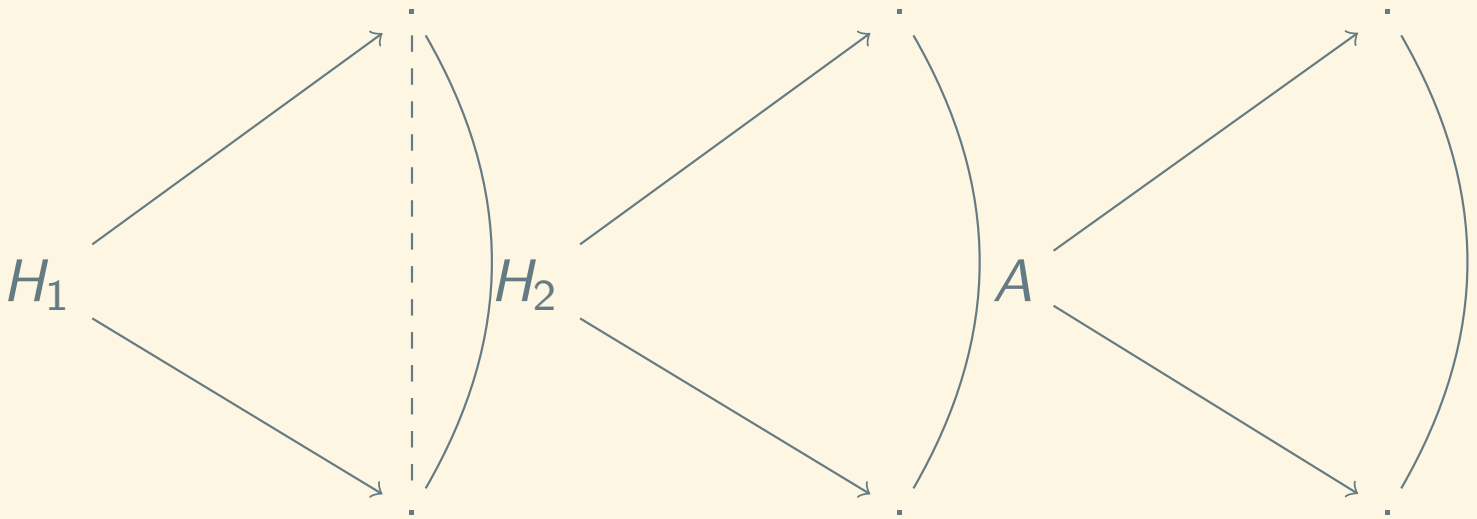
PhD Progress Review

Michalis Panayides

2020-07-07

PhD - Motivation



PhD - Motivation

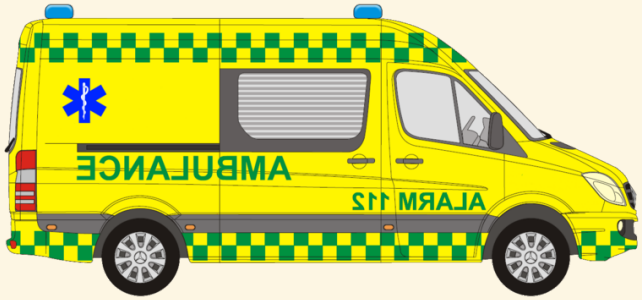
NHS Wales: A&E record low performance as ambulance service struggles

By Owain Clarke
BBC Wales health correspondent

19 December 2019 | Share

Ambulances outside Morriston Hospital in Swansa this week

PhD - Motivation



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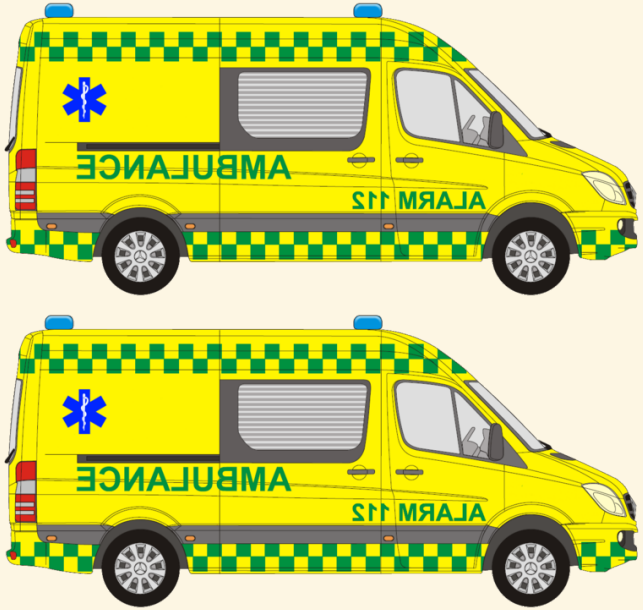
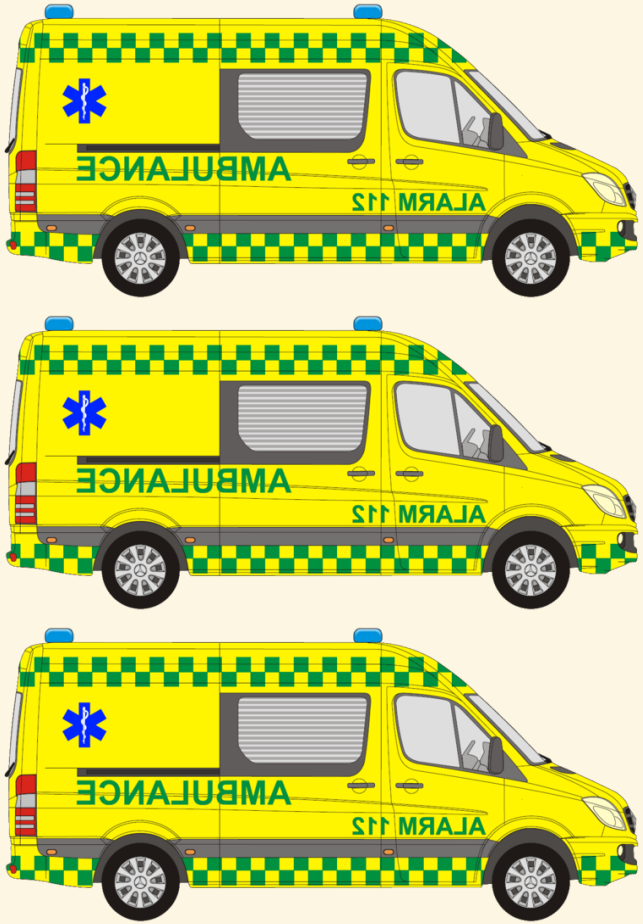
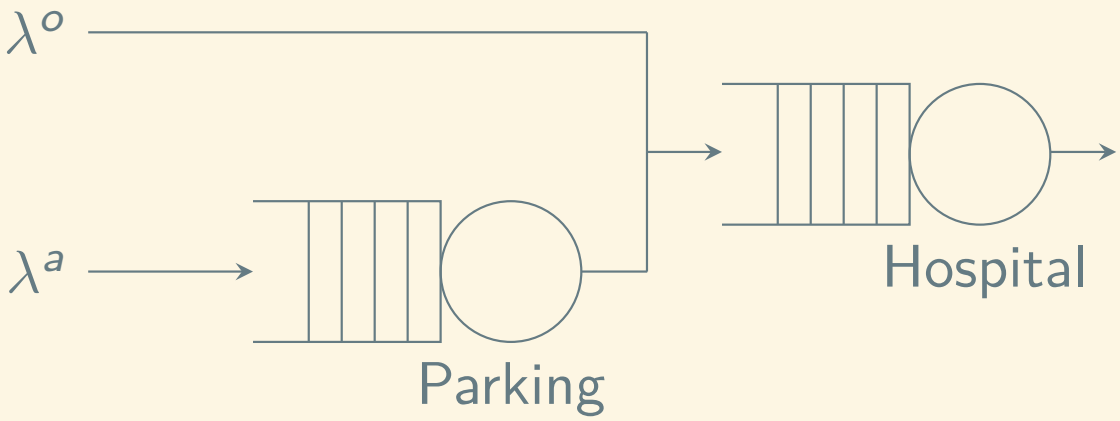
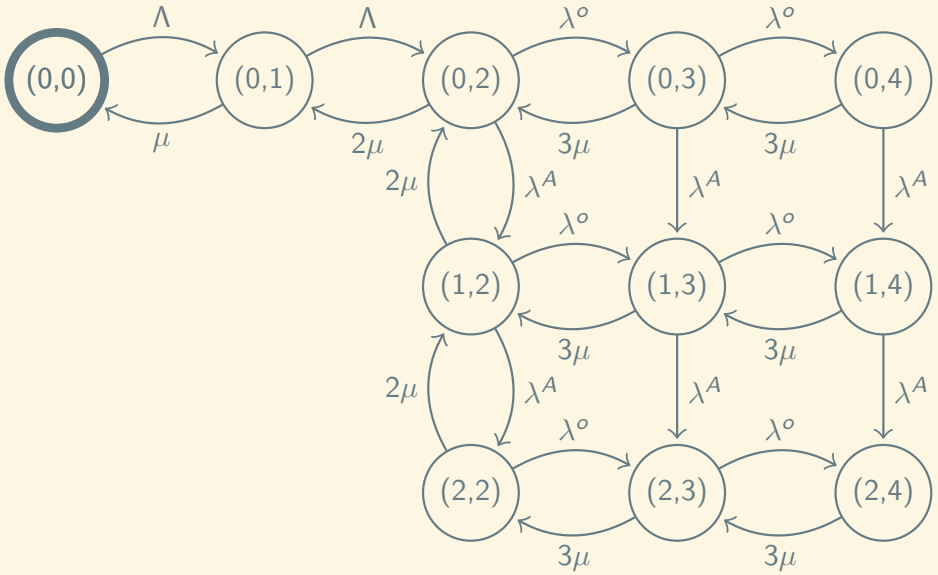


