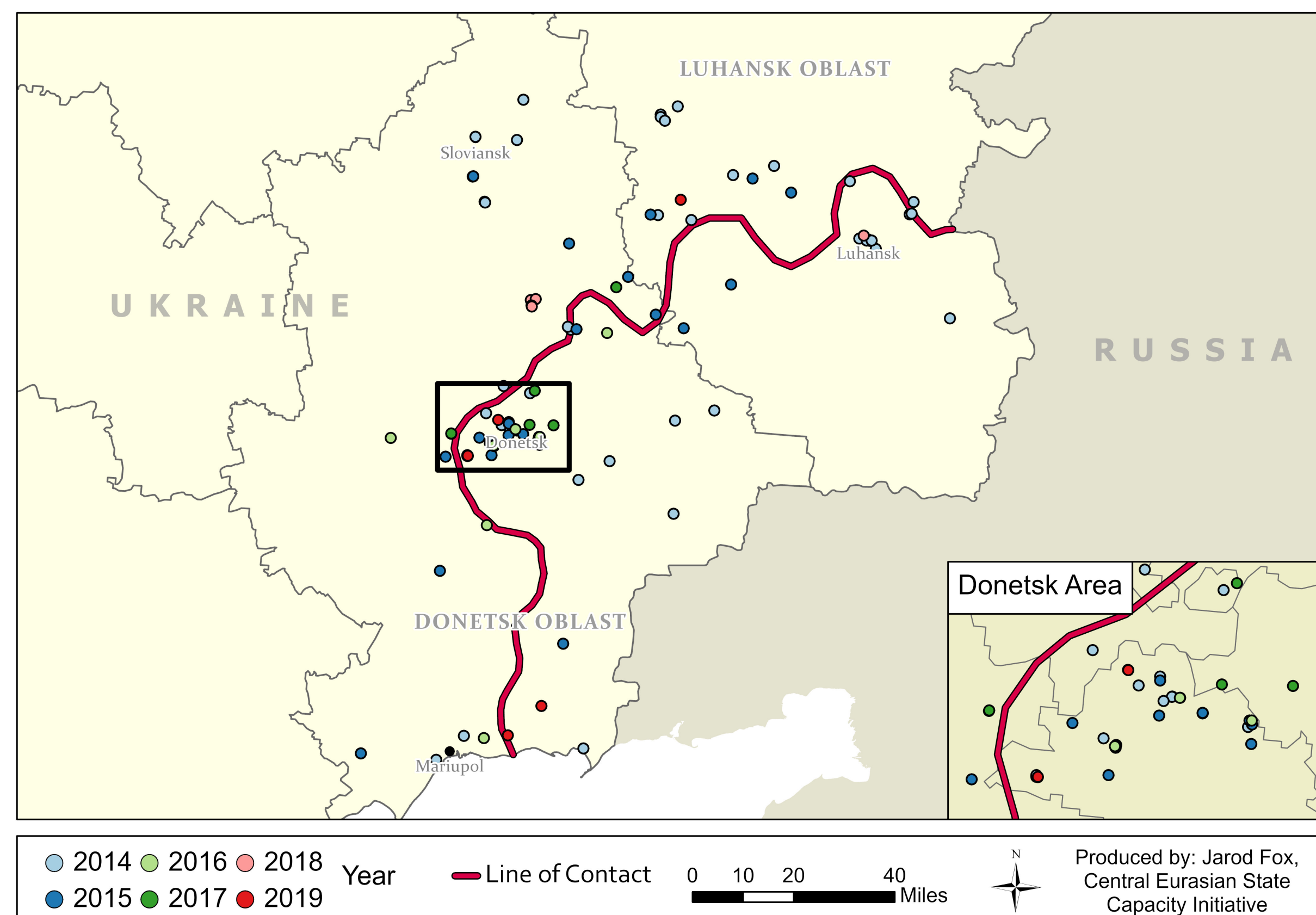
### Figure 1



A Ukrainian fighter stands in a building damaged by shelling in Avdiivka, Ukraine, on Feb. 4, 2017. (Evgeniy Maloletka/AP)

