Untitled

```
# Load all required packages
library(tidyverse)
```

```
-- Attaching packages --------------------------------------- tidyverse 1.3.2 --
v ggplot2 3.4.0     v purrr   1.0.1
v tibble  3.1.8     v dplyr   1.1.0
v tidyr   1.3.0     v stringr 1.5.0
v readr   2.1.4     v forcats 1.0.0
-- Conflicts ------------------------------------------ tidyverse_conflicts() --
x dplyr::filter() masks stats::filter()
x dplyr::lag()    masks stats::lag()
```

```
library(dplyr)
library(ggplot2)
library(fabletools)
library(patchwork)
library(knitr)
library(kableExtra)
```

```
Attaching package: 'kableExtra'

The following object is masked from 'package:dplyr':

    group_rows
```

```
library(latex2exp)
```

```
source("../R/nemenyi.R") # MCB test
source("../R/analysis.R") # Other functions used for analysis

theme_set(theme_get() + theme(text = element_text(family = "Source Sans Pro")))
```

Labour

Table 1: 3 test sets.

	Top				Duration				STT				Duration x STT				Average			
Method	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12
Base	34.7	44.0	73.0	110.3	18.4	30.2	34.1	36.6	6.2	8.0	10.9	15.1	3.3	4.6	5.0	5.3	5.6	8.1	9.6	11.2
BU	-39.9	-33.7	-11.5	-5.5	8.7	-3.4	-4.2	-3.5	**-17.4**	**-15.5**	**-6.3**	-1.0	0.0	**0.0**	**0.0**	0.0	-3.6	**-6.0**	**-3.7**	-2.1
OLS	-4.6	-5.7	-2.3	-1.1	-0.1	-0.6	-2.0	-2.0	0.5	2.9	3.6	2.8	-2.2	3.8	4.2	3.3	-1.4	1.3	1.2	0.9
OLS-subset	**-4.7**	-4.6	-1.9	**-1.8**	0.1	**-0.7**	**-2.1**	-1.9	**0.3**	**1.7**	4.0	3.3	-2.2	**3.6**	**4.0**	3.3	-1.4	**1.1**	1.2	0.9
OLS-intuitive	**-15.9**	**-6.7**	**-3.8**	**-3.0**	**-3.5**	-0.2	-1.7	-1.9	**-2.1**	4.3	5.2	4.6	**-2.3**	5.2	5.5	4.5	**-4.0**	2.2	1.9	1.4
OLS-lasso	-4.6	-5.7	-2.3	-1.1	-0.1	-0.6	-2.0	-2.0	0.5	2.9	3.6	2.8	-2.2	3.8	4.2	3.3	-1.4	1.3	1.2	0.9
WLSs	-19.9	-20.8	-8.8	-4.4	-3.7	-2.3	-3.6	-3.2	-11.2	-7.7	-2.8	-0.3	**-3.9**	0.8	1.1	0.7	**-6.4**	-3.2	-2.2	-1.5
WLSs-subset	-19.8	-20.1	-8.3	**-5.6**	-3.6	**-2.7**	**-3.9**	**-3.8**	-11.1	-7.2	**-3.2**	**-1.1**	-3.8	1.5	1.8	1.4	-6.3	-2.9	-2.1	**-1.7**
