

i) Scheduled  
event

ii) Select individuals  
for sampling

iii) Random  
sampling

iv) Shift  
operation

v) Updated node  
and dest

event: extTrans  
time: 4  
node: 14  
dest: 23  
n: 3  
proportion:  $0^{\dagger}$   
select: 5  
shift: 2

$\Rightarrow$

u[,14]

$$\begin{bmatrix} S_1 & 12 \\ I_1 & 3 \\ S_2 & 63 \\ I_2 & 14 \\ S_3 & 92 \\ I_3 & 2 \end{bmatrix}$$

select  
select

E[,5]

$$\begin{bmatrix} 0 \\ 0 \\ 1 \\ 1 \\ 0 \\ 0 \end{bmatrix}$$

$\Rightarrow$

Eligible for  
sampling

$$\begin{bmatrix} 0 \\ 0 \\ 63 \\ 14 \\ 0 \\ 0 \end{bmatrix}$$

Sampled  
individuals

$$\begin{bmatrix} 0 \\ 0 \\ 2 \\ 1 \\ 0 \\ 0 \end{bmatrix}$$

shift +2  
shift +2

N[,2]

$$\begin{bmatrix} 0 \\ 0 \\ 2 \\ 2 \\ 0 \\ 0 \end{bmatrix}$$

$\Rightarrow$

u[,14]

$$\begin{bmatrix} 12 \\ 3 \\ 61 \\ 13 \\ 92 \\ 2 \end{bmatrix}$$

$\Rightarrow$

u[,23]

$$\begin{bmatrix} S_1 & 11 \\ I_1 & 18 \\ S_2 & 13 \\ I_2 & 54 \\ S_3 & 22 \\ I_3 & 72 \end{bmatrix}$$

$\Rightarrow$

u[,23]

$$\begin{bmatrix} 11 \\ 18 \\ 13 \\ 54 \\ 24 \\ 73 \end{bmatrix}$$