PhD - Motivation



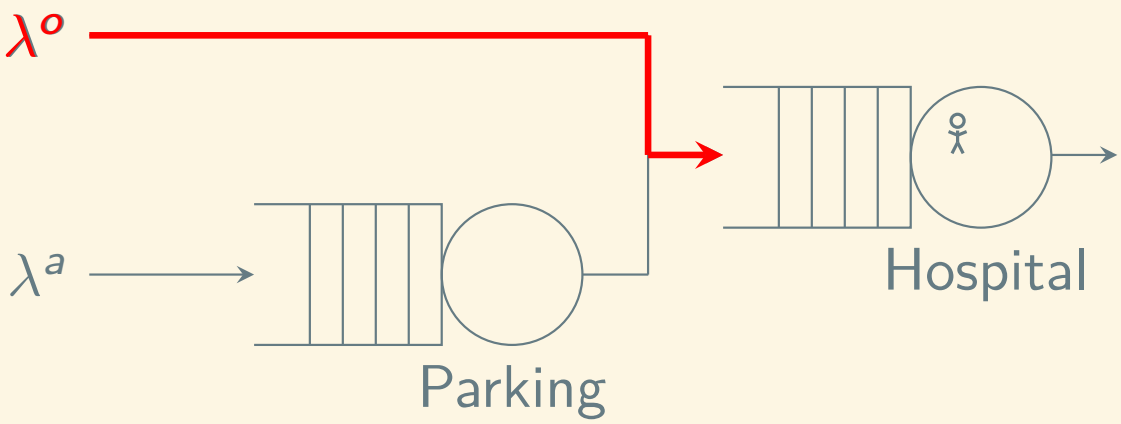
Hospital Formulation

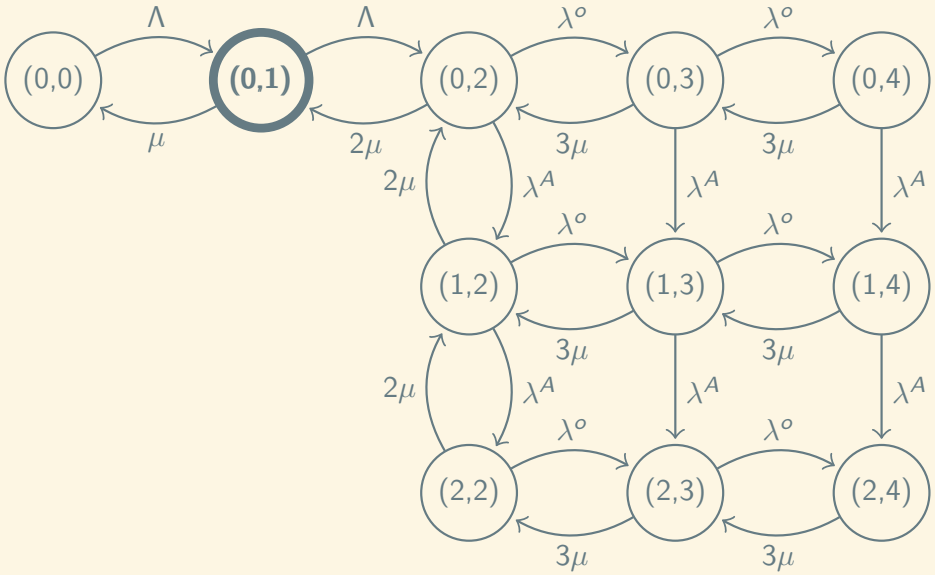




C=3, T=2, N=4, M=2

Hospital Formulation





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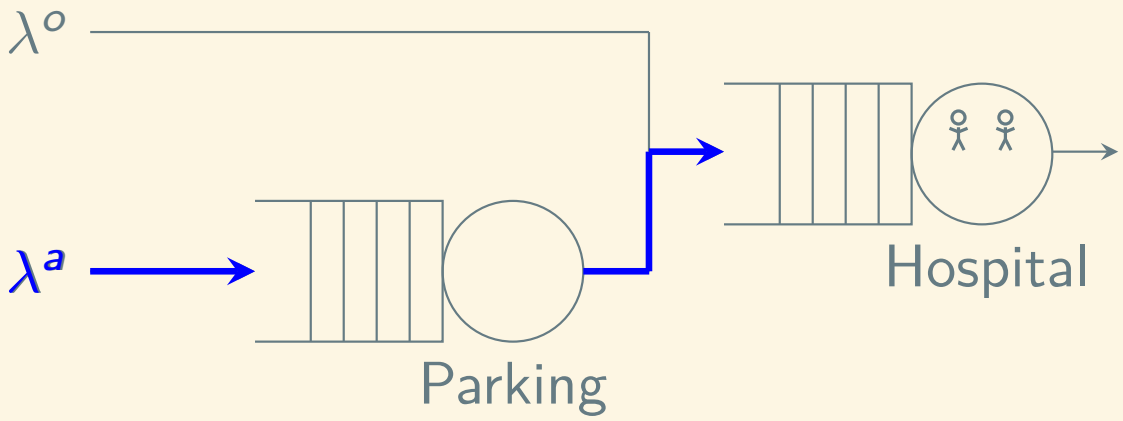