## Methods, Sourcing

Figure 1 above displays one of the challenges of working with the Donbas, it is very much an active war zone. Fortunately for us there are several sources in the region via which we can obtain information on these attacks. Data for the schools and hospitals has come from: central newspapers in Ukraine and the Russian Federation (2014-Sept. 2018), ten papers in the Donbas itself (2014-2015), quarterly reports by the Office of the United Nations High Commissioner for Human Rights (OHCHR, April 2014-August 2018), the Organization for Security and Cooperation in Europe (OSCE), and non-governmental organization (NGO) reports(2014-2018). Once the reports have been sorted using keywords, the process begins of locating the actual facilities. Some reports include addresses or detailed location descriptions, others simply include the name of the town. Google maps is our primary search tool for these facilities. Google maps was able to help us identify a great deal of facilities, but Google maps is missing a great deal of information from this region.
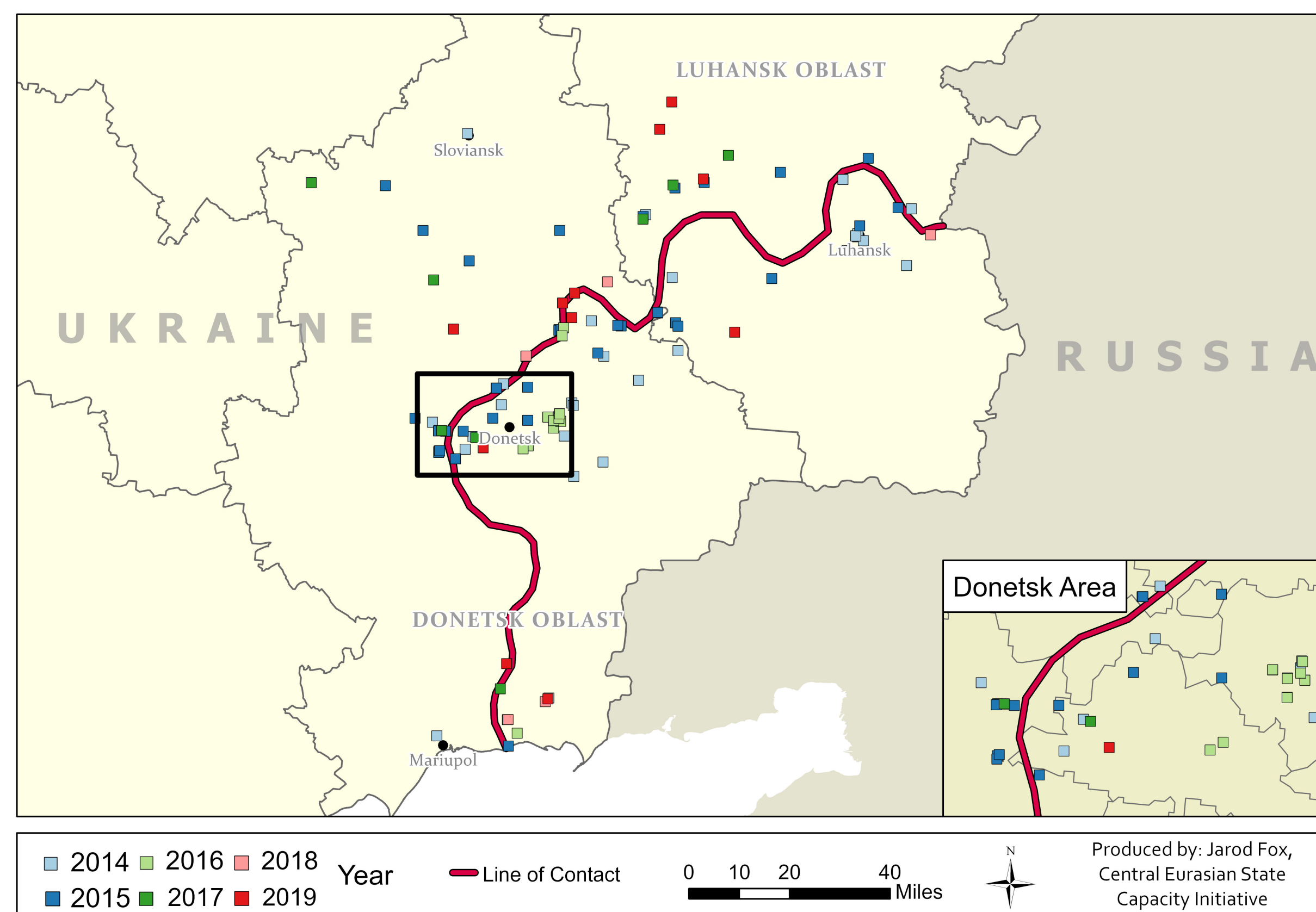
## Figure 2: Hospitals and Clinics in Ukraine Attacked 2014-19



