



BAPHL 15: The Search for BAPHL 14

Bodacious Boston Grand Prix

It is (always) road construction season in Boston, so MassDOT is planning to perform a fair amount of road work. Unfortunately we managed to obtain only a rough outline of the road construction plans.

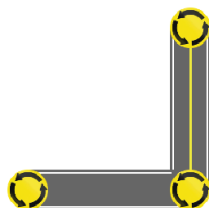
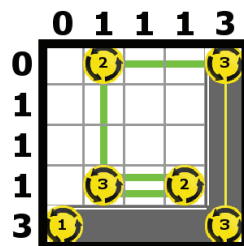
There are two maps— an (incomplete) map of existing streets, which only shows rotaries, and an unordered set of construction plans. You should be able to figure out where all the streets are and on which streets construction is occurring.

All streets begin and end at distinct rotaries, travelling a straight line in between. Streets must not cross other streets or rotaries. Streets only run N/S or E/W (parallel to the map edges). Each rotary is marked on the map with how many lanes connect to that rotary. A street has at most two lanes (but is the same width, 1 square wide, either way). Ignoring road construction, it is possible to travel from any rotary in town to any other rotary. And as anyone who has driven around Boston knows, it is incredibly easy to end up going in circles.

Road work is planned only for existing roads. No new roads are ever built. The numbers in the north and west of the street map indicate how many squares of road construction are planned in that slice (column or row) of the map. No one ever repairs the rotaries in Boston, so the rotaries are not included in the counts of construction. The construction plans we found may be rotated from their correct orientations on the map. Road construction workers are friendly people (friendlier than sailors), so road work may be adjacent to other road work, but may not overlap.

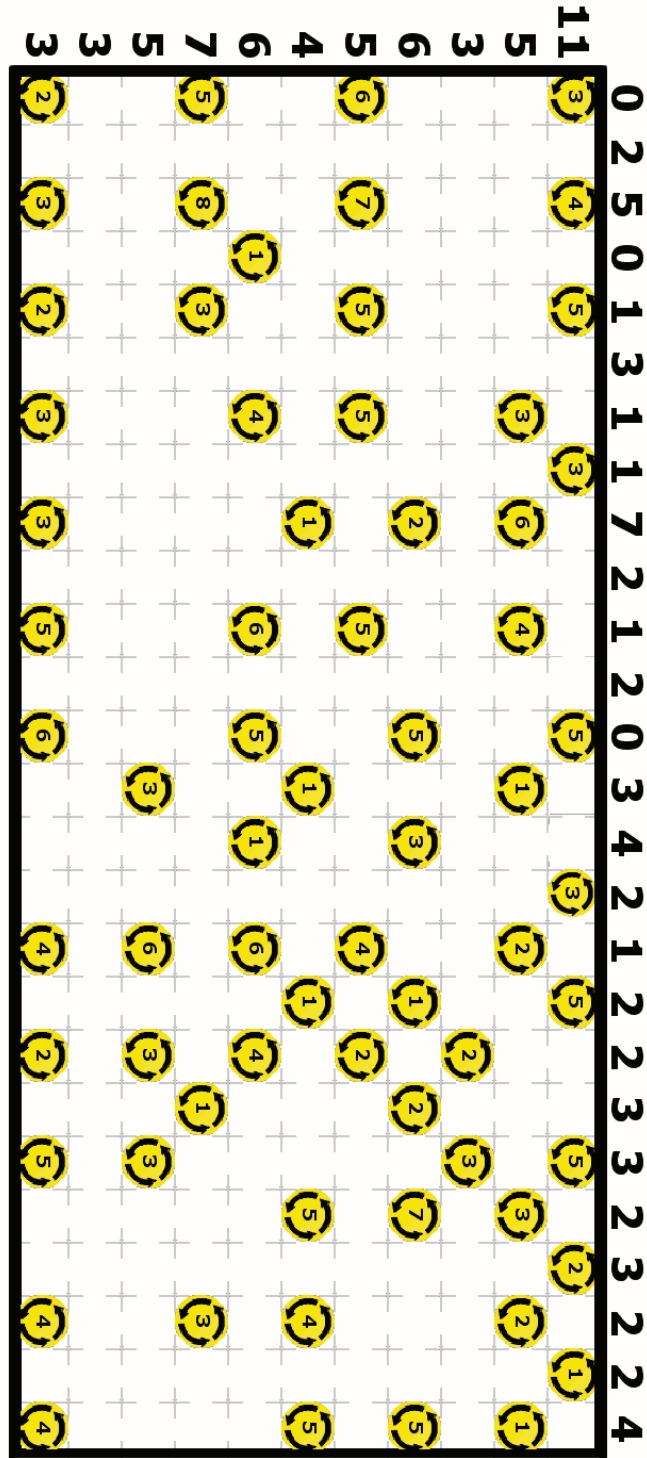
Once you know where all the roads are and the road work is happening, maybe you can find a detour through this darn town.