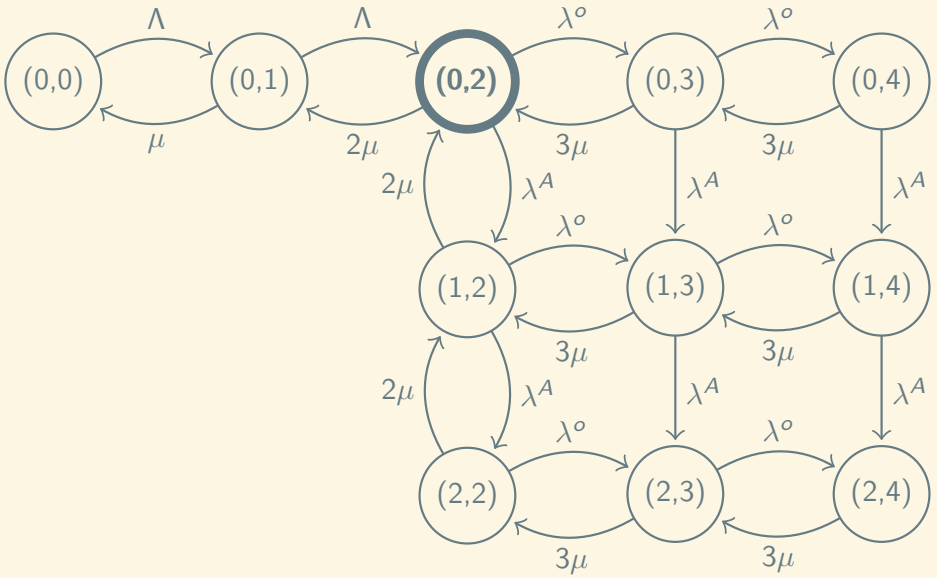

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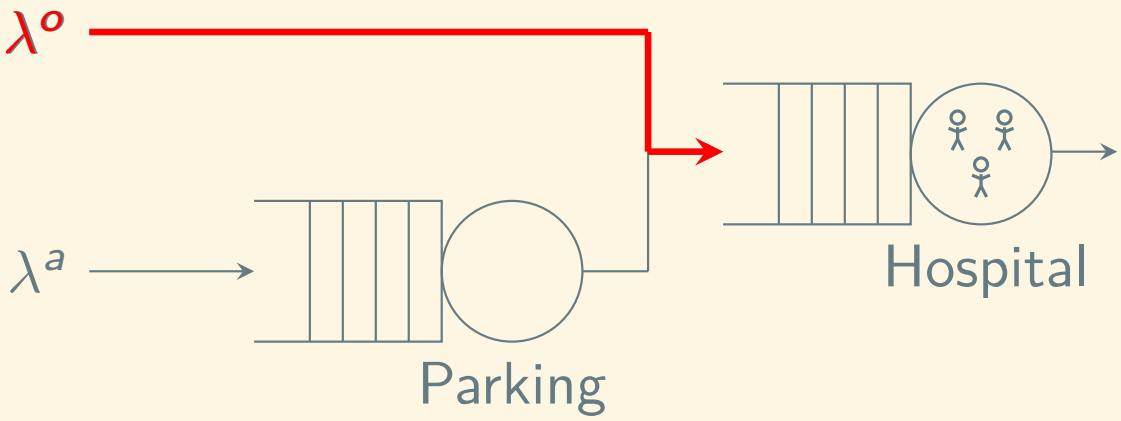

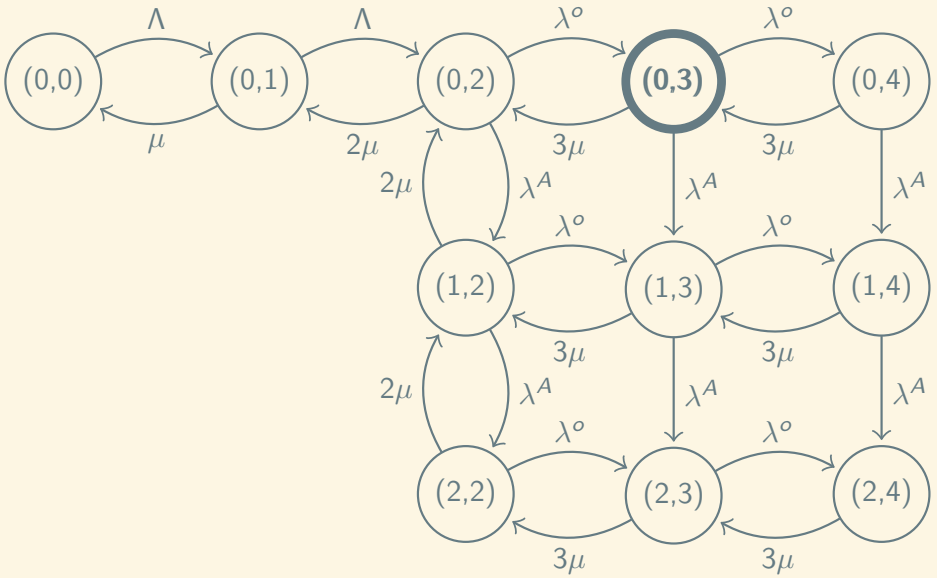

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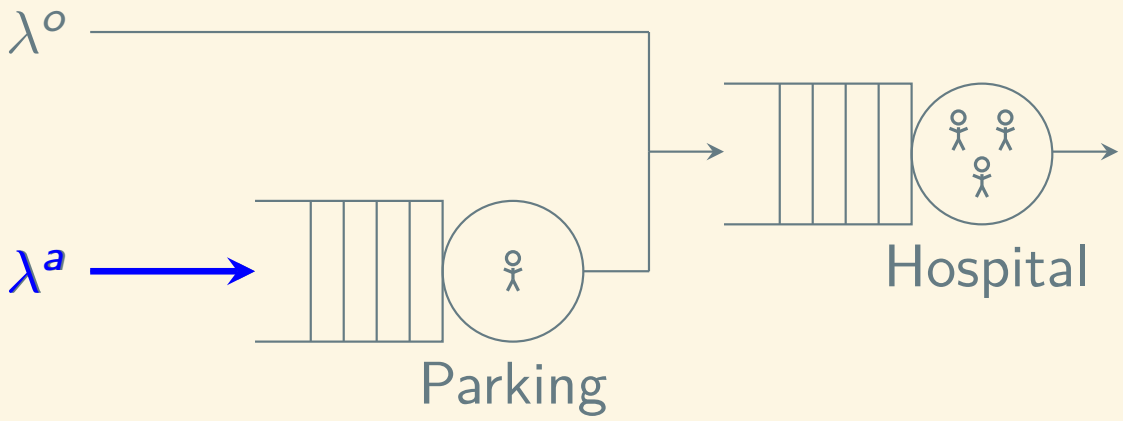