Legend: 2014 2016 2018 2015 2017 2019 Year — Line of Contact
0 10 20 40 Miles
Donetsk Area
Produced by: Jarod Fox, Central Eurasian State Capacity Initiative

## Methods, Attribution Protocol

In cases of reports with inadequate detail or locations that could not be verified, we followed the protocol as listed below:
A) General reports referring to the unspecified objects in the major urban areas of Donetsk and Luhansk were not mapped. B) In the cases of general reports for smaller cities, towns, and villages lacking specific names, the verified location of a school or hospital nearest to the settlement center was mapped. C) In general reports of shelling in a specific small city, town or village in which a verified object location could not be identified, the most probable building for the object was selected and mapped using satellite imagery. D) If specific address locations could not be verified, the nearest probable location was mapped. (Reports often included out of date street names and in some cases transposed object numbers) E) If specific number IDs for an object could not be found, and a nearby object had no number, the later object was mapped. F) If a specific street mentioned in a report failed to match the map, the most probable object on an unnamed street was mapped. G) In following the above attribution strategies, if two equally probable objects are identified, the one farthest from the settlement point center is to be mapped.

## Figure 3: Schools in Ukraine Attacked 2014-19



Legend: 2014 2016 2018 2015 2017 2019 Year — Line of Contact
0 10 20 40 Miles
Donetsk Area
Produced by: Jarod Fox, Central Eurasian State Capacity Initiative

## Key Findings

After taking all of the reports and acquiring coordinates for the facilities using our attribution protocol, Figures 2 and 3 were produced. The line of contact shown in both maps has had slight variations since the conflict began in 2014, but ultimately has remained fairly consistent. As of September 15th, 2019 we had identified 111 schools and 105 hospitals/clinics that have been attacked in some form or another. This data has been subject to change since we started this project as we have uncovered new reports, refined existing points, and removed some points where our initial location was determined to be inaccurate.

We observed that a great deal of the attacks are concentrated along the line of contact, especially around the cities of Donetsk and Luhansk which are the two largest in the region. Most interesting to us though are the attacks that occur away from the line of contact, especially to the North of the line around Sloviansk and to the West of the line around Mariupol. These are areas supposedly under government control, but the number of incidents occurring in those areas would suggest a strong challenge to Ukrainian authority in those areas.

## Conclusion and Future Study

Ultimately, these attacks degrade Ukraine's state capacity. Healthcare and education are two important measures of the government's ability to be viewed as the legitimate state actor in the region. Ukraine needs to take steps to protect and rebuild this infrastructure because without it their sovereignty is compromised. Failure would see the Russian Federation as the de facto state actor and increase their influence in Central Eurasia. Our continued study of this conflict is part of a broader project known as the Central Eurasian State Capacity Initiative, where we will seek to understand the efforts of Russia to weaken their neighbors and expand their influence. As we continue, it is important to remember that the data we collect is not just dots on a map, it represents the continued hardship of the Ukrainian people as they fight to preserve their country.

## Acknowledgements