

EMFAC-HK Version 3.1.1

Input File Formats

Objectives

- Describe/illustrate EMFAC-HK v 3.1.1 input file format and keywords
- Provide general description of the input file format to facilitate creating/modifying input files outside of the GUI.
- Provide steps to run EMFAC-HK Version 3.1.1 without using the GUI (i.e., non-interactively or “batch” mode)
- Demonstration

Components

- **EMFAC-HK V3.1.1 Input file Format**
 - New features
 - Structure of input Files
 - Keywords / Indices
 - Running from the command-line
 - Batch mode use of EMFAC-HK
 - Running/Processing Older INP File Formats

EMFAC-HK V3.1.1 New Features

- Single Scenario Model
- INP in SI (i.e. HK) Units

Parameter	V2.5 INP (English)	V3.1.1 INP (Metric)
Accrual rates	Mile	Km
VKT	Mile	Km
Temperature	deg F	deg C
Relative Humidity	Percent	(no change)
Other Parameters (i.e, fractions, trips, etc)	Unitless	(no change)

- EMFAC-HK can read older INP files ¹
- Vehicle Classes re-ordered (five placeholders moved to Index 17-21)

¹ Version 2.1 or newer.

Caution: new tech group and other data changes have been applied, and definitions of some existing tech groups have been modified. Also cannot read multiple scenario runs.

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Example Input File

```
HK_2030_Burden.inp
1 EmfachHK3B-Header
2 ....Version 3.0.9.0.....
3 ....Scenario-Count 1
4 ....HK-IM-Y 20 20 2014 85 85 2014 40 40 2014 20 20 2014 0 0 2014
5 ....HKUNITS-Y
6 End-Header
7 Begin-Scenario 1
8 ....Title Hong Kong SAR Annual CYr 2030 Default Title
9 ....Program-Mode Burden
10 ....Area-Method One-County
11 ....Area-Type SAR
12 ....Area-Number 38 [Hong Kong SAR]
13 ....HC-Mode VOC
14 ....PM-Mode PM10
15 ....CYr 2030
16 ....BYr -1
17 ....MYr All
18 ....Vehicles PC TAXI LGV3 LGV4 LGV6 HGV7
19 ....Season Annual
20 ....Burden-Reports CSV_Standard BCD
21 ....Burden-Daily
22 ....Burden-Speeds 5
23 End-Scenario
24
```

New "Header"

Include/exclude HK in-use emission reduction programs (reduction values not editable in GUI)

New Alt. Baseline Year: -1 = "Inactive"
Baseline Calendar Year is shown if activated.
For example, "Byr 2014" if Alt. Baseline Year 2014 was activated.

Annotated Sample Input File (Basic Scenario)

```
D:\Users\Arney Srackangast\Documents\My Projects\HongKong\2015\07_Training\00_Preparation\HK_2030_Burden_ANNOTATED.inp.txt
1 EmfacHK3B-Header .....! EMFAC-HK Header (Beta Header)
2 .....Version 3 0 9 0 .....! Version Which Created Input File
3 .....Scenario-Count 1 .....! Number of Scenarios (EMFAC-HK V3.1: Always 1)
4 .....HK-IM Y 20 20 2014 85 85 2014 40 40 2014 20 20 2014 0 0 2014 .....! HK-IM (Y or N); Regime Size Data
5 .....HKUNITS Y .....! INP Data in HK/SI Units (Y or N)
6 End-Header .....! End of Header
7 Begin-Scenario 1 .....! Begin Scenario #1
8 .....Title Hong Kong SAR Annual CYr 2030 Default Title .....! Title Scenario #1
9 .....Program-Mode Burden .....! Program Mode (EMFAC or Burden)
10 .....Area-Method One-County .....! Area-Method Always One-County
11 .....Area-Type SAR .....! Area-Type Always SAR
12 .....Area-Number 38 [Hong Kong SAR] .....! Area-Number Always 38
13 .....HC-Mode VOC .....! HC-Mode Always VOC
14 .....PM-Mode PM10 .....! PM-Mode PM30, PM10, or PM2.5
15 .....CYr 2030 .....! Scenario Calendar Year (EMFAC-HK V3.1: ONLY SINGLE)
16 .....BYr -1 .....! Scenario Baseline Year (-1 if Inactive)
17 .....MYr All .....! Scenario Model Years: All typically
18 .....Vehicles PC TAXI LGV3 LGV4 LGV6 HGV7 HGV8 PLB PV4 PV5 NFB6 NFB7 NFB8 FBSD FBDD MC .....! Vehicle Classes to Run
19 .....Season Annual .....! Season
20 .....Burden-Reports CSV_Standard BCD .....! Burden-Reports: CSV_Standard, BCD, Weight, Detail_M
21 .....Burden-Daily .....! Frequency of Output: Burden-Daily or Burden-Hourly
22 .....Burden-Speeds 5 .....! Burden Speed Bins: 5 or 10 (KPH)
23 End-Scenario .....! End of Scenario #1
24
```

