|  |  |  |
| --- | --- | --- |
| Interest Area Division   1. Whole Interest Area 2. Core Interest Area 3. Margin Interest Area | | |
|  | Whole Interest Area: A relatively wider area around Canopy.  [YouTube: Processed test video in Whole Interest Area](https://youtu.be/Y6ZnMoXIhBU)  (https://youtu.be/Y6ZnMoXIhBU) |  |
|  | Core Interest Area: The small area just underneath the Canopy.  [YouTube: Processed test video in Core Interest Area](https://youtu.be/Scfao6b-200)  (https://youtu.be/Scfao6b-200) |  |
|  | Margin Interest Area: The area within Whole Interest Area and outside the Core Interest Area.  [YouTube: Processed test video in Margin Interest Area](YouTube: Processed test video in Margin Interest Area (https://youtu.be/XwNDwD57brA))  [(https://youtu.be/XwNDwD57brA)](YouTube: Processed test video in Margin Interest Area (https://youtu.be/XwNDwD57brA)) |  |

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| Truth Value Table  Assumption:   * There is a time-delay for visitors to move from one area to another area. * At the same time step: z = x+y * Estimate of # of visitors in each area is independent from each other.   Change type of estimated # of visitors between two consecutive time steps:   * Increase: ↑ * Decrease: ↓ * Hold: ⎯   Truth value:   * 1 means possible * 0 means impossible | | | | |
| # of visitors in core area: x | # of visitors in margin: y | # of visitors in whole interest area: z | Truth value | Explanation |
| **⎯** | **⎯** | **⎯** | **1** | **No people transform between space.** |
| ⎯ | ⎯ | ↑ | 0 | Impossible |
| ⎯ | ⎯ | ↓ | 0 | Impossible |
| ⎯ | ↑ | ⎯ | 0 | Impossible |
| ⎯ | ↑ | ↑ | 0 | New people come in |
| ⎯ | ↑ | ↓ | 0 | Impossible |
| ⎯ | ↓ | ⎯ | 0 | Impossible |
| ⎯ | ↓ | ↑ | 0 | Impossible |
| **⎯** | **↓** | **↓** | **1** | **People get out** |
| ↑ | ⎯ | ⎯ | 0 | Impossible |
| **↑** | **⎯** | **↑** | **1** | **New people come in and people move from margin to core area.** |
| **↑** | **⎯** | **↓** | **1** | **People move from margin to core area and more people in margin get out of whole interest area.** |
| ↑ | ↑ | ⎯ | 0 | Impossible |
| **↑** | **↑** | **↑** | **1** | **People move from margin to core area and more new people come into the margin area.** |
| ↑ | ↑ | ↓ | 0 | Impossible |
| **↑** | **↓** | **⎯** | **1** | **People move from margin into core interest area.** |
| **↑** | **↓** | **↑** | **1** | **New people come in and more people move from margin into core interest area.** |
| **↑** | **↓** | **↓** | **1** | **People move from margin into core interest area and more people get out of whole interest area.** |
| ↓ | ⎯ | ⎯ | 0 | Impossible |
| ↓ | ⎯ | ↑ | 0 | Impossible |
| **↓** | **⎯** | **↓** | **1** | **People get out of core area into margin, and the same # of people get out of whole interest area.** |
| **↓** | **↑** | **⎯** | **1** | **People get out of core area into margin, and no people get out of whole interest area.** |
| **↓** | **↑** | **↑** | **1** | **People get out of core area into margin, and new people come in.** |
| **↓** | **↑** | **↓** | **1** | **People get out of core area into margin, and less than this # of people get out of whole interest area.** |
| ↓ | ↓ | ⎯ | 0 | Impossible |
| ↓ | ↓ | ↑ | 0 | Impossible |
| **↓** | **↓** | **↓** | **1** | **People get out of core area into margin, and more people get out of whole interest area.** |

* 27 combinations
* only 13 of 27 combinations are possible
* only 4 of the 13 possible cases in where new visitors come in.
* only 6 of the 13 possible cases in where visitors leave from the whole interest area.
* Only 3 of the 13 possible cases in where the # of visitors remain unchanged.

If we have this Truth Table, and we can estimate the change of the # of visitors in each area of two consecutive time steps, we can infer which scenario is happening.