WLSs-intuitive	-19.9	-20.8	-8.8	-4.4	-3.7	-2.3	-3.6	-3.2	-11.2	-7.7	-2.8	-0.3	**-3.9**	0.8	1.1	0.7	**-6.4**	-3.2	-2.2	-1.5
WLSs-lasso	-19.9	-20.8	-8.8	-4.4	-3.7	-2.3	-3.6	-3.2	-11.2	-7.7	-2.8	-0.3	**-3.9**	0.8	1.1	0.7	**-6.4**	-3.2	-2.2	-1.5
WLSv	-19.6	-21.8	-9.6	-4.9	4.6	-0.6	-2.2	-2.1	-7.9	-5.5	-2.1	-0.2	0.1	2.1	1.8	1.3	-1.5	-1.9	-1.5	-1.0
WLSv-subset	**-24.6**	**-23.5**	**-10.6**	**-6.4**	**3.0**	**-1.7**	**-3.1**	**-3.6**	**-10.9**	**-6.3**	**-2.7**	**-1.9**	**-1.2**	**1.3**	**1.7**	**0.7**	**-3.5**	**-2.8**	**-2.0**	**-2.2**
WLSv-intuitive	-19.6	-21.8	-9.6	-4.9	4.6	-0.6	-2.2	-2.1	-7.9	-5.5	-2.1	-0.2	0.1	2.1	1.8	1.3	-1.5	-1.9	-1.5	-1.0
WLSv-lasso	-19.6	-21.8	-9.6	-4.9	4.6	-0.6	-2.2	-2.1	-7.9	-5.5	-2.1	-0.2	0.1	2.1	1.8	1.3	-1.5	-1.9	-1.5	-1.0
MinTs	-12.7	-15.5	-7.7	-4.0	-0.7	-1.6	-2.8	-2.6	-5.6	-2.7	-2.1	-0.5	-2.6	1.5	1.5	0.9	-3.4	-1.6	-1.6	-1.2
MinTs-subset	**-15.2**	-14.3	-4.8	-3.9	**-1.3**	-0.7	-2.1	-2.1	**-6.7**	**-4.0**	0.4	1.0	**-3.1**	1.5	2.1	1.4	**-4.2**	-1.3	-0.4	-0.6
MinTs-intuitive	-12.7	-15.5	-7.7	-4.0	-0.7	-1.6	-2.8	-2.6	-5.6	-2.7	-2.1	-0.5	-2.6	1.5	1.5	0.9	-3.4	-1.6	-1.6	-1.2
MinTs-lasso	-12.7	-15.5	-7.7	-4.0	-0.7	-1.6	-2.8	-2.6	-5.6	-2.7	-2.1	-0.5	-2.6	1.5	1.5	0.9	-3.4	-1.6	-1.6	-1.2
EMinT	**-54.7**	**-47.1**	**-16.3**	**-9.7**	-7.0	2.4	1.6	-2.9	0.5	5.2	-4.7	**-4.0**	3.3	16.2	15.6	12.8	-6.0	4.5	4.1	1.5
Elasso	7.5	11.0	5.7	4.3	**-14.0**	**-7.0**	**-11.8**	**-12.8**	19.6	9.6	6.3	4.9	12.3	**6.3**	**2.1**	**-0.1**	4.6	**2.4**	**-1.5**	**-2.5**

Table 2: 4 test sets.

	Top				Duration				STT				Duration x STT				Average			
Method	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12
Base	28.9	36.5	59.8	116.2	15.3	24.2	27.5	36.4	5.4	6.8	9.8	15.9	3.0	4.0	4.4	5.3	4.9	6.8	8.2	11.4
BU	-20.2	**-29.2**	**-12.0**	-2.9	7.6	-2.4	-3.7	-1.9	**-7.1**	**-10.6**	**-4.5**	-0.5	0.0	**0.0**	**0.0**	0.0	-0.6	**-4.7**	**-3.2**	-1.1
OLS	-1.6	-5.5	-2.6	-0.6	-2.5	-0.6	-1.8	-1.7	0.8	3.0	3.6	1.8	-2.6	3.0	3.7	2.2	-2.0	1.1	1.2	0.5
OLS-subset	**-1.7**	**-6.7**	**-3.6**	**-1.2**	-2.3	-0.4	**-2.0**	-1.1	**0.7**	**2.3**	3.9	2.0	-2.6	**2.8**	**3.4**	2.3	-2.0	**0.9**	**0.9**	0.6