Annotated Sample Input File (HK_2015_M&HGV_speed.inp)

```
0 10 20 30 40 50 60 70 80 90 100 110
EmfacHK3B-Header
... Version 3 0 9 0 .....
... Scenario-Count 1
... HK-IM Y 20 20 2014 85 85 2014 40 40 2014 20 20 2014 0 0 2014
... HKUNITS N
End-Header
Begin-Scenario 1
... Title Hong Kong SAR Annual CYr 2015 Default Title
... Program-Mode Burden
... Area-Method One-County
... Area-Type SAR
... Area-Number 38 [Hong Kong SAR]
... HC-Mode VOC
... PM-Mode PM10
... CYr 2015
... BYr -1
... MYr All
... Vehicles PC TAXI LGV3 LGV4 LGV6 HGV7 HGV8 PLB PV4 PV5 NFB6 NFB7 NFB8 FBSD FBDD MC
... Season Annual
... Burden-Reports CSV_Standard BCD
... Burden-Daily
... Burden-Speeds 5
End-Scenario
Begin-Scenario-ProgData 2
... Begin-Data-Item
... ..DataType 7 SpeedFractions .....
... ..Applies-To CYr 2015
... ..Applies-To Area-Method One-County
... ..Applies-To Area-Type SAR
... ..Applies-To Area-Number 38 [Hong Kong SAR]
... ..Applies-To Vehicle HGV8
... ..Integer-Value 5
... ..Begin-Real-Array
... ..Dims 18 24 1 1
... ..Data
.....-5.0000001E-02 0 0 0.2 0 0 0.25 0.25 0.25 0 0 0 0 0 0 0 0 0 0 0 -! Speed Bin 1-18. Hour 1
.....-5.0000001E-02 0 0 0.2 0 0 0.25 0.25 0.25 0 0 0 0 0 0 0 0 0 0 0 -! Speed Bin 1-18. Hour 2
.....-5.0000001E-02 0 0 0.2 0 0 0.25 0.25 0.25 0 0 0 0 0 0 0 0 0 0 0 -! Speed Bin 1-18. Hour 3
.....-5.0000001E-02 0 0 0.2 0 0 0.25 0.25 0.25 0 0 0 0 0 0 0 0 0 0 0 -! Speed Bin 1-18. Hour 4
.....-5.0000001E-02 0 0 0.2 0 0 0.25 0.25 0.25 0 0 0 0 0 0 0 0 0 0 0 -! Speed Bin 1-18. Hour 5
.....-5.0000001E-02 0 0 0.2 0 0 0.25 0.25 0.25 0 0 0 0 0 0 0 0 0 0 0 -! Speed Bin 1-18. Hour 6
```

EMFAC-HK Version 3.1.1 Input Format

Program Data Edit Syntax

	A
1	! scenario data
2	!BEGIN-SCENARIO-PROGDATA (# Data Items)
3	! BEGIN-DATA-ITEM (Repeat for each data item)
4	! DATATYPE 19 PopTotal
5	! APPLIES-TO CYR 2020
6	! APPLIES-TO BYR 2014
7	! APPLIES-TO SEASON Summer
8	! APPLIES-TO AREA-METHOD One-County
9	! APPLIES-TO AREA-TYPE SAR
10	! APPLIES-TO AREA-NUMBER 38
11	! APPLIES-TO VEHICLE PC
12	! APPLIES-TO MYR All
13	! APPLIES-TO AGES All
14	! APPLIES-TO EXH-TECH-GROUP 23
15	! APPLIES-TO EVAP-TECH-GROUP 15
16	! APPLIES-TO FUEL Gas
17	! REAL-VALUE nn.nn
18	! INTEGER-VALUE nn
19	! BEGIN-REAL-ARRAY nn
20	! values.nn
21	! END-REAL-ARRAY
22	! END DATA-ITEM
23	!END-SCENARIO-PROGDATA