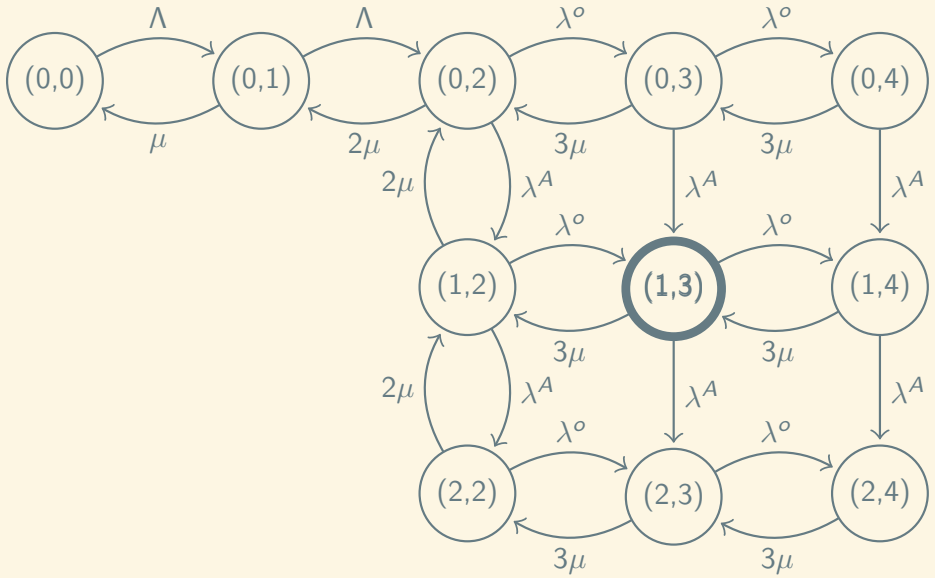

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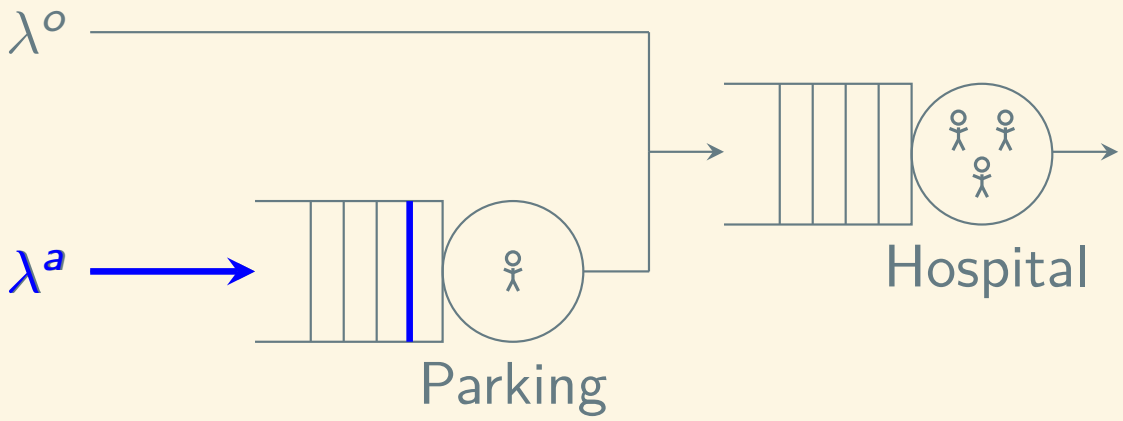

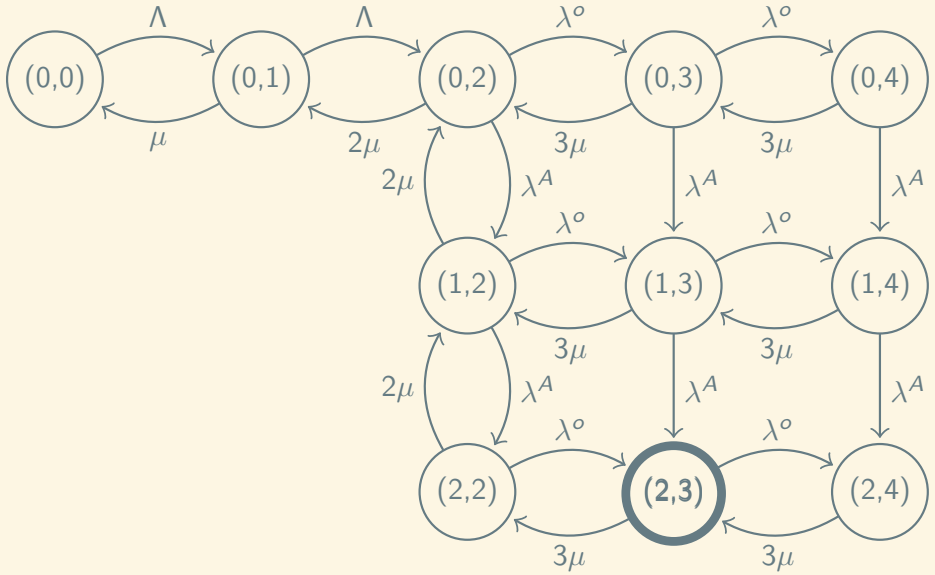

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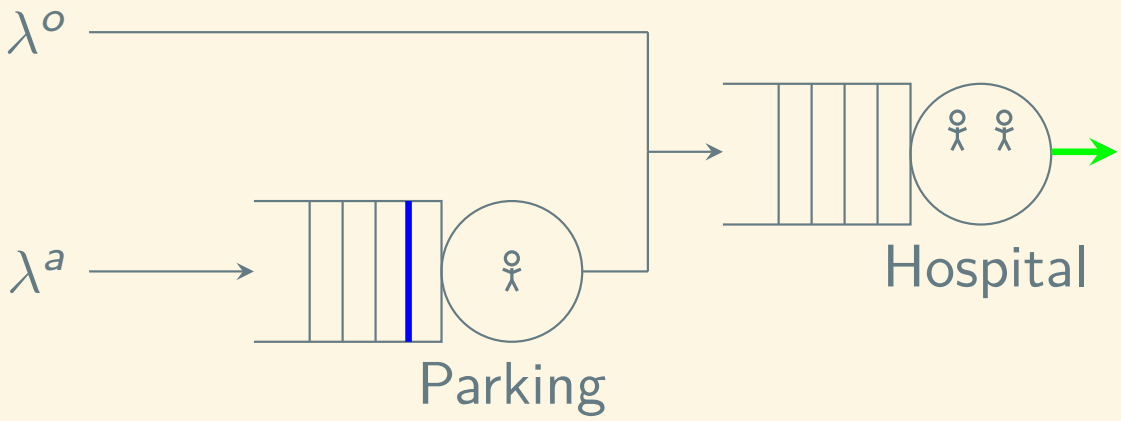

