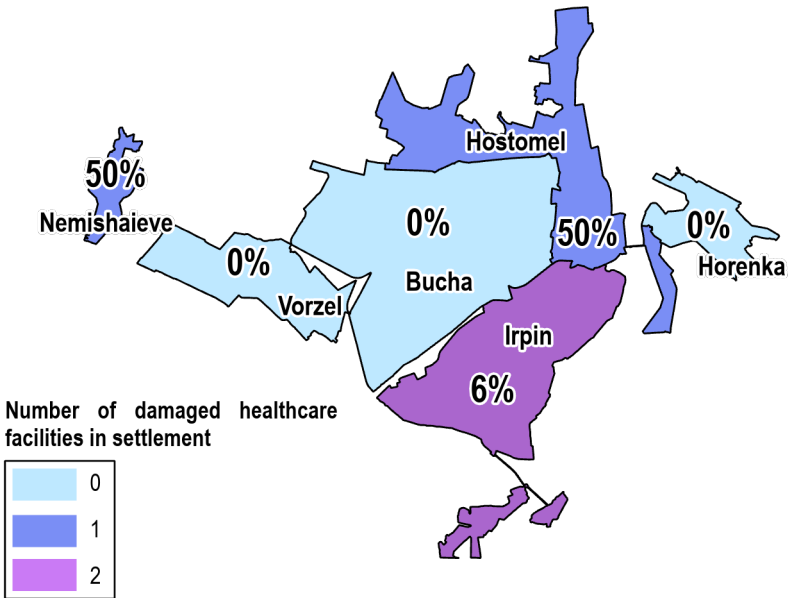


UKRAINE – Summary on Infrastructure and Facilities Damage Analysis

North-West of Kyiv, February-March 2022

For humanitarian purposes only
Production date: 29 June 2022

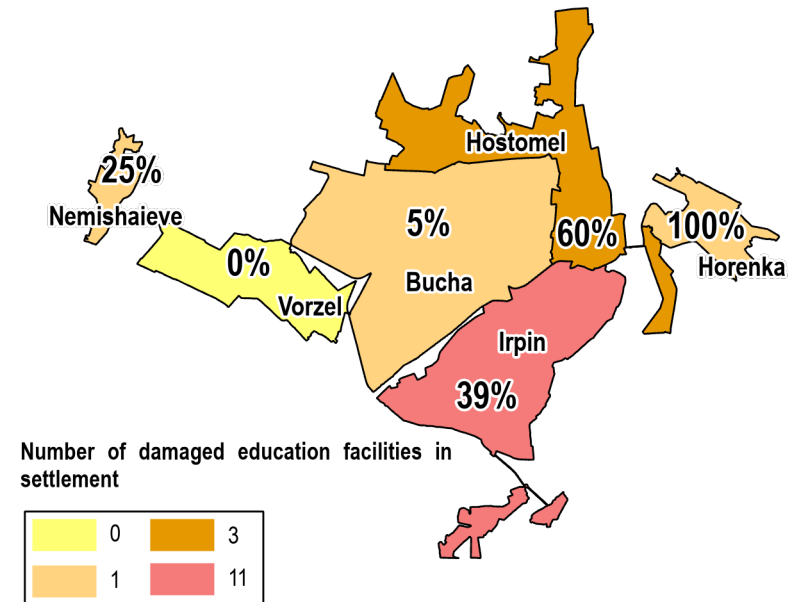
Percentages show relative proportions of damaged healthcare infrastructure to all healthcare facilities in a specific settlement.



4 healthcare (primary, secondary and tertiary) facilities were damaged in the area

15 schools, kindergartens, colleges and universities were damaged in the area

Percentages show relative proportions of damaged education infrastructure to all education facilities in a specific settlement.



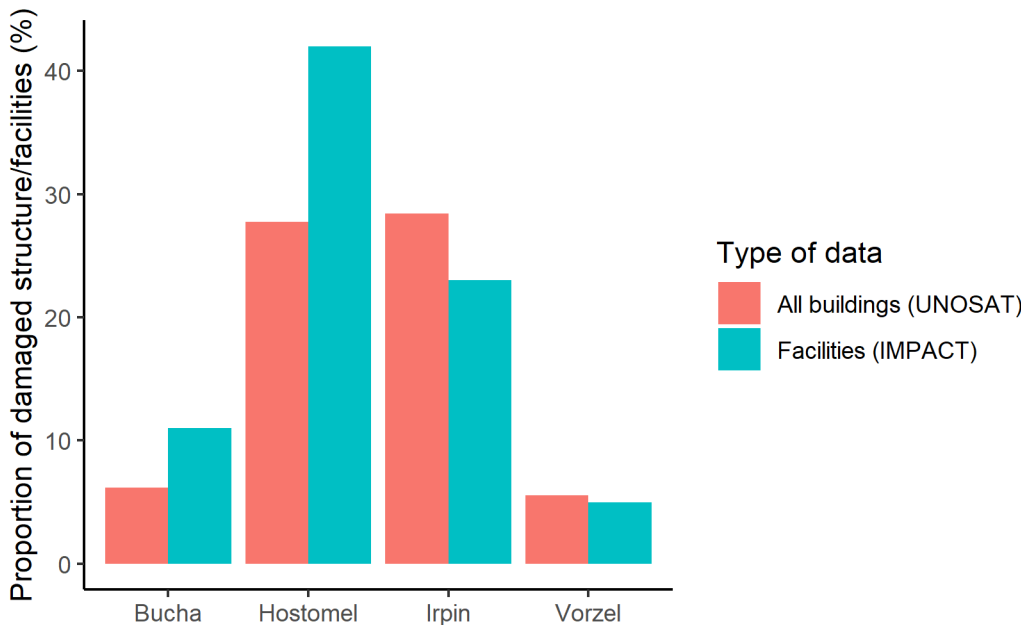
Russian military invasion to Ukraine on 24 February 2022 rapidly led to numerous reported and documented destructions of infrastructure in conflict vicinity. Suburbs in North-West of Kyiv city, capital of Ukraine, either were occupied or became a battlefield in the late February. Until the end of March dozens and hundreds of residential buildings were damaged with varying degree of damage severity. As well, multiple facilities as a part of important non-residential infrastructure were reportedly damaged or destroyed ([link](#)).