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Program Data – Data Item

```

24 Begin-Scenario-ProgData 1
25 Begin-Data-Item
26     DataType 22 PopVehicleFuelAge
27     Applies-To CYr 2013
28     Applies-To Area-Method One-County
29     Applies-To Area-Type SAR
30     Applies-To Area-Number 38 [Hong Kong SAR]
31
32 Begin-Real-Array
33     Dims 45 21 3 1
34     Data
35     43147. 41924. 40211. 38366. 26670. 33171. 31442. 25934. 24914. 24698. 19397. 23828. 24276. 21011. 15268. 13542. 12773. 4111. 2804. 2611. 1464. 880. 605. 369. 277. 176. 118. 1
36     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
37     0 2. 0 0 0 0 0 1. 0 0 0 5. 4. 2. 1. 0 1. 3. 15. 5. 8. 3. 6. 2. 5. 3. 3. 1. 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
38     73. 169. 181. 81. 272. 94. 331. 130. 124. 67. 63. 49. 68. 97. 26. 12. 3. 1. 2. 1. 2. 1. 2. 1. 2. 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
39     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
40     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
41     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
42     4. 103. 1. 5. 89. 52. 52. 6. 102. 121. 52. 22. 15. 24. 0 0 0 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
43     0 0 1. 0 0 7. 0 2. 0 0 0 2. 1. 0 1. 4. 2. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
44     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
45     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
46     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
47     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
48     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
49     4342. 3369. 3154. 2564. 2318. 3232. 3382. 3138. 2975. 2880. 2343. 1810. 1420. 1087. 1129. 917. 833. 553. 376. 209. 141. 93. 58. 51. 54. 24. 12. 7. 3. 4. 2. 11. 17. 5. 8. 2. 2
50     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
51     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
52     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
53     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
54     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
55     342. 56. 104. 148. 81. 0 0 0 1. 3. 4. 1. 0 0 0 113. 236. 150. 183. 152. 157. 93. 131. 102. 77. 45. 25. 23. 6. 10. 3. 2. 7. 2. 3. 2. 2. 2. 0 0 1. 0 0 0 2.
56     0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
57     66. 72. 59. 24. 23. 7. 2. 2. 1. 0 1. 0 2. 1. 0 2. 0 4. 22. 97. 111. 75. 53. 96. 53. 39. 27. 11. 1. 0 0 0 0 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
58     4727. 3482. 3167. 2714. 1681. 3795. 3174. 3086. 2858. 2089. 1429. 1617. 1644. 1874. 1726. 2094. 2307. 1232. 1032. 998. 904. 601. 194. 95. 23. 14. 3. 2. 1. 0 0 0 0 0 0 0 0 0 0 0
59     1009. 863. 1048. 960. 629. 1200. 1058. 1120. 1133. 1197. 1030. 1285. 1377. 1539. 1014. 951. 1408. 1259. 996. 1064. 997. 774. 252. 132. 91. 67. 16. 15. 0 1. 0 0 1. 0 0 0 0 0 0 0
60     859. 778. 814. 714. 350. 714. 551. 539. 565. 526. 340. 517. 387. 436. 359. 285. 447. 291. 331. 422. 500. 487. 251. 81. 59. 59. 21. 7. 3. 3. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
61     2689. 2052. 2163. 2090. 680. 1799. 1477. 1538. 1560. 1837. 1298. 1415. 1118. 1544. 867. 720. 1113. 896. 747. 863. 803. 895. 491. 318. 260. 151. 111. 26. 30. 3. 0 1. 0 0 0 0 0 0 0
62     18. 11. 7. 39. 13. 86. 58. 16. 88. 185. 124. 22. 151. 133. 158. 124. 116. 50. 38. 11. 3. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
63     3. 5. 6. 13. 1. 23. 2. 10. 4. 11. 20. 30. 22. 23. 31. 38. 31. 22. 31. 27. 14. 10. 6. 2. 0 1. 0 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
64     391. 188. 191. 56. 58. 172. 75. 31. 29. 20. 21. 39. 92. 115. 86. 58. 76. 59. 73. 82. 53. 37. 26. 7. 17. 4. 2. 0 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

