

## MEMO

**TITLE** Mykolaiv Masterplan, Population forecasts  
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## 1 Introduction

The purpose of this memo is to present two population forecasts for Mykolaiv City and, not least, highlight the uncertainties associated with such forecasts. It has been prepared within the contract with the Danish Ministry of Foreign Affairs (MFA) regarding the Mykolaiv-Denmark Partnership launched in 2022.

It is of utmost importance to the development of the city whether the population totals 300,000 in, for instance, 2050 or 500,000. Any feasibility study related to the preparation of concrete infrastructure projects, such as projects within water supply and wastewater, district heating, social infrastructure, housing and transport, will pay much attention to the population forecast.

The population forecasts presented in this memo does not contradict in any way the population forecast for Mykolaiv City developed by Visionary Analytics under the supervision of the Italian company One Works. Instead, they complement each other. Furthermore, it is worth emphasizing that the two population forecasts presented here do not include breakdowns by age, gender, household composition, or other demographic characteristics. They focus on overall population numbers, providing a general framework for planning and investment decisions.

The population forecasts presented here aligns with the official census timing, thus using January 1 as a reference point for assessing the population count at that specific point in time.

The memo consists of five sections in addition to the current introduction. Section 2 briefly mentions the most reliable public available sources, Section 3 provides historical data for the city, Section 4 presents the two population forecasts for the city, Section 5 highlights the many uncertainties associated with population forecasts as of today for Mykolaiv City, and Section 6 puts forward a few recommendations. References are attached as Annex 1.

## 2 Available sources

The most reliable public available sources regarding demographic developments in Ukraine, including Mykolaiv, are:

- > The State Statistics Service of Ukraine for pre-war data and population dynamics
- > The UN World Population Prospects 2024 for calculating the yearly percent change in population past the year of 2022.

## 3 Historical data

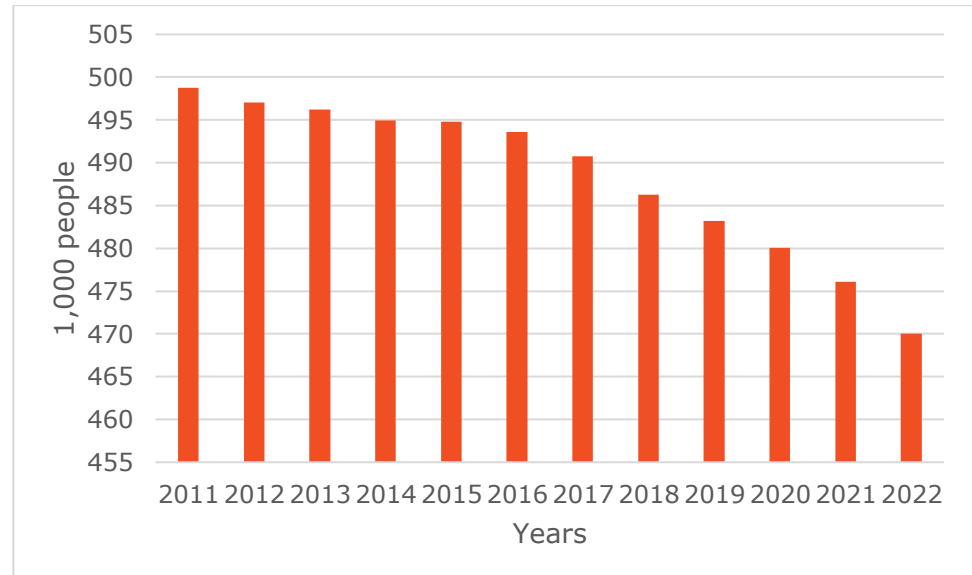
In the period 2011-2022, the population of Mykolaiv City was fairly stable, although it declined a little, from approximately 500,000 inhabitants to 470,000 inhabitants. It follows from Table 1 and Figure 1 below.

*Table 1 Population of Mykolaiv City, 2011-2022*

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Population</b>	498,748	497,032	496,188	494,922	494,763	493,583	490,762	486,255	483,186	480,080	476,101	470,011

Source: "Population of Ukraine", State Statistics Service of Ukraine, 2022.

Figure 1 Population of Mykolaiv City, 2011-2022



Source: "Population of Ukraine", State Statistics Service of Ukraine, 2022.

During the period of martial law in Ukraine, the State Statistics Service of Ukraine has ceased publishing population data. Consequently, the past two years 2023 and 2024 are covered by the population forecasts presented below.

## 4 Two population forecasts

Two population forecasts for Mykolaiv City are presented below. They both have 2022 as base-year and 2050 as end-year, they both present the forecast in 10-year intervals, and they both put forward three scenarios (optimistic, most likely or middle, and pessimistic). The first forecast is based on calculations made on the basis of the UN World Population Prospects 2024, whereas the second is an estimate made by COWI in connection with its contributions to the masterplan for Mykolaiv.

### 4.1 UN based forecast

The first population forecast is based on the calculated annual percent change in population derived from a combination of population scenarios from the 2024 revision of the UN World Population Prospects. The population scenarios are built on estimates for fertility, mortality and migration. They concern the total population of Ukraine. These scenarios have been used by COWI for calculating population data for Mykolaiv City in the period till 2050.

The results follow from Table 2 overleaf.

