

## Community College Finance FY26 Foundation Forecasting – Stakeholder Guide

### Overview

This guide provides step-by-step instructions for generating performance tier forecasts for the FY26 foundation payment using the official R Markdown (RMD) forecasting files. It explains how to run the ETS (exponential triple smoothing) and PCT (percentage-based) forecasting models, which together produce forecasted student outcome values used in the Community College Finance (CCF) funding model. The guide also details required software setup, file execution, and output interpretation, ensuring stakeholders can reproduce and verify official forecasts with accuracy and consistency.

### Prerequisites

Before running the forecast R Markdown (RMD) files, make sure you have:

- **R and Rstudio Installed**
  - R: <https://cran.r-project.org/>
  - RStudio: <https://www.rstudio.com/products/rstudio/download/>
- **Required R Packages Installed**
  - Open RStudio.
  - Go to File > New File > R Script
  - Run this line of code once:
    - `install.packages(c("tidyverse", "tsibble", "fable", "fabletools", "knitr", "openxlsx", "purrr", "kableExtra", "ggplot2", "feasts"))`
  - Close the R Script (you do not need to save).
- **Primer on R Markdown (RMD)**
  - A brief description of R Markdown:  
[https://rmarkdown.rstudio.com/articles\\_intro.html](https://rmarkdown.rstudio.com/articles_intro.html)

### Opening the Forecast RStudio Project

1. Download **fy26-foundation-forecasting-production** folder from the CCF THECB website.
2. Double-click **fy26-foundation-forecasting-production.Rproj** to open the project in RStudio. This ensures all file paths work correctly.
3. Once open, confirm the Files pane in RStudio shows the full folder structure.

### Running the Forecast Files

There are three parent .Rmd files that you must run. Each parent file automatically runs two child Rmds and outputs a full suite of results.

#### Fund-year25 files:

1. fy25-official-unified-forecast.Rmd
  - Produces FY25 official ETS & PCT forecasts

#### Fund-year26 files:

2. fy25-synthetic-unified-forecast.Rmd
  - Produces FY25 synthetic ETS & PCT forecasts
3. fy26-official-unified-forecast.Rmd
  - Produces FY26 official ETS & PCT forecasts

#### To Run Each File:

1. In RStudio, open one of the .Rmd files listed above.
2. Click the **“Knit”** button at the top of the editor window.
3. Wait for the process to complete (this may take several minutes).
4. When finished:
  - a. An **HTML report** opens automatically in your browser. This contains data visualizations and log messages of the forecasting process.
  - b. Logs, ETS models, ETS forecasts, PCT averages, and final forecasts are saved automatically to the appropriate subfolders.

### Outputs Overview

Each parent .Rmd generates multiple outputs:

| Folder            | Contents  |
|-------------------|---|
| /ets-models/      | ETS model specifications for each variable forecast with ETS                                |
| /ets-forecasts/   | ETS forecasts by student outcome variable   |
| /pct-averages/    | Historical annual and historical average percentage calculations for PCT forecasts          |
| /final-forecasts/ | Combined ETS + PCT forecasts, formatted for funding model integration                       |
| /logs/            | Run logs containing timestamps, warnings, and status messages for ETS and PCT forecast runs |

For **fund-year26 folders**, there are “synthetic” and “official” folders (e.g., final-forecasts/official-26/...). This designation explains whether the forecasts are used in the funding model (“official”) or used to generate future forecasts used in the funding model (“synthetic”).

### Outputs Used in Funding Model

The overall outputs used in the funding model for performance tier forecasting are found at the following file paths.

- **Fund-year25:** fund-year25/final-forecasts/fy25-official-all-forecasts.xlsx
- **Fund-year26:** fund-year26/final-forecasts/official-26/fy26-official-all-forecasts.xlsx

### Quality Control and Troubleshooting

- **READ ME Files:** Throughout the folders, READ ME.txt files exist to support understanding of files located in a given folder.
- **Log Files:** Check /logs/ after each run for messages confirming successful execution or any issues.
  - *qc\_ets...*: Log files for the ETS forecasting.
  - *qc\_pct...*: Log files for the PCT forecasting.
- **Common Issues:**
  - *Missing Packages:* Re-run the install.packages(...) line above.
  - *Path Errors:* Ensure you opened the project via the .Rproj file. This will set the appropriate working directory so all files within the project are accessible.
  - *R Version Conflicts:* Use R version 4.3.0 or later.
- **Re-running:** You can safely re-run any .Rmd; existing outputs will be overwritten with updated results.

- **Updating data:** There is one raw data file per fund-year folder (listed below). Any edits made to these files may change forecast and model outputs and can be a viable way for teams to understand how different student outcome counts may produce different forecast values.
  - **Fund-year25 raw data:** CCF\_FundYear25 09OCT25
  - **Fund-year26 raw data, for FY25 forecasting:** CCF\_FundYear26 08OCT25
  - **Fund-year26 raw data, for FY26 forecasting:** FY26\_08OCT25

### Support

For technical issues or questions about results, contact: Kristen Mosley, PhD, Director of Research and Evaluation ([kristen.mosley@highered.texas.gov](mailto:kristen.mosley@highered.texas.gov)).