OLS-intuitive	**-11.8**	**-6.4**	**-4.1**	**-1.9**	**-5.5**	-0.2	-1.6	-1.6	**-1.3**	4.3	4.9	3.1	**-2.7**	4.2	4.8	3.1	**-4.2**	1.8	1.8	0.9
OLS-lasso	-1.6	-5.5	-2.6	-0.6	-2.5	-0.6	-1.8	-1.7	0.8	3.0	3.6	1.8	-2.6	3.0	3.7	2.2	-2.0	1.1	1.2	0.5
WLSs	-9.3	-19.2	-9.6	-2.5	-4.8	-2.0	-3.3	-2.2	-6.2	-5.6	-1.8	-0.1	**-3.8**	0.5	0.9	0.4	**-4.9**	-2.8	-2.1	-1.0
WLSs-subset	-9.2	-19.1	-9.5	**-3.2**	-4.7	**-2.3**	-3.3	**-3.1**	-6.0	-5.5	**-2.6**	**-0.8**	-3.7	1.5	1.9	1.1	-4.8	-2.4	-1.8	**-1.2**
WLSs-intuitive	-9.3	-19.2	-9.6	-2.5	-4.8	-2.0	-3.3	-2.2	-6.2	-5.6	-1.8	-0.1	**-3.8**	0.5	0.9	0.4	**-4.9**	-2.8	-2.1	-1.0
WLSs-lasso	-9.3	-19.2	-9.6	-2.5	-4.8	-2.0	-3.3	-2.2	-6.2	-5.6	-1.8	-0.1	**-3.8**	0.5	0.9	0.4	**-4.9**	-2.8	-2.1	-1.0
WLSv	-9.7	-20.2	-10.3	-2.8	2.4	-0.3	-1.9	-1.3	-3.4	-3.8	-1.5	-0.2	-0.6	1.5	1.4	0.7	-1.0	-1.6	-1.4	-0.7
WLSv-subset	**-14.2**	**-22.7**	**-11.8**	**-4.1**	**1.0**	**-1.1**	**-2.8**	**-2.2**	**-6.0**	**-4.1**	**-1.8**	**-1.5**	**-1.7**	**1.0**	**1.3**	**0.3**	**-2.7**	**-2.4**	**-2.0**	**-1.5**
WLSv-intuitive	-9.7	-20.2	-10.3	-2.8	2.4	-0.3	-1.9	-1.3	-3.4	-3.8	-1.5	-0.2	-0.6	1.5	1.4	0.7	-1.0	-1.6	-1.4	-0.7
WLSv-lasso	-9.7	-20.2	-10.3	-2.8	2.4	-0.3	-1.9	-1.3	-3.4	-3.8	-1.5	-0.2	-0.6	1.5	1.4	0.7	-1.0	-1.6	-1.4	-0.7
MinTs	-4.1	-14.6	-8.5	-2.3	-2.5	-1.3	-2.5	-1.7	-1.3	-1.4	-1.6	-0.5	-3.0	0.9	1.2	0.4	-2.7	-1.4	-1.6	-0.8
MinTs-subset	**-6.3**	-13.5	-5.8	-2.2	**-3.0**	-0.4	-1.9	-1.3	**-2.2**	**-2.4**	0.5	0.6	**-3.4**	0.9	1.7	0.7	**-3.4**	-1.2	-0.5	-0.4
MinTs-intuitive	-4.1	-14.6	-8.5	-2.3	-2.5	-1.3	-2.5	-1.7	-1.3	-1.4	-1.6	-0.5	-3.0	0.9	1.2	0.4	-2.7	-1.4	-1.6	-0.8
MinTs-lasso	-4.1	-14.6	-8.5	-2.3	-2.5	-1.3	-2.5	-1.7	-1.3	-1.4	-1.6	-0.5	-3.0	0.9	1.2	0.4	-2.7	-1.4	-1.6	-0.8
EMinT	**-44.4**	-25.1	2.1	**-12.6**	-1.1	5.4	7.4	-1.3	7.4	17.9	5.1	**-6.9**	10.0	21.4	24.0	16.0	1.2	11.6	13.3	2.0
Elasso	6.7	12.9	6.9	1.7	**-12.1**	**-5.3**	**-9.9**	**-9.3**	21.6	**17.3**	6.7	2.5	**9.6**	**5.5**	**2.4**	**-0.1**	4.6	**4.0**	**-0.4**	**-2.2**

Table 3: 5 test sets.

