Problem description and general information:

1) The problem instances are for the dynamic pickup and delivery problem with time windows, in which some of the requests are known in advance, and the others are revealed over time.
2) A pickup-delivery pair has to be satisfied on the same day; otherwise, it is rejected (i.e. if a pickup can be performed, but its corresponding delivery pair can not be delivered on the same working day, it will be rejected. No carry over for the next day).
3) There are no capacity constraints on the vehicles, and vehicles start and end at the depot. However, pickup quantities are specified and vehicle capacity limits are set as well, but the capacity limit for the vehicle is so high, it will not be an issue. This was done to allow others to solve a capacitated version of the problem simply by lowering the vehicles' capacity limits.
4) The depot location differs in each problem instance.
5) Problem instances have increasing degree of dynamism (dod_{tw}). See Larsen, 2000 for technical definition.

Files:

Each problem instance has files for the nodes and files for the visits. Node files contain the x and y coordinates of the locations, and the node name. The visit files contain the details of each visit: visit name, visit location (corresponding node), pickup and delivery time windows, pickup and delivery service times, and the realization time of dynamic requests (i.e. when the request becomes known), it should be noted that a dynamic request's realization time must not always be the same as the lower limit of the pickup time window, a customer may request a pickup-delivery pair at, say, 10:00 but the pickup time window starts at 13:00.

Node files are separated into nodes corresponding to static requests (i.e. requests known a priori), and nodes corresponding to dynamic requests (i.e. requests that evolve throughout the day). Visit files are separated in the same way.

File names:
1) Nodes:
   - Each *static* node file name begins with the word "nodes" followed by the range of nodes it contains. For example, file "nodes – 1 – 180" contains location information for the first 180 nodes; these nodes are known in advance and are considered static.
   - Each *dynamic* node file name begins with the word "nodes2" followed by the range of nodes it contains. For example, file "nodes2 – 181 – 308" contains location information for the dynamic requests that evolve throughout the day.

2) Visits:
   - Each *static* visit file name begins with the word "visits" followed by the range of visits it contains. For example, file "visits – 1 – 180" contains visit information for the first 180 visits; these nodes are known in advance and are considered static.
   - Each *dynamic* visit file name begins with the word "visits2" followed by the range of visits it contains. For example, file "visits2 – 181 – 308" contains visit information for the dynamic requests that evolve throughout the day.
   - Some of the *dynamic* visits files contain extra words, like "easy" or "hard". The "easy" file indicates that the visits have lower dod_{tw} compared to those files with the word "hard". Meaning, some of the dynamic visits files are exactly the same, in terms of location, service time, and quantities; however, there time windows differ so does the realization time of the dynamic requests.

Note: the example means that the problem instance consists of 308 nodes\visits, in total, 180 of which are static, and the remaining are dynamic.

Summary table

Set #	Static	Dynamic	Total	edod$_{tw}$
1	1 ~ 20	21 ~ 58	58	0.52
2	1 ~ 50	51 ~ 68	68	0.17
3	1 ~ 30	31 ~ 88	88	0.46
4	1 ~ 18	19 ~ 96	96	0.61
5	1 ~ 60	61 ~ 98	98	0.26
6	1 ~ 46	47 ~ 104	104	0.45
7	1 ~ 12	13 ~ 110	110	0.70
8	1 ~ 32	33 ~ 130	130	0.52
9	1 ~ 32	33 ~ 130	130	0.62
10	1 ~ 16	17 ~ 154	154	0.58
11	1 ~ 16	17 ~ 154	154	0.69
12	1 ~ 48	49 ~ 166	166	0.51
13	1 ~ 48	49 ~ 166	166	0.60
14	1 ~ 40	40 ~ 178	178	0.48
15	1 ~ 40	40 ~ 178	178	0.63
16	1 ~ 58	59 ~ 196	196	0.46
17	1 ~ 58	59 ~ 196	196	0.60
18	1 ~ 70	71 ~ 208	208	0.40
19	1 ~ 70	71 ~ 208	208	0.53
20	1 ~ 82	83 ~ 220	220	0.41
21	1 ~ 82	83 ~ 220	220	0.54
22	1 ~ 66	67 ~ 244	244	0.51
23	1 ~ 26	27 ~ 244	244	0.70
24	1 ~ 150	151 ~ 268	268	0.32
25	1 ~ 150	151 ~ 268	268	0.36
26	1 ~ 140	141 ~ 298	298	0.26
27	1 ~ 140	141 ~ 298	298	0.29
28	1 ~ 180	181 ~ 308	308	0.30
29	1 ~ 50	51 ~ 308	308	0.55
30	1 ~ 22	23 ~ 320	320	0.68