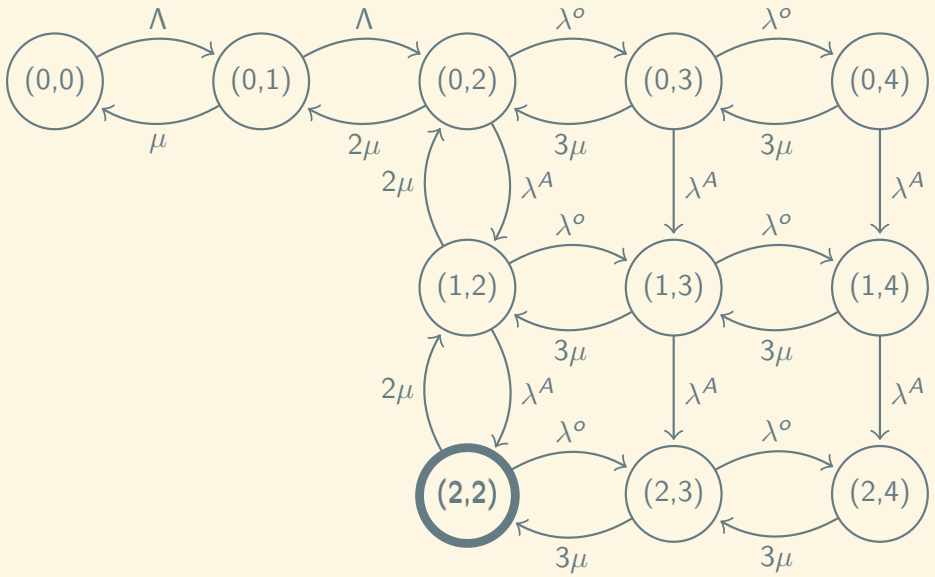

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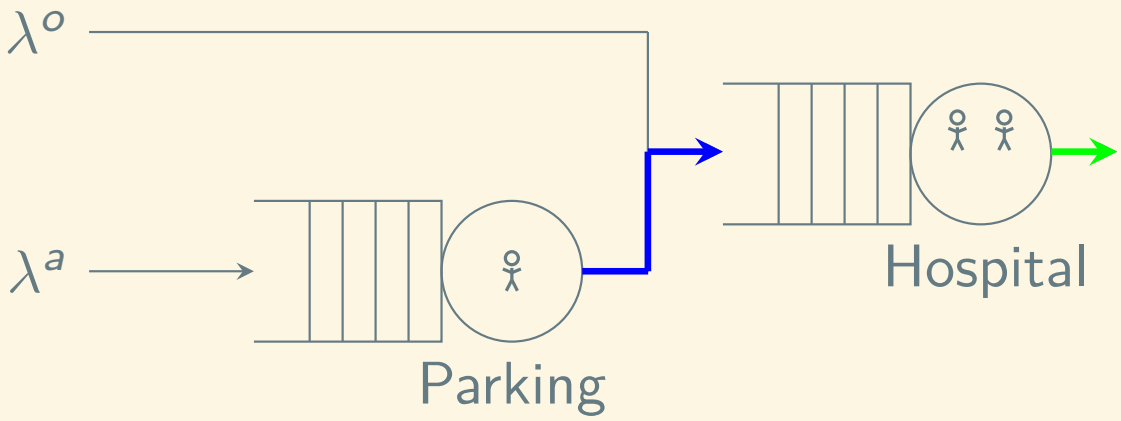

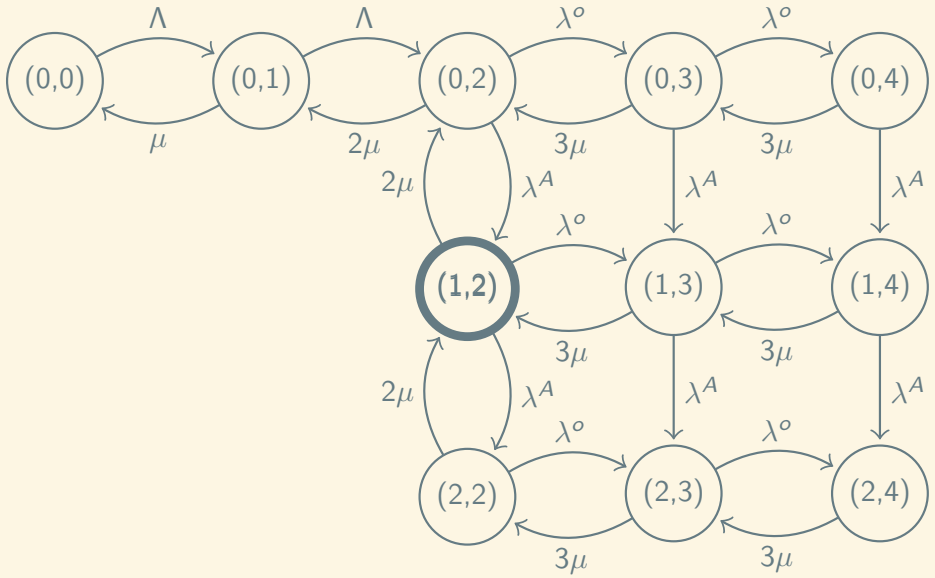

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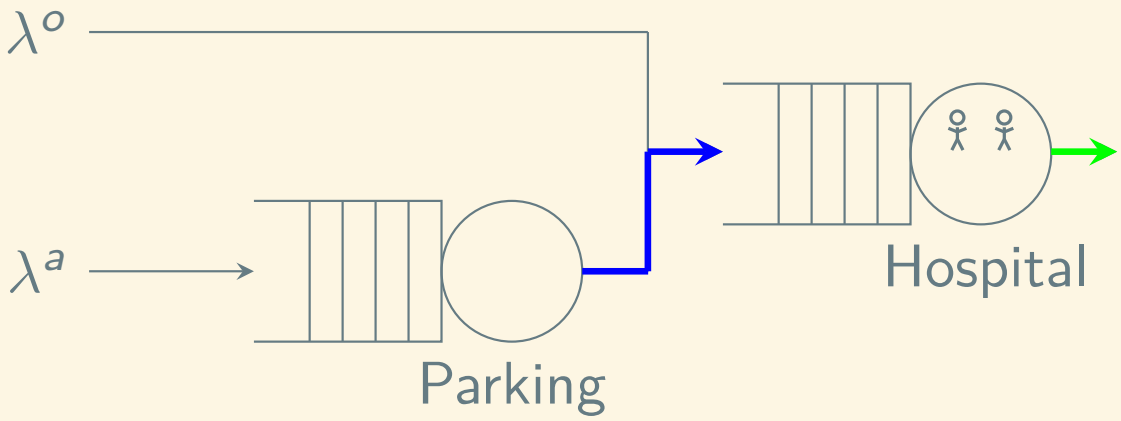