	Top				Duration				STT				Duration x STT				Average			
Method	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12
Base	23.4	38.6	58.2	101.4	13.1	21.4	24.4	31.2	5.1	6.9	9.6	14.3	2.8	3.7	4.1	4.8	4.4	6.4	7.6	10.1
BU	-14.4	-18.8	-8.4	-1.8	8.4	-1.6	-2.9	-1.7	-4.8	**-5.7**	**-2.0**	0.8	0.0	**0.0**	**0.0**	**0.0**	0.5	**-3.1**	**-2.2**	-0.6
OLS	-1.6	-3.9	-2.2	-0.6	-2.2	-0.8	-1.8	-1.7	0.9	2.5	3.2	1.8	-2.2	2.1	2.7	1.6	-1.7	0.6	0.8	0.3
OLS-subset	**-1.7**	**-5.1**	**-3.0**	**-1.1**	-1.9	-0.7	-1.8	-1.0	**0.8**	**2.0**	3.5	1.9	-2.2	**1.9**	**2.4**	1.7	-1.6	**0.4**	**0.6**	0.5
OLS-intuitive	**-11.6**	**-4.6**	**-3.4**	**-1.8**	**-5.0**	-0.5	-1.6	-1.6	**-0.9**	3.5	4.4	2.9	**-2.3**	3.1	3.7	2.4	**-3.7**	1.3	1.3	0.7
OLS-lasso	-1.6	-3.9	-2.2	-0.6	-2.2	-0.8	-1.8	-1.7	0.9	2.5	3.2	1.8	-2.2	2.1	2.7	1.6	-1.7	0.6	0.8	0.3
WLSs	-9.8	-13.3	-7.8	-2.2	-3.8	-1.8	-3.1	-2.2	-4.7	-3.5	-0.8	0.4	**-3.4**	0.1	0.5	0.1	**-4.3**	-2.3	-1.8	-0.9
WLSs-subset	**-10.0**	**-13.8**	-7.5	**-2.8**	-3.6	**-2.2**	-3.1	**-2.9**	**-5.4**	**-4.1**	**-1.9**	**-0.4**	**-3.4**	0.8	1.1	0.7	**-4.3**	-2.2	-1.7	**-1.1**
WLSs-intuitive	-9.8	-13.3	-7.8	-2.2	-3.8	-1.8	-3.1	-2.2	-4.7	-3.5	-0.8	0.4	**-3.4**	0.1	0.5	0.1	**-4.3**	-2.3	-1.8	-0.9
WLSs-lasso	-9.8	-13.3	-7.8	-2.2	-3.8	-1.8	-3.1	-2.2	-4.7	-3.5	-0.8	0.4	**-3.4**	0.1	0.5	0.1	**-4.3**	-2.3	-1.8	-0.9
WLSv	-9.9	-14.2	-8.5	-2.6	2.9	-0.4	-1.8	-1.4	-3.1	-2.3	-0.5	0.3	-0.5	0.9	0.9	0.4	-0.7	-1.4	-1.3	-0.6
WLSv-subset	**-14.5**	**-16.3**	**-9.3**	**-3.5**	**1.6**	**-1.1**	**-2.6**	**-2.2**	**-5.3**	**-2.9**	**-0.7**	**-0.8**	**-1.7**	**0.3**	**0.8**	**0.0**	**-2.4**	**-2.2**	**-1.7**	**-1.3**
WLSv-intuitive	-9.9	-14.2	-8.5	-2.6	2.9	-0.4	-1.8	-1.4	-3.1	-2.3	-0.5	0.3	-0.5	0.9	0.9	0.4	-0.7	-1.4	-1.3	-0.6
WLSv-lasso	-9.9	-14.2	-8.5	-2.6	2.9	-0.4	-1.8	-1.4	-3.1	-2.3	-0.5	0.3	-0.5	0.9	0.9	0.4	-0.7	-1.4	-1.3	-0.6
MinTs	-4.1	-10.7	-7.5	-2.3	-2.0	-1.4	-2.5	-1.8	-1.5	-0.7	-0.9	-0.1	-2.8	0.3	0.6	**0.0**	-2.5	-1.4	-1.6	-0.9
MinTs-subset	**-7.0**	-9.8	-4.7	-2.0	-1.9	-0.5	-1.9	-1.4	**-2.2**	**-1.8**	0.6	0.7	**-3.2**	0.3	0.9	0.3	**-3.0**	-1.2	-0.7	-0.5
MinTs-intuitive	-4.1	-10.7	-7.5	-2.3	-2.0	-1.4	-2.5	-1.8	-1.5	-0.7	-0.9	-0.1	-2.8	0.3	0.6	**0.0**	-2.5	-1.4	-1.6	-0.9
MinTs-lasso	-4.1	-10.7	-7.5	-2.3	-2.0	-1.4	-2.5	-1.8	-1.5	-0.7	-0.9	-0.1	-2.8	0.3	0.6	**0.0**	-2.5	-1.4	-1.6	-0.9
EMinT	-10.5	**-28.9**	-8.6	**-15.2**	13.6	12.3	11.0	3.9	22.8	20.2	4.4	**-5.4**	17.2	25.1	25.6	19.5	14.7	15.2	13.6	4.8
Elasso	11.5	8.4	4.5	1.0	**-9.1**	**-4.7**	**-8.6**	**-8.5**	33.5	**19.7**	8.4	4.1	**9.1**	**5.3**	**2.8**	**0.4**	**7.7**	**4.4**	**0.4**	**-1.4**

Tourism

Table 4: 3 test sets.

