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# Operating Instruction of Software TransCA

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