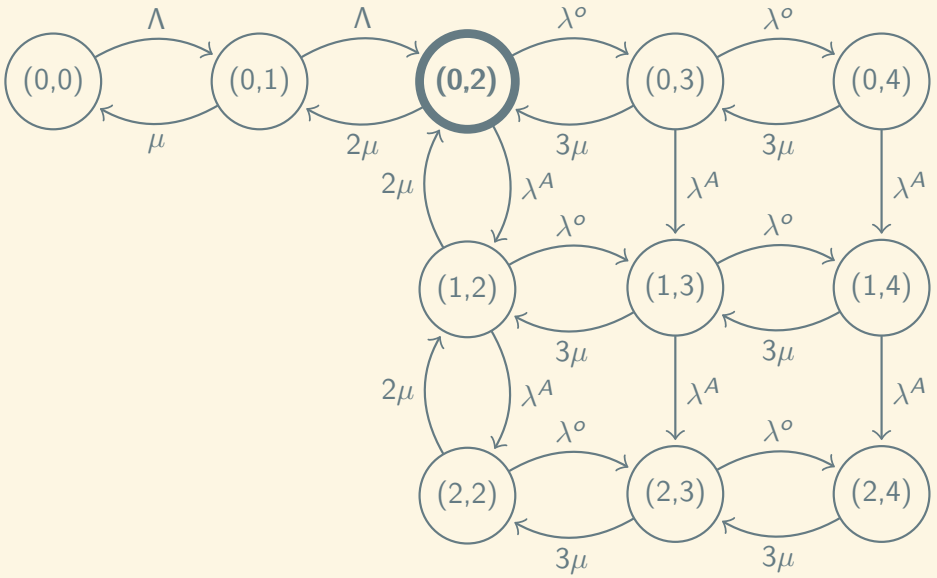

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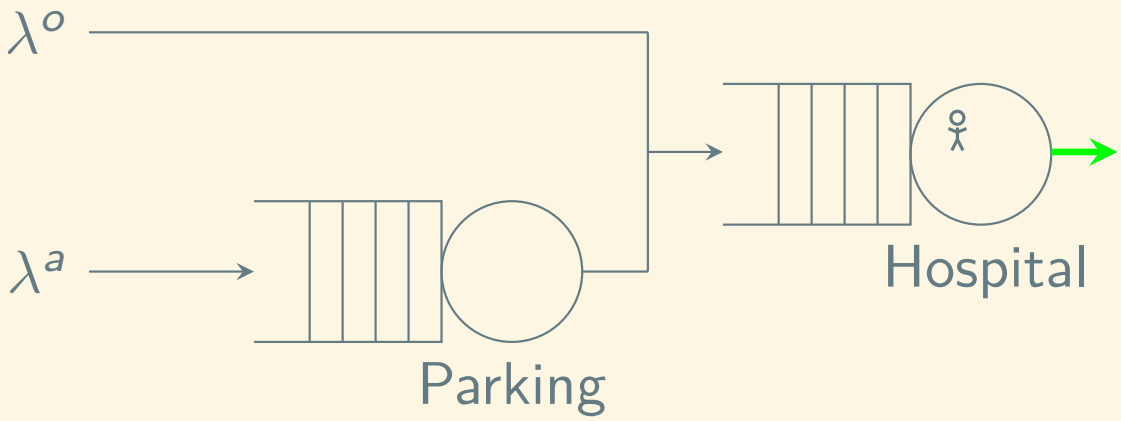

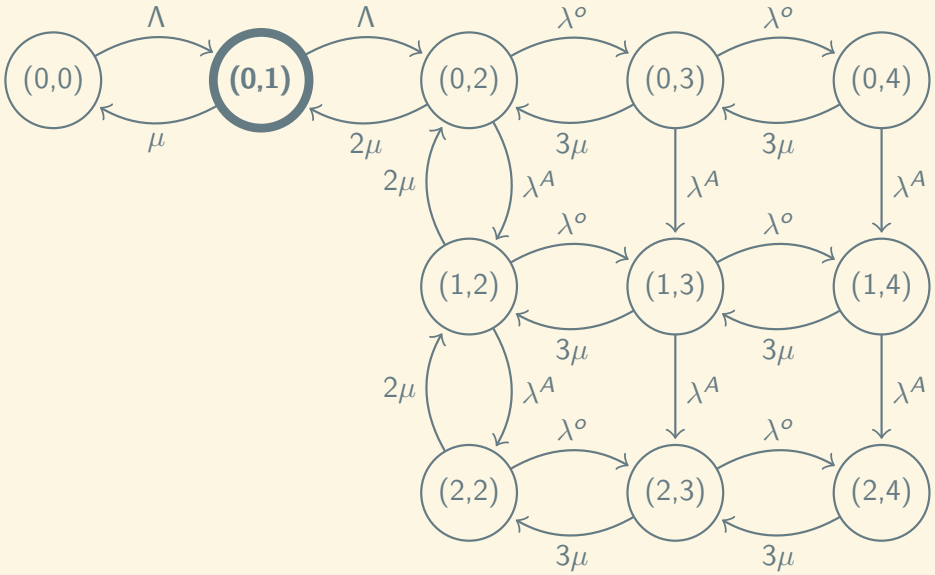

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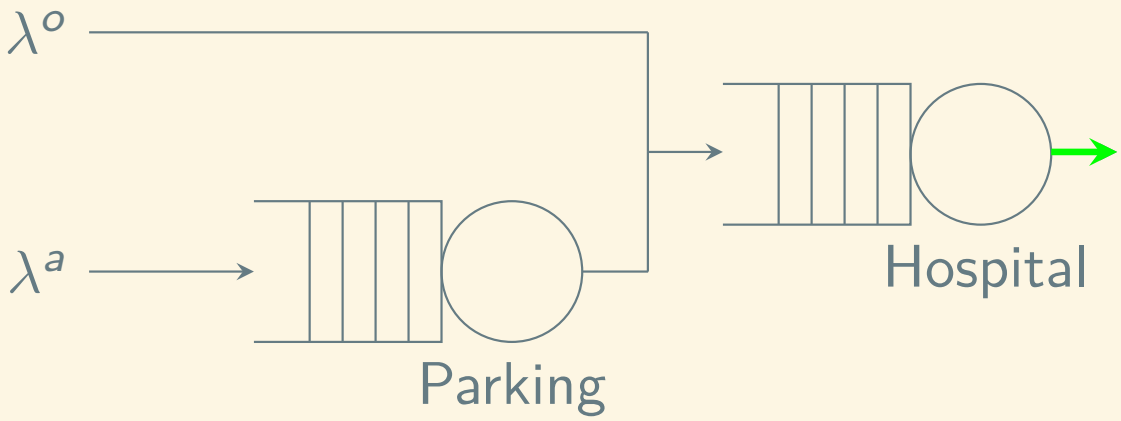
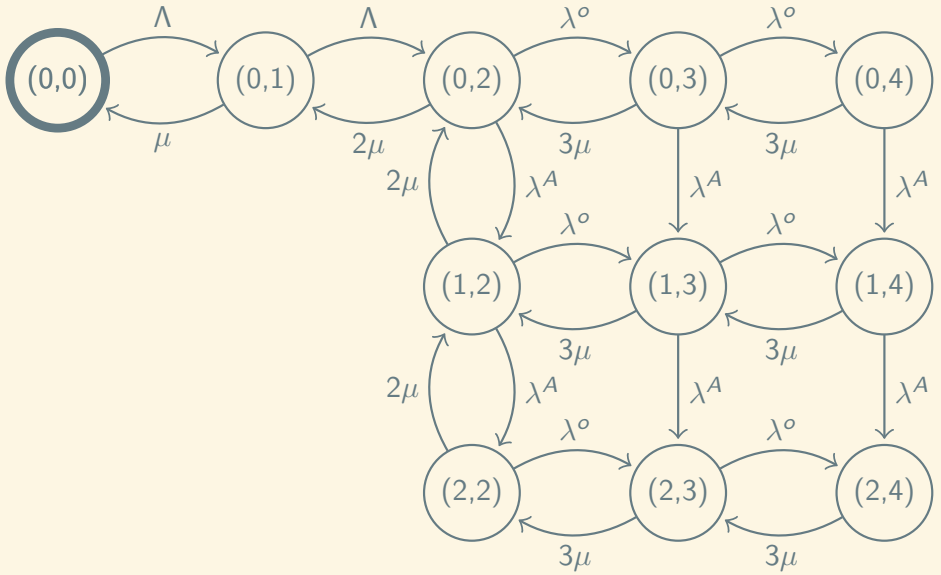