	Top				State				Zone				Region				Average			
Method	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12
Base	845.0	1239.9	1461.5	1838.3	622.2	450.1	451.2	476.2	211.0	182.9	177.9	185.2	103.4	94.3	91.8	94.0	169.0	148.6	147.8	156.0
BU	78.9	52.5	36.6	30.9	**-8.0**	0.9	6.4	8.8	0.9	-0.4	1.0	1.3	0.0	0.0	0.0	0.0	2.0	4.0	4.8	5.4
OLS	**-14.2**	2.3	2.5	2.4	0.6	-4.7	**-3.9**	-3.9	3.2	-2.0	-3.4	**-4.6**	1.3	-0.2	-1.5	-2.3	1.0	-1.4	**-2.2**	**-2.8**
OLS-subset	-14.0	**-2.6**	**-3.6**	**-6.0**	**0.4**	-2.7	-3.8	**-6.3**	**3.1**	-0.4	-1.1	-3.0	1.5	3.3	1.6	0.6	1.0	0.6	-0.7	-2.5
OLS-intuitive	**-14.2**	2.3	2.5	2.4	0.6	-4.7	**-3.9**	-3.9	3.2	-2.0	-3.4	**-4.6**	1.3	-0.2	-1.5	-2.3	1.0	-1.4	**-2.2**	**-2.8**
OLS-lasso	**-14.2**	2.3	2.5	2.4	0.6	-4.7	**-3.9**	-3.9	3.2	-2.0	-3.4	**-4.6**	1.3	-0.2	-1.5	-2.3	1.0	-1.4	**-2.2**	**-2.8**
WLSs	-11.4	25.8	19.1	17.2	-6.4	-3.8	0.0	1.6	0.1	-1.9	-2.0	-2.4	0.3	-0.4	-1.1	-1.5	-1.9	0.5	0.7	0.8
WLSs-subset	**-11.7**	**3.9**	**2.6**	**-0.1**	**-7.2**	**-5.9**	**-2.9**	**-2.5**	**-0.3**	-1.2	-1.4	**-2.6**	**-0.2**	0.8	0.1	-0.4	**-2.4**	**-0.8**	**-0.7**	**-1.4**
WLSs-intuitive	-11.4	25.8	19.1	17.2	-6.4	-3.8	0.0	1.6	0.1	-1.9	-2.0	-2.4	0.3	-0.4	-1.1	-1.5	-1.9	0.5	0.7	0.8
WLSs-lasso	-11.4	25.8	19.1	17.2	-6.4	-3.8	0.0	1.6	0.1	-1.9	-2.0	-2.4	0.3	-0.4	-1.1	-1.5	-1.9	0.5	0.7	0.8
WLSv	3.6	33.8	24.6	21.6	-7.4	-2.5	1.9	3.8	-0.2	-1.6	-1.3	-1.5	-1.3	-1.1	-1.4	-1.5	-2.2	1.1	1.6	1.9
WLSv-subset	27.3	**16.3**	**12.2**	**11.4**	-6.9	**-6.5**	**-1.6**	**-0.2**	0.2	**-3.6**	**-2.8**	**-3.3**	**-1.6**	**-1.5**	**-1.6**	**-2.0**	-1.0	**-1.7**	**-0.7**	**-0.6**
WLSv-intuitive	3.6	33.8	24.6	21.6	-7.4	-2.5	1.9	3.8	-0.2	-1.6	-1.3	-1.5	-1.3	-1.1	-1.4	-1.5	-2.2	1.1	1.6	1.9
WLSv-lasso	3.6	33.8	24.6	21.6	-7.4	-2.5	1.9	3.8	-0.2	-1.6	-1.3	-1.5	-1.3	-1.1	-1.4	-1.5	-2.2	1.1	1.6	1.9
