

## Appendix

*Table 1 – Software Metadata*

*Table 1* contains the software metadata, relevant when reproducing the analysis.

| No. | Software Metadata                                        | Description                                                                                                                                                                                                                                                                                                                                                        |
|-----|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S1  | Current software version                                 | R 4.4.0, RStudio 2024.4.1.748                                                                                                                                                                                                                                                                                                                                      |
| S2  | Github repository                                        | <a href="https://github.com/lrahbek/PTAR_examproject.git">https://github.com/lrahbek/PTAR_examproject.git</a>                                                                                                                                                                                                                                                      |
| S3  | Legal Software License                                   | <a href="#">MIT License</a>                                                                                                                                                                                                                                                                                                                                        |
| S4  | Computing platform /<br>Operating System                 | The project was conducted on an ASUS VivoBook X421IA_M433IA, with 16 GB RAM, a AMD Ryzen 7 4700U with Radeon Graphics processor, and a 64-bit Microsoft Windows 11 Home operating system.                                                                                                                                                                          |
| S5  | Installation requirements &<br>dependencies for software | All spatial data was handled using <i>Sf (Simple Features)</i> v. 1.0-16 and additional data manipulation was done using <i>Tidyverse</i> v. 2.0.0.<br>Visualizations was completed using <i>mapview</i> v. 2.11.2, <i>ggplot2</i> v. 3.5.1 and <i>emmeans</i> v. 1.10.2. Lastly, the final .html map was saved using <i>mapshot</i> with <i>webshot2</i> v. 0.1.1 |
| S6  | Support email for questions                              | 202106182@post.au.dk                                                                                                                                                                                                                                                                                                                                               |

Table 2 – Data Metadata

Table 2 contains an overview of datasets used, their sources and licences. A detailed descriptions of the data, how it is used and the format it is in can be found in the [README.md](#) file in the GitHub repository.

| No. | Dataset (date)                                                                                                                                    | Source and License                                                                                                                                                                                                                                                                                                               | Description                                                                                                                                                                                                                        |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| D1  | Instreg_All_28-04-2024.csv<br>(28-04-2024)                                                                                                        | The dataset is administered by <i>The National Agency for It and Learning, Statistics Denmark</i> and the <i>Ministry of Children and Education</i> . The data was accessed through <a href="#">opendata.dk</a> , and used with a <a href="#">Creative Commons Attribution 4.0</a> license.                                      | The dataset contains a row for each institution, with several variables, including the locations. For a complete explanation see the <a href="#">User guide (in Danish)</a> .                                                      |
| D2  | UFM_samlet_23MAR2024.csv<br>(23-03-2024)                                                                                                          | The dataset is administered by <i>The Ministry of Higher Education and Science and Statistics Denmark</i> . The data set was accessed through and downloaded from <a href="#">ufm.dk</a> . The data is publicly available per <a href="#">ug.dk</a> .                                                                            | The dataset is a collection of survey data, register data and study programme information from UddannelsesGuiden. User guide and more information is available <a href="#">here</a> .                                              |
| D3  | new_ed/<br>new_study.csv<br>README.md                                                                                                             | The dataset is based on information from the draft of the to-be established programmes, in the addendum to the <a href="#">original FBUM agreement</a> , specifically <a href="#">appendix F</a>                                                                                                                                 | The dataset has information on where and what new programmes are started up. Sources and format are described in detail in the README.md file.                                                                                     |
| D4  | GTFS/<br>agency.txt<br>calendar.txt<br>calendar_dates.txt<br>routes.txt<br>shapes.txt<br>stop_times.txt<br>stops.txt<br>trips.txt<br>(23-04-2024) | The dataset is administered by <i>Rejseplanen</i> . It was accessed through their data-service: <a href="#">Rejseplanen Labs</a> , and used with a <a href="#">Creative Commons BY 4.0</a> licence. (note: when the data is released it is on a specific date range, the data worked with here covers 22/04/2024 to 17/07/2024). | The dataset is in the standard GTFS format (General Transit Feed Specification), which entails specific file structure, and file names explained in detail <a href="#">here</a> . All files named here, are used in some capacity. |