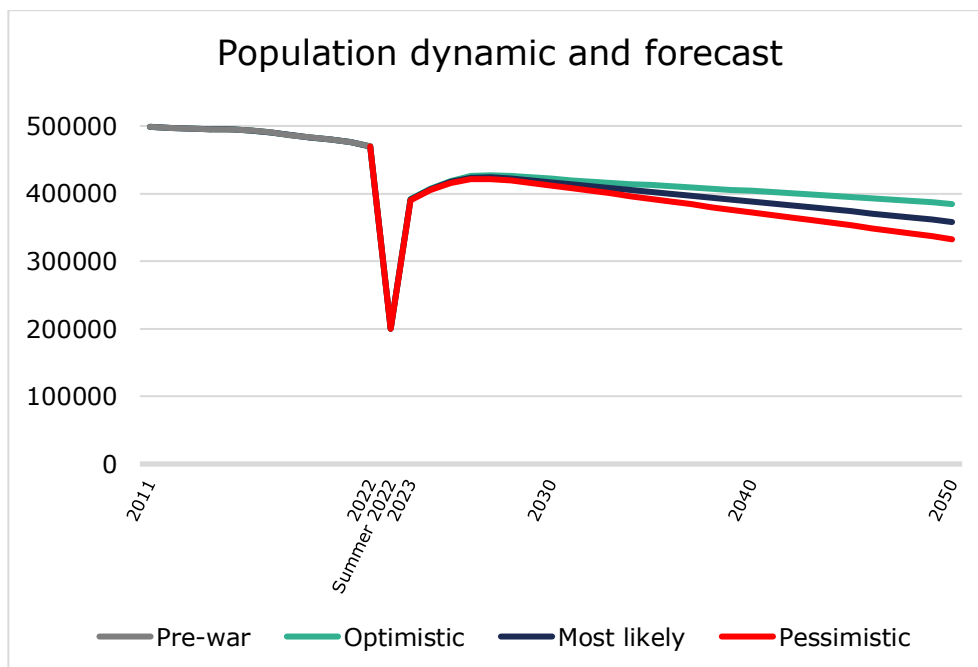
Table 2 Population forecast for Mykolaiv City, UN based

Scenarios	2022 (year start) Actual	2030 Estimate	2040 Estimate	2050 Estimate
<b>Optimistic</b>	470,011	421,914	403,823	384,836
<b>Most likely</b>		416,819	388,159	358,110
<b>Pessimistic</b>		411,704	372,262	332,394

Source: Calculations made by COWI on the basis of "World Population Prospects 2024", UN, 2024.

Figure 2 below provides an overview of the population dynamic during the pre-war period with a steep drop to 200,000 people around summer 2022, corresponding to the period of several months after the Russian invasion, when citizens of Mykolaiv City fled. This was then followed by an increase in 2023 after liberation of Kherson City and large parts of the Kherson region; citizens of Kherson City and Kherson region fled to Mykolaiv City. The lines after year 2023 represent the three scenarios.

Figure 2 Steep drop in 2022



## 4.2 COWI forecast

The COWI forecast follows from Table 3 overleaf. It is nothing but very rough estimates intended to highlight the possible range (between 300,000 and 600,000 inhabitants in 2050) and the development paths (mainly, increase in population between 2040 and 2050).

Table 3 Population forecast for Mykolaiv City, COWI estimates

Scenarios	2022, Actual	2030, Estimate	2040, Estimate	2050, Estimate
Pessimistic	470,000	350,000	275,000	300,000
Most likely	470,000	350,000	350,000	450,000
Optimistic	470,000	350,000	450,000	600,000

Source: COWI.

## 5 Uncertainties

Uncertainties associated with population forecasts as of today in Ukraine are many. Probably, they are even more profound for Mykolaiv City than for many other cities in Ukraine due to the fact that the frontline is not far away from Mykolaiv City.

There are two overall questions which are of utmost importance for any forecast but at the same very difficult to answer currently, namely: How many will come back to the city, and how many will move to, for instance, Kherson?

Answers to these questions depend on many developments or issues, including:

- > When will the war end?
- > Will the borders before 2014 prevail?
- > May a solid, well-monitored security order be established in Europe so as to minimise the risk of repeated Russian aggression in future?
- > How attractive will Mykolaiv City and Mykolaiv region be to investors, both private and public?
- > To what extent will it be possible to make Mykolaiv City attractive to the young population?

It goes without saying that the above questions point to various uncertainties.

## 6 Recommendation

It is recommended using the populations forecasts as a source of inspiration for further development planning. Currently, a rough estimate based on these show that population of Mykolaiv City most probably will be in the range of 350,000-450,000 in 2050. But – the end of war may change this estimate.

Furthermore, it is recommended to carry a solid population forecast under the auspices of the Economic Department within the Mykolaiv City Administration as soon as the war ends and the State Statistics Service of Ukraine releases new, preliminary population data.

## Annex 1 References

- 1 Анна Бальчінос. "На Миколаївщині проживають понад 129 тисяч переселенців." Intent Press, 28 Feb. 2024, cf. <https://intent.press/news/localgovernment/2024/na-mikolayivshini-prozhivayut-ponad-129-tisyach-pereselenciv/>.
- 2 "Population of Ukraine." State Statistics Service of Ukraine, 2022, cf. <http://db.ukrcensus.gov.ua/PXWEB2007/>.
- 3 The Kyiv Independent news desk. "Governor: Mykolaiv Population Returns close to Pre-Invasion Level." The Kyiv Independent, 20 Apr. 2023, cf. <https://kyivindependent.com/mykolaiv-population-level-returning/>.
- 4 "World Population Prospects 2024." United Nations - Department of Economic and Social Affairs Population Division, 2024, cf. <https://population.un.org/wpp/>.