MinTs	-12.5	26.0	20.1	17.6	-7.2	-3.9	0.4	2.1	**-1.6**	-2.4	-2.1	-2.5	**-1.9**	**-1.5**	-1.9	-2.1	**-3.5**	-0.2	0.5	0.7
MinTs-subset	**-13.8**	**8.6**	**6.5**	**5.8**	-4.4	**-5.9**	**-3.5**	**-2.8**	0.1	**-2.9**	**-3.5**	**-4.6**	-0.9	-1.3	**-2.1**	**-2.7**	-2.0	**-1.9**	**-2.0**	**-2.3**
MinTs-intuitive	-12.5	26.0	20.1	17.6	-7.2	-3.9	0.4	2.1	**-1.6**	-2.4	-2.1	-2.5	**-1.9**	**-1.5**	-1.9	-2.1	**-3.5**	-0.2	0.5	0.7
MinTs-lasso	-12.5	26.0	20.1	17.6	-7.2	-3.9	0.4	2.1	**-1.6**	-2.4	-2.1	-2.5	**-1.9**	**-1.5**	-1.9	-2.1	**-3.5**	-0.2	0.5	0.7
EMinT	201.2	26.8	1.4	-0.2	32.9	39.0	37.7	37.7	90.4	70.6	60.3	57.0	104.5	80.7	76.5	71.5	87.9	65.6	57.6	53.2
Elasso	**-8.3**	**-7.7**	**-4.8**	**-7.0**	**13.6**	**12.2**	**2.0**	**-1.7**	**18.3**	**8.3**	**6.4**	**2.6**	**26.6**	**12.2**	**11.8**	**7.9**	**19.5**	**9.5**	**6.8**	**3.0**

Table 5: 4 test sets.

	Top				State				Zone				Region				Average			
Method	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12
Base	1146.2	1614.7	1792.9	2050.1	630.8	489.4	476.1	489.6	217.7	190.7	183.2	188.0	104.4	95.2	91.7	93.5	174.5	157.0	153.6	159.1
BU	70.6	33.4	24.0	21.7	**-7.4**	0.8	5.1	7.0	-0.7	-0.3	0.8	1.0	0.0	0.0	0.0	0.0	2.3	3.2	3.7	4.1
OLS	-6.5	1.4	1.6	1.6	0.9	-3.0	**-2.6**	-2.7	1.7	-1.7	-2.7	**-3.6**	0.9	-0.2	-1.2	-1.7	0.7	-1.0	**-1.6**	**-2.1**
OLS-subset	-6.3	**-1.1**	**-1.6**	**-4.1**	**0.8**	-1.2	-2.1	**-4.4**	**1.6**	0.0	-0.5	-2.0	1.0	2.7	1.6	0.7	0.7	0.8	-0.1	-1.6
OLS-intuitive	-6.5	1.4	1.6	1.6	0.9	-3.0	**-2.6**	-2.7	1.7	-1.7	-2.7	**-3.6**	0.9	-0.2	-1.2	-1.7	0.7	-1.0	**-1.6**	**-2.1**
OLS-lasso	-6.5	1.4	1.6	1.6	0.9	-3.0	**-2.6**	-2.7	1.7	-1.7	-2.7	**-3.6**	0.9	-0.2	-1.2	-1.7	0.7	-1.0	**-1.6**	**-2.1**