```

Data Item: Population by Vehicle Class, Fuel, Age

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Program Data – Array Data

```

24 Begin-Scenario-ProgData 1
25 .... Begin-Data-Item
26 ..... DataType 22 PopVehicleFuelAge
27 ..... Applies-To CYr 2013
28 ..... Applies-To Area-Method One-County
29 ..... Applies-To Area-Type SAR
30 ..... Applies-To Area-Number 38 [Hong Kong SAR]
31 ..... Begin-Real-Array
32 ..... Dims 45 21 3 1
33 ..... Data
34 43147. 41924. 40211. 38366. 26670. 33171. 31442. 25934. 24914. 24698. 19397. 23828. 24276. 21011. 15268. 13542. 12773. 4111. 2804. 2611. 1464. 880. 605. 369. 277. 176. 118. 1
35 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
36 0 2 0 0 0 0 0 0 1 0 0 0 5 4 2 1 0 1 3 15 5 8 3 6 2 5 3 3 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
37 73. 169. 181. 81. 272. 94. 331. 130. 124. 67. 63. 49. 68. 97. 26. 12. 3. 1. 2. 1. 2. 1. 2. 1. 2. 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
38 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
39 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
40 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
41 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
42 4. 103. 1. 5. 89. 52. 52. 6. 102. 121. 52. 22. 15. 24. 0 0 0 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
43 0 0 1. 0 0 7. 0 2. 0 0 0 2. 1. 0 1. 4. 2. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
44 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
46 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
47 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
48 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
49 4342. 3369. 3154. 2564. 2318. 3232. 3382. 3138. 2975. 2880. 2343. 1810. 1420. 1087. 1129. 917. 833. 553. 2. 11. 17. 5. 8. 2. 2
50 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
51 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
52 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
53 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
54 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
55 342. 56. 104. 148. 81. 0 0 0 1. 3. 4. 1. 0 0 0 113. 236. 150. 183. 152. 157. 93. 131. 102. 77. 45. 25. 23
56 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
57 66. 72. 59. 24. 23. 7. 2. 2. 1. 0 1. 0 2. 1. 0 2. 0 4. 22. 97. 111. 75. 53. 96. 53. 39. 27. 11. 1. 0 0 0
58 4727. 3482. 3167. 2714. 1681. 3795. 3174. 3086. 2858. 2089. 1429. 1617. 1644. 1874. 1726. 2094. 2307. 1232. 1032. 998. 904. 601. 194. 95. 23. 14. 3. 2. 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
59 1009. 863. 1048. 960. 629. 1200. 1058. 1120. 1133. 1197. 1030. 1285. 1377. 1539. 1014. 951. 1408. 1259. 996. 1064. 997. 774. 252. 132. 91. 67. 16. 15. 0 1. 0 0 1. 0 0 0 0 0 0 0 0 0 0 0
60 859. 778. 814. 714. 350. 714. 551. 539. 565. 526. 340. 517. 387. 436. 359. 285. 447. 291. 331. 422. 500. 487. 251. 81. 59. 59. 21. 7. 3. 3. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
61 2689. 2052. 2163. 2090. 680. 1799. 1477. 1538. 1560. 1837. 1298. 1415. 1118. 1544. 867. 720. 1113. 896. 747. 863. 803. 895. 491. 318. 260. 151. 111. 26. 30. 3. 0 1. 0 0 0 0 0 0 0 0 0 0 0 0
62 10. 11. 7. 96. 19. 96. 56. 16. 96. 136. 121. 99. 151. 139. 159. 124. 146. 66. 96. 11. 9. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
63 3. 5. 6. 13. 1. 23. 2. 10. 4. 11. 20. 30. 22. 23. 31. 38. 31. 22. 31. 27. 14. 10. 6. 2. 0 1. 0 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
64 391. 188. 191. 56. 58. 172. 75. 31. 29. 20. 21. 39. 92. 115. 86. 58. 76. 59. 73. 82. 53. 37. 26. 7. 17. 4. 2. 0 1. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

```

21 rows (vehicle class 1-21)

45 columns (ages 1 to 45)

Fuel Block 1 (petrol)
 Repeated for..
 Block 2 (diesel)
 Block 3 (LPG)