Example



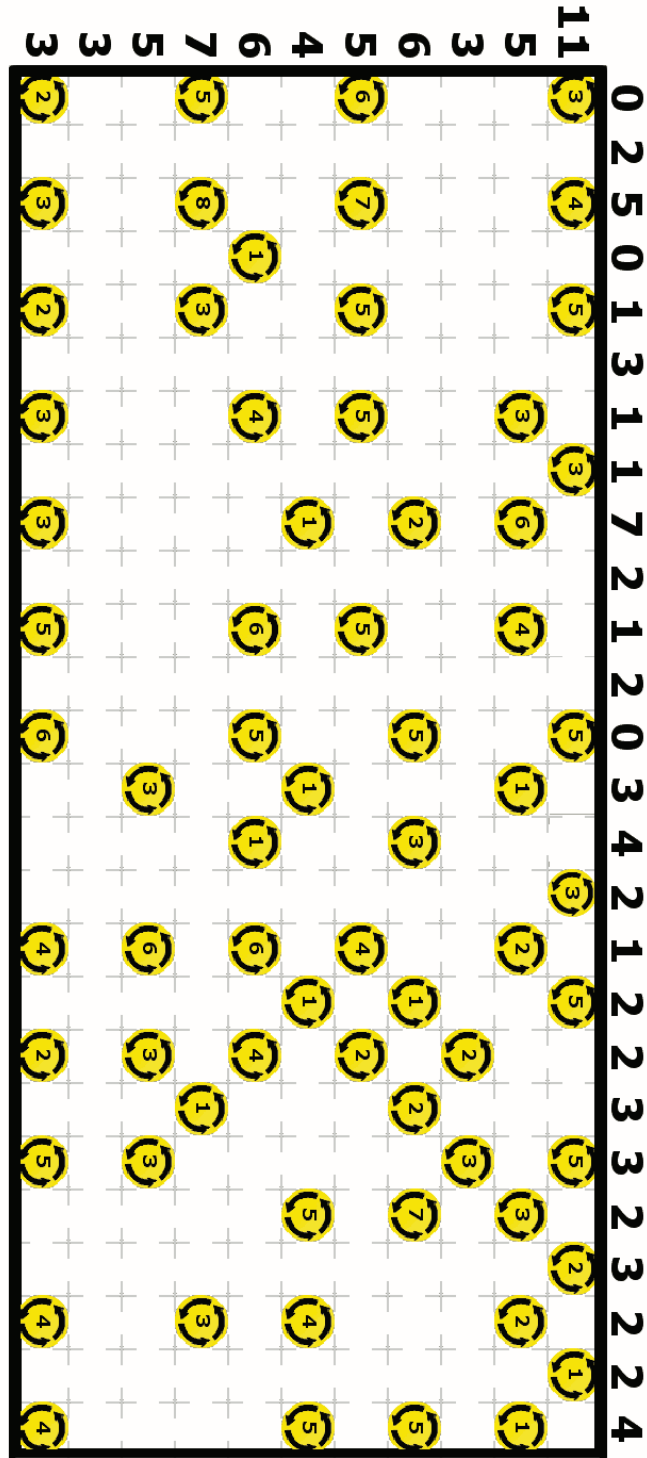
Street Map

(There are two copies of the street map for convenience in planning roadwork.)



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Construction Map