WLSs	5.1	16.0	12.4	11.9	-6.0	-2.3	0.4	1.6	-0.6	-1.6	-1.6	-1.9	0.2	-0.3	-0.9	-1.1	-1.2	0.4	0.6	0.7
WLSs-subset	5.1	**2.8**	**2.4**	**-0.5**	**-6.6**	**-3.5**	**-1.3**	**-1.5**	**-0.9**	-0.5	-0.8	**-2.0**	**-0.2**	0.9	0.2	-0.2	**-1.5**	**-0.2**	**-0.2**	**-1.0**
WLSs-intuitive	5.1	16.0	12.4	11.9	-6.0	-2.3	0.4	1.6	-0.6	-1.6	-1.6	-1.9	0.2	-0.3	-0.9	-1.1	-1.2	0.4	0.6	0.7
WLSs-lasso	5.1	16.0	12.4	11.9	-6.0	-2.3	0.4	1.6	-0.6	-1.6	-1.6	-1.9	0.2	-0.3	-0.9	-1.1	-1.2	0.4	0.6	0.7
WLSv	16.2	21.0	15.9	15.0	-7.3	-1.5	1.7	3.1	-1.0	-1.3	-1.1	-1.3	-1.5	-0.9	-1.1	-1.2	-1.6	0.9	1.2	1.5
WLSv-subset	19.7	**10.0**	**7.9**	**7.9**	-5.2	**-4.2**	**-0.9**	**0.1**	-0.6	**-2.9**	**-2.3**	**-2.7**	-1.4	**-1.2**	**-1.3**	**-1.5**	-0.8	**-1.2**	**-0.5**	**-0.4**
WLSv-intuitive	16.2	21.0	15.9	15.0	-7.3	-1.5	1.7	3.1	-1.0	-1.3	-1.1	-1.3	-1.5	-0.9	-1.1	-1.2	-1.6	0.9	1.2	1.5
WLSv-lasso	16.2	21.0	15.9	15.0	-7.3	-1.5	1.7	3.1	-1.0	-1.3	-1.1	-1.3	-1.5	-0.9	-1.1	-1.2	-1.6	0.9	1.2	1.5
MinTs	3.7	15.8	12.8	12.0	-6.7	-2.5	0.6	1.8	**-2.1**	-1.9	-1.7	-2.1	**-2.1**	**-1.4**	-1.6	-1.7	**-2.8**	-0.2	0.3	0.5
MinTs-subset	**-1.8**	**5.8**	**4.5**	**4.2**	-3.6	**-3.8**	**-2.3**	**-1.8**	-0.8	**-2.5**	**-2.9**	**-3.6**	-1.1	-1.1	**-1.7**	**-2.0**	-1.6	**-1.4**	**-1.5**	**-1.7**
MinTs-intuitive	3.7	15.8	12.8	12.0	-6.7	-2.5	0.6	1.8	**-2.1**	-1.9	-1.7	-2.1	**-2.1**	**-1.4**	-1.6	-1.7	**-2.8**	-0.2	0.3	0.5
MinTs-lasso	3.7	15.8	12.8	12.0	-6.7	-2.5	0.6	1.8	**-2.1**	-1.9	-1.7	-2.1	**-2.1**	**-1.4**	-1.6	-1.7	**-2.8**	-0.2	0.3	0.5
EMinT	97.5	4.5	**-7.6**	**-6.9**	42.1	39.9	39.5	39.6	107.1	78.4	68.5	63.8	127.0	92.4	87.8	80.4	99.9	69.8	62.7	57.6
Elasso	**-7.7**	**-4.4**	-2.6	-5.2	**9.9**	**8.7**	**2.0**	**-1.2**	**14.4**	**6.8**	**5.5**	**2.0**	**19.9**	**9.4**	**9.9**	**6.7**	**14.3**	**7.2**	**5.8**	**2.5**

Table 6: 5 test sets.