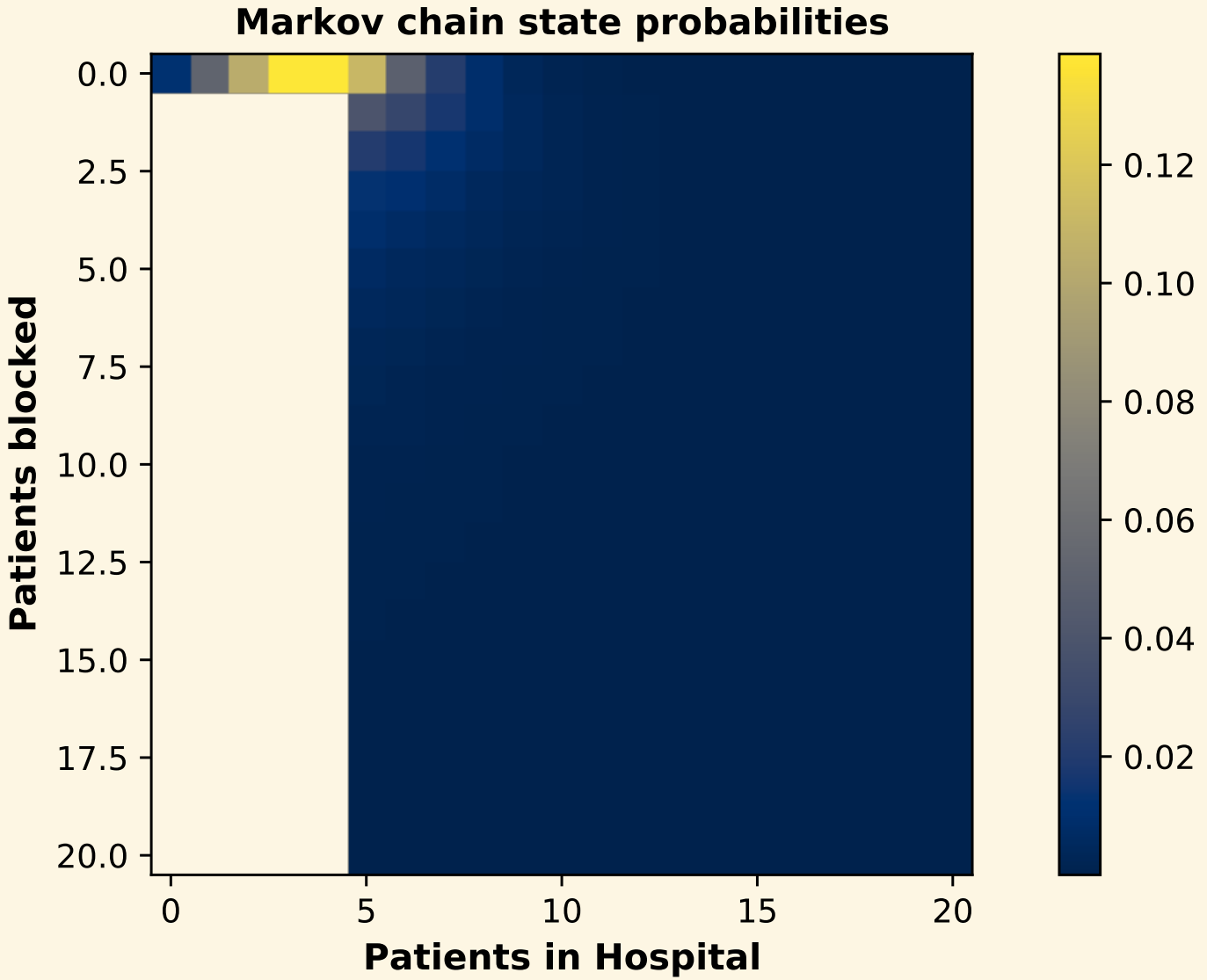
C=3, T=2, N=4, M=2

State Probabilities

$$\pi Q = 0$$

$$\sum_i \pi_i = 1$$

State Probabilities

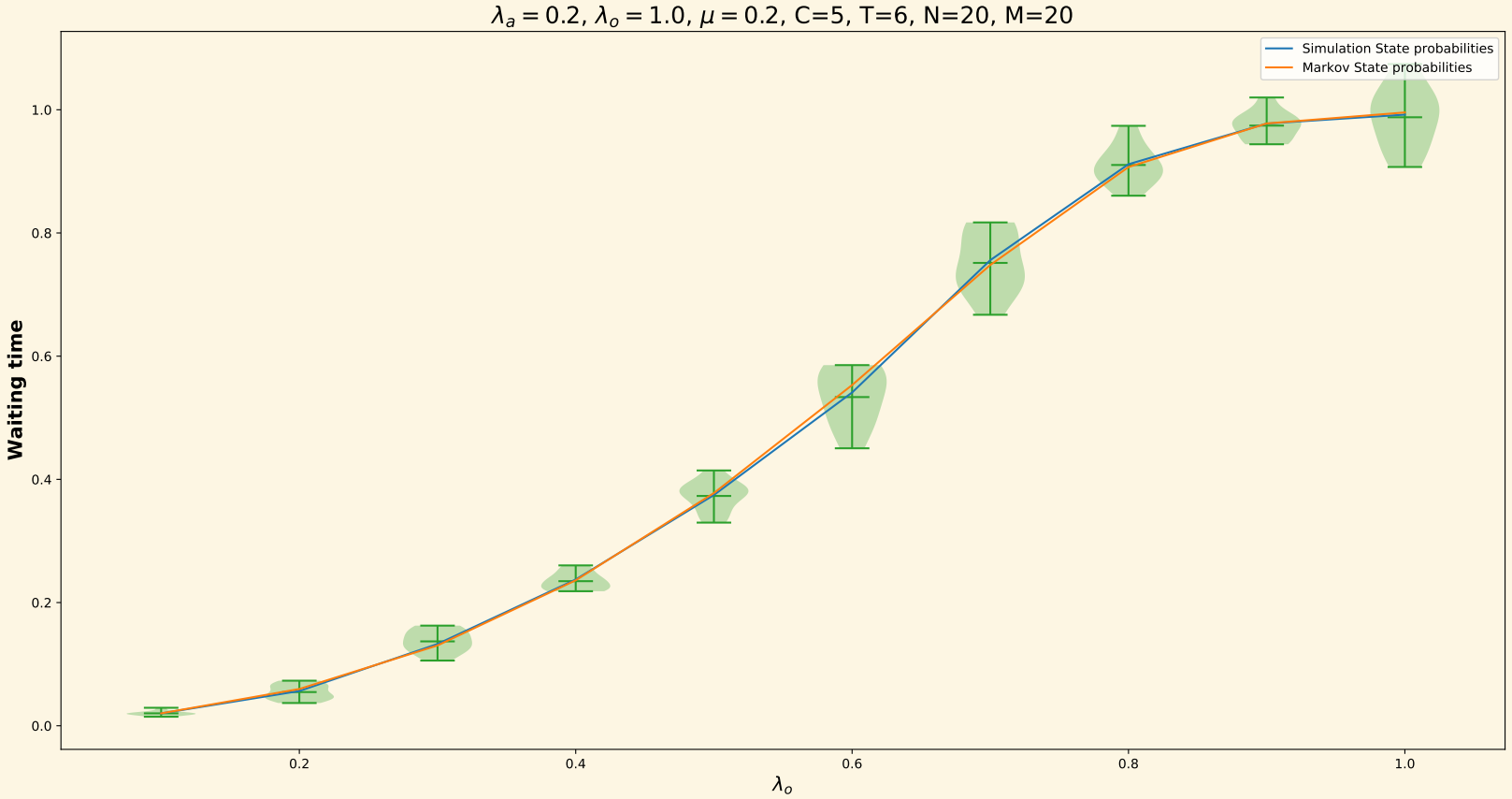


Waiting Times

$$W = \frac{\sum_{(u,v)\in S_A} w(u,v)\pi_{(u,v)}}{\sum_{(u,v)\in S_A} \pi_{(u,v)}}$$

$$W = \frac{\lambda_o P(L'_o)}{\lambda_a P(L'_a) + \lambda_o P(L'_o)} W^{(o)} + \frac{\lambda_a P(L'_a)}{\lambda_a P(L'_a) + \lambda_o P(L'_o)} W^{(a)}$$

Waiting Times

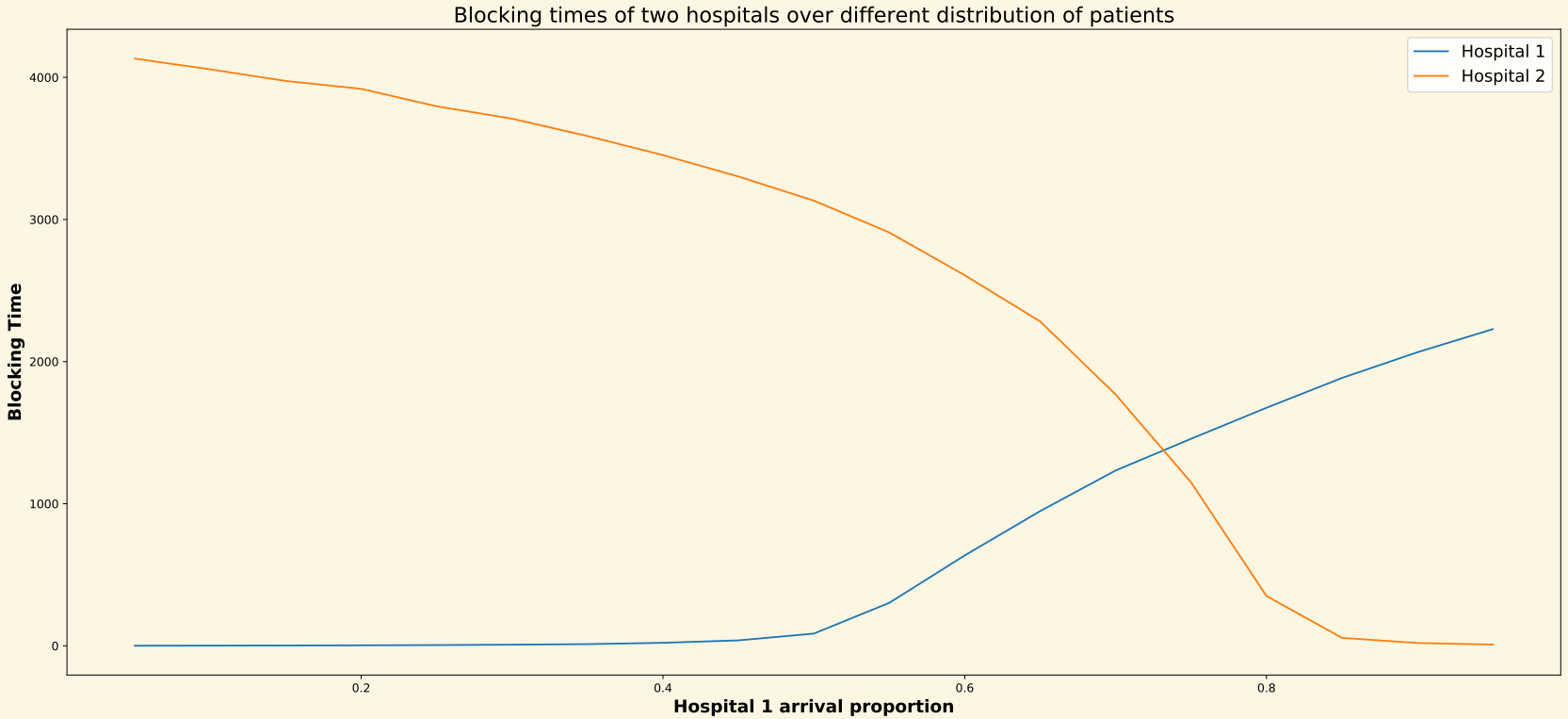


Future Plans

$$\mathrm{A} = \begin{array}{|c|c|c|c|} \hline U^A_{1,1} & U^A_{1,2} & \cdots & U^A_{1,N_2} \\ \hline U^A_{2,1} & U^A_{2,2} & \cdots & U^A_{2,N_2} \\ \hline \vdots & \vdots & \ddots & \vdots \\ \hline U^A_{N_1,1} & U^A_{N_1,2} & \cdots & U^A_{N_1,N_2} \\ \hline \end{array}$$

$$\mathrm{B} = \begin{array}{|c|c|c|c|} \hline U^B_{1,1} & U^B_{1,2} & \cdots & U^B_{1,N_2} \\ \hline U^B_{2,1} & U^B_{2,2} & \cdots & U^B_{2,N_2} \\ \hline \vdots & \vdots & \ddots & \vdots \\ \hline U^B_{N_1,1} & U^B_{N_1,2} & \cdots & U^B_{N_1,N_2} \\ \hline \end{array}$$

Future Plans



$$B_1 = B_2$$

Future Plans