MobTyper Analysis Documentation

This document includes the full MobTyper analysis R script and the expected outputs.

Expected Output Files:

```
Rplots.pdf
mpf_summary.tsv
relaxase_summary.tsv
replicon_summary.tsv
replicon_plot.png
relaxase_plot.png
mpf_plot.png
```

Script:

```r
library(dplyr)
library(tidyr)
library(ggplot2)
library(readr)

df <- read_csv("mobtyper_merged.csv", show_col_types = FALSE)
names(df) <- gsub("\.", "_", names(df))

rep_summary <- df %>% count(rep_type_s_, name="count") %>% arrange(desc(count))
write_tsv(rep_summary, "replicon_summary.tsv")

rel_summary <- df %>% count(relaxase_type_s_, name="count") %>% arrange(desc(count))
write_tsv(rel_summary, "relaxase_summary.tsv")

mpf_summary <- df %>% count(mpf_type, name="count") %>% arrange(desc(count))
write_tsv(mpf_summary, "mpf_summary.tsv")

ggplot(rep_summary, aes(x=reorder(rep_type_s_, -count), y=count)) +
 geom_bar(stat="identity") +
 theme_bw()
ggsave("replicon_plot.png")

ggplot(rel_summary, aes(x=reorder(relaxase_type_s_, -count), y=count)) +
 geom_bar(stat="identity") +
 theme_bw()
ggsave("relaxase_plot.png")

ggplot(mpf_summary, aes(x=reorder(mpf_type, -count), y=count)) +
 geom_bar(stat="identity") +
 theme_bw()
ggsave("mpf_plot.png")

print("Analysis complete: TSV tables + PNG figures generated.")
```