	Top				State				Zone				Region				Average			
Method	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12	h=1	1-4	1-8	1-12
Base	1012.4	1478.3	1626.5	1854.6	566.2	454.4	440.7	459.9	206.8	186.2	178.4	183.8	104.9	95.6	91.1	93.1	167.0	152.7	148.2	154.2
BU	89.9	35.7	24.5	21.2	-4.6	2.3	5.6	7.4	1.2	0.3	1.4	1.5	0.0	0.0	0.0	0.0	4.3	3.6	3.9	4.1
OLS	-3.6	1.7	1.6	1.6	0.5	-2.6	**-2.4**	-2.3	1.4	-1.7	**-2.3**	**-3.1**	0.3	-0.4	-1.3	**-1.8**	0.5	**-1.0**	**-1.5**	**-1.9**
OLS-subset	-3.3	**-2.1**	**0.7**	**-2.4**	**0.4**	-0.8	-0.9	**-3.0**	1.6	0.0	0.5	-1.0	0.9	2.7	1.9	1.1	0.8	0.8	0.8	-0.6
OLS-intuitive	-3.6	1.7	1.6	1.6	0.5	-2.6	**-2.4**	-2.3	1.4	-1.7	**-2.3**	**-3.1**	0.3	-0.4	-1.3	**-1.8**	0.5	**-1.0**	**-1.5**	**-1.9**
OLS-lasso	-1.5	2.0	1.8	1.7	0.8	-2.2	-1.9	-1.4	3.1	-1.1	-1.6	-2.3	0.8	-0.2	-1.0	-1.5	1.4	-0.7	-1.1	-1.4
WLSs	19.4	17.9	12.5	11.6	-5.7	-1.3	0.7	1.9	0.2	-1.2	-1.0	-1.3	-0.2	-0.5	-1.0	-1.2	-0.2	0.7	0.7	0.7
WLSs-subset	24.4	**5.9**	**3.6**	**0.7**	-5.3	**-2.7**	**-0.5**	**0.0**	0.3	-0.2	0.0	-1.0	**-0.4**	0.6	0.1	-0.1	0.1	**0.2**	**0.3**	**-0.3**
WLSs-intuitive	19.4	17.9	12.5	11.6	-5.7	-1.3	0.7	1.9	0.2	-1.2	-1.0	-1.3	-0.2	-0.5	-1.0	-1.2	-0.2	0.7	0.7	0.7
WLSs-lasso	24.0	18.8	13.4	12.0	-4.7	-1.0	1.2	2.6	0.8	-1.0	-0.7	-0.9	0.0	-0.4	-0.8	-1.0	0.5	1.0	1.0	1.1
WLSv	32.5	23.1	16.1	14.6	-6.4	-0.5	1.9	3.3	-0.3	-1.1	-0.7	-0.9	-1.5	-0.9	-1.2	-1.3	-0.3	1.2	1.2	1.4
WLSv-subset	37.7	**13.5**	**9.5**	**8.6**	-4.2	**-2.5**	**0.2**	**1.3**	0.5	**-2.4**	**-1.4**	**-1.7**	-0.8	-0.8	-1.1	-1.3	1.0	**-0.3**	**0.1**	**0.2**
WLSv-intuitive	40.6	24.9	17.4	15.3	-4.5	0.3	2.7	4.1	1.0	-0.6	-0.1	-0.3	-1.2	-0.7	-0.9	-1.0	1.0	1.8	1.8	1.9
WLSv-lasso	35.7	23.4	16.7	14.8	-5.7	-0.3	2.4	3.9	0.3	-0.9	-0.3	-0.4	-1.3	-0.8	-1.0	-1.0	0.3	1.4	1.6	1.8
MinTs	19.1	18.1	13.1	11.9	**-6.5**	-1.6	0.8	2.1	**-1.7**	-1.8	-1.3	-1.6	**-2.0**	**-1.3**	**-1.6**	-1.7	**-1.7**	0.2	0.4	0.5
MinTs-subset	**15.4**	**8.4**	**6.2**	**5.0**	-2.2	**-2.3**	**-0.8**	**-0.6**	1.5	**-1.9**	**-1.8**	**-2.4**	-0.5	-1.1	-1.4	-1.6	0.6	**-0.7**	**-0.6**	**-0.9**
MinTs-intuitive	19.1	18.1	13.1	11.9	**-6.5**	-1.6	0.8	2.1	**-1.7**	-1.8	-1.3	-1.6	**-2.0**	**-1.3**	**-1.6**	-1.7	**-1.7**	0.2	0.4	0.5
MinTs-lasso	23.8	18.7	13.9	12.2	-5.5	-1.2	1.4	2.7	-0.9	-1.5	-0.8	-1.1	-1.8	-1.2	-1.4	-1.5	-0.9	0.5	0.8	0.9
EMinT	119.3	15.5	21.8	19.6	61.1	50.5	52.1	51.3	110.4	79.3	75.8	71.4	124.1	89.5	92.1	84.9	106.2	72.7	72.9	67.6
Elasso	**-5.0**	**-0.9**	**-1.6**	**-4.1**	**8.1**	**8.3**	**1.6**	**-1.3**	**13.2**	**6.0**	**4.2**	**1.6**	**15.5**	**7.8**	**7.6**	**4.9**	**12.1**	**6.6**	**4.6**	**1.8**