Keywords in INP

Keyword	Description
Temperature	Temperature
RelativeHumidity	Relative Humidity
RVP	Gasoline RVP
SpeedFractions	Speed Distribution by Hr
ExhaustTechFrac	Exhaust Technology Group Fractions
EvapTechFrac	Evap Technology Group Fractions
VMTTotal	VMT Total
VMTVehicle	VMT by Vehicle Class
VMTVehicleFuel	VMT by Vehicle Class, Fuel
VMTVehicleFuelHour	VMT by Vehicle Class, Fuel, Hr
TripsTotal	Trips Total
TripsVehicle	Trips by Vehicle Class
TripsVehicleFuel	Trips by Vehicle Class, Fuel
TripsVehicleFuelHour	Trips by Vehicle Class, Fuel, Hr

Keyword	Description
PopTotal	Population Total
PopVehicle	Pop by Vehicle Class
PopVehicleFuel	Pop by Vehicle Class, Fuel
PopVehicleFuelAge	Pop by Vehicle Class, Fuel, Hr
Applies-To Cyr	Pop for Calendar Year
Applies-To Byr	Pop for Alternate Base Year
AccrualTotal	Accrual Total
AccrualVehicle	Accr by Vehicle Class
AccrualVehicleFuel	Accr by Vehicle Class, Fuel
AccrualVehicleFuelAge	Accr by Vehicle Class, Fuel, Hr
HK-IM	Regime Size Change

Note: New Datatype codes added to EMFAC-HK V3.1.1 for VKT, Alt Baseline, HK

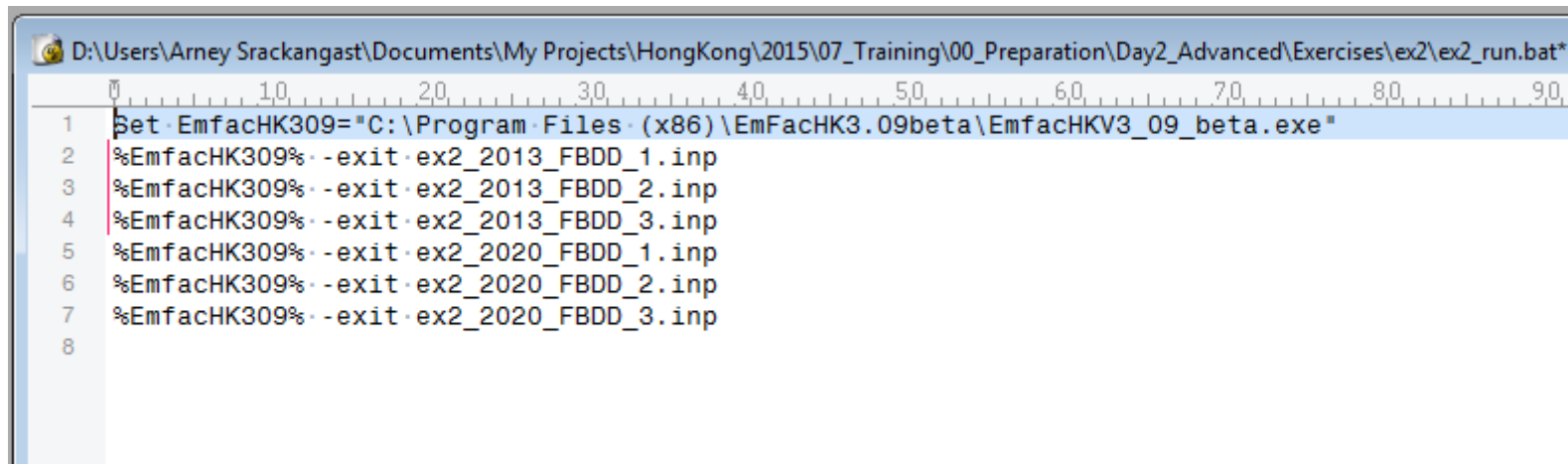
Running EMFAC-HK Non-Interactively (i.e., Bypassing the GUI)

- Purpose: user's who have already created input files and want to run without going through the GUI (i.e., execute the program from the command window or a batch file).
- Find out where EMFAC-HK is installed on your system
 - "C:\Program Files\EMFACHK31" (Windows 32-bit)
 - "C:\Program Files (x86)\EMFACHK31" (Windows 64-bit)
- Use a text editor (i.e., notepad, etc.) and create a batch file to house the non-interactive batch file commands
 - Notepad emfac.bat
- Use the "set" command to create a shortcut to the EMFAC-HK located on your computer.
- Example:
 - set EmfacHK31="C:\Program Files\EMFACHK31\EmfacHKV3_1.exe" (Windows 32-bit)
 - set EmfacHK31="C:\Program Files (x86)\EMFACHK31\EmfacHKV3_1.exe" (Windows 64-bit)

Running EMFAC-HK Non-Interactively (i.e., Bypassing the GUI)

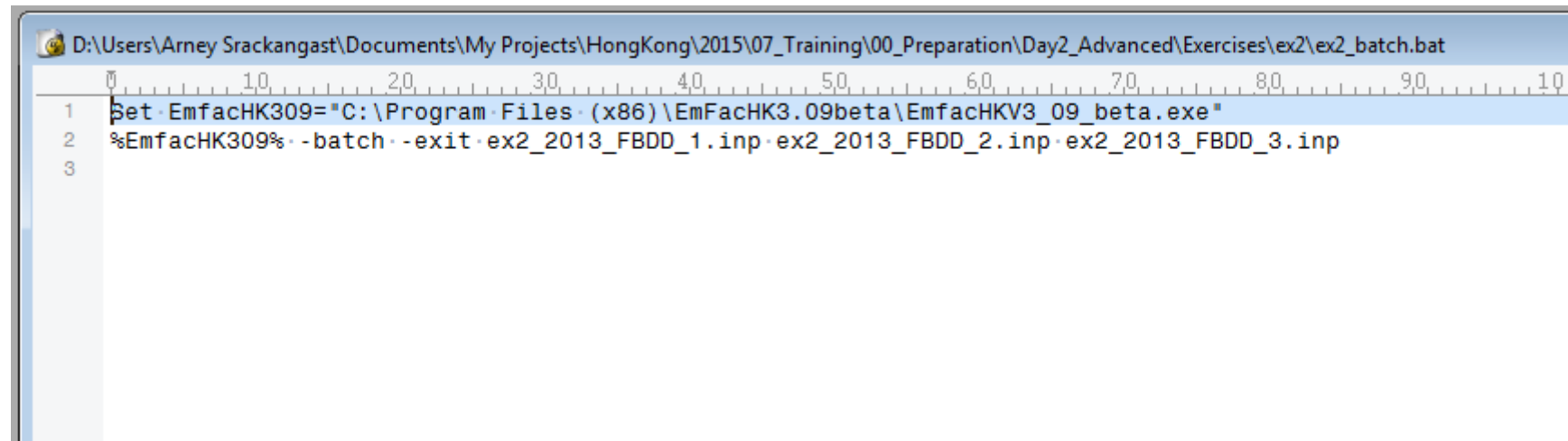
- Executing input files one at a time:
 - `%EMFACHK31% -exit HK_2030_Burden.inp`
- Executing multiple files at a time:
 - `%EMFACHK31% -batch HK_2030_Burden.inp
HK_2015_Burden_by_Hour.inp HK_2015_change_pop_VKT.inp
HK_2015_Conformity_Trip.inp`

Running EMFAC-HK Non-Interactively (One-at-a-Time Example)



```
D:\Users\Arney Srackangast\Documents\My Projects\HongKong\2015\07_Training\00_Preparation\Day2_Advanced\Exercises\ex2\ex2_run.bat*
1 set EmfachHK309="C:\Program Files (x86)\EmFachK3.09beta\EmfachKV3_09_beta.exe"
2 %EmfachHK309% -exit ex2_2013_FBDD_1.inp
3 %EmfachHK309% -exit ex2_2013_FBDD_2.inp
4 %EmfachHK309% -exit ex2_2013_FBDD_3.inp
5 %EmfachHK309% -exit ex2_2020_FBDD_1.inp
6 %EmfachHK309% -exit ex2_2020_FBDD_2.inp
7 %EmfachHK309% -exit ex2_2020_FBDD_3.inp
8
```

Running EMFAC-HK Non-Interactively (Batch Example)



```
D:\Users\Arney Srackangast\Documents\My Projects\HongKong\2015\07_Training\00_Preparation\Day2_Advanced\Exercises\ex2\ex2_batch.bat
1 set EmfachHK309="C:\Program Files (x86)\EmfachK3.09beta\EmfachKV3_09_beta.exe"
2 %EmfachHK309% -batch -exit ex2_2013_FBDD_1.inp ex2_2013_FBDD_2.inp ex2_2013_FBDD_3.inp
3
```


Reading Prior INP Files

- Version 2.1 INP file or newer
- Caution
 - Use at risk
 - Prior INP will have older technology group breakdown
 - Single scenario only

Reading Prior INP Files