Official estimates of destroyed infrastructure (any buildings) remain rather scarce. It was reported that city of Irpin experienced 70-75% of its buildings to be damaged, when at least 115 of them were completely destroyed ([link](#)). At least 459 buildings were reported to be damaged in Hostomel, north to Irpin ([link](#)). An alternative look on situation with infrastructure's damage was applied by UNOSAT. They used high-resolution satellite imagery to assess a number of structure visually sustained damage or destruction ([link](#)). Higher number of damaged buildings was revealed in Irpin and Hostomel compared to Bucha and Vorzel in this suburb area.

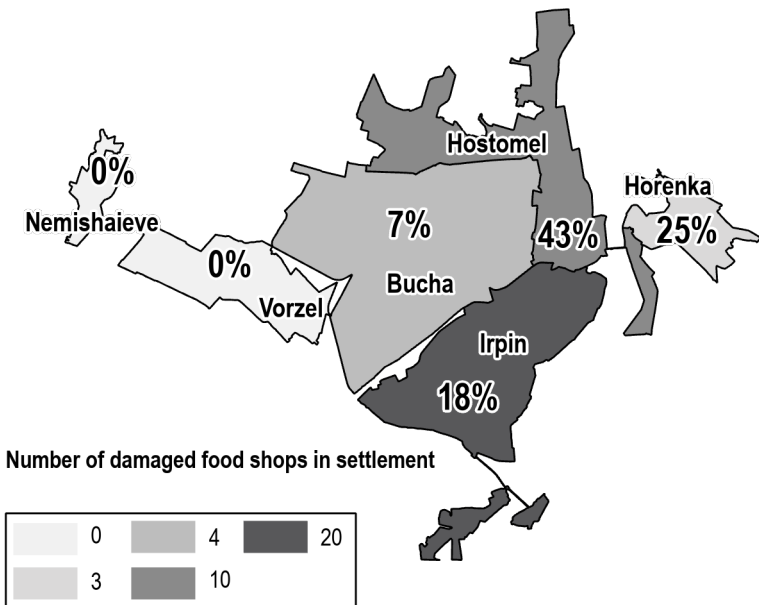
Similar approach was used to quantify damaged non-residential facilities in North-West of Kyiv severely affected by February-March conflict hostilities. Among the different categories of interest, damaged healthcare, education, industrial infrastructure and food shops are visualized with Irpin experiencing the highest number of destructions. This city was not occupied but became a target for shelling and street battles ([link](#)). Hotspots of damaged infrastructure are along Soborna, Kotliarevskoho, Mechnykova and Lychaka Streets in Irpin. Importantly, relative proportions of damaged infrastructure are found to be extremely high in Hostomel and Horenka settlements which were under heavy battles in late February.

Comparison of all building (UNOSAT) and only non-residential facilities (IMPACT) damage assessment shows overall agreement in estimated proportions (graph below). Satellite image-sourced estimation rather shows geospatial hotspots, as multiple structures with no visible roof or wall damage were exposed to artillery shelling. Onground inspections with acquiring georeferenced photos and carrying out drone surveys will facilitate more comprehensive damage assessment.

Comparison of damaged proportions of all buildings (UNOSAT) and non-residential infrastructure (IMPACT). Horenka and Nemishaieve are not included.



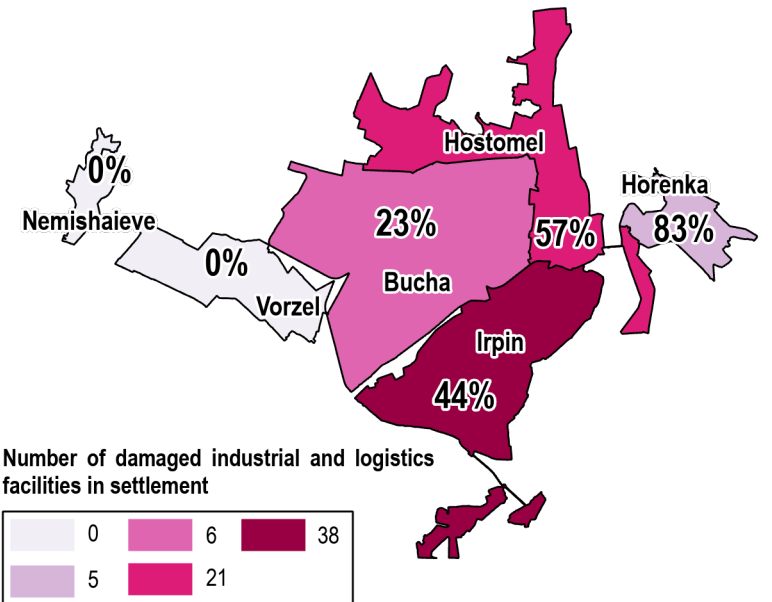
Percentages show relative proportions of damaged food shops to all food shops in a specific settlement.



40 supermarkets and shops selling food items were damaged in the area

70 industrial and logistics facilities were damaged in the area

Percentages show relative proportions of damaged industrial and logistics facilities to all facilities of this category in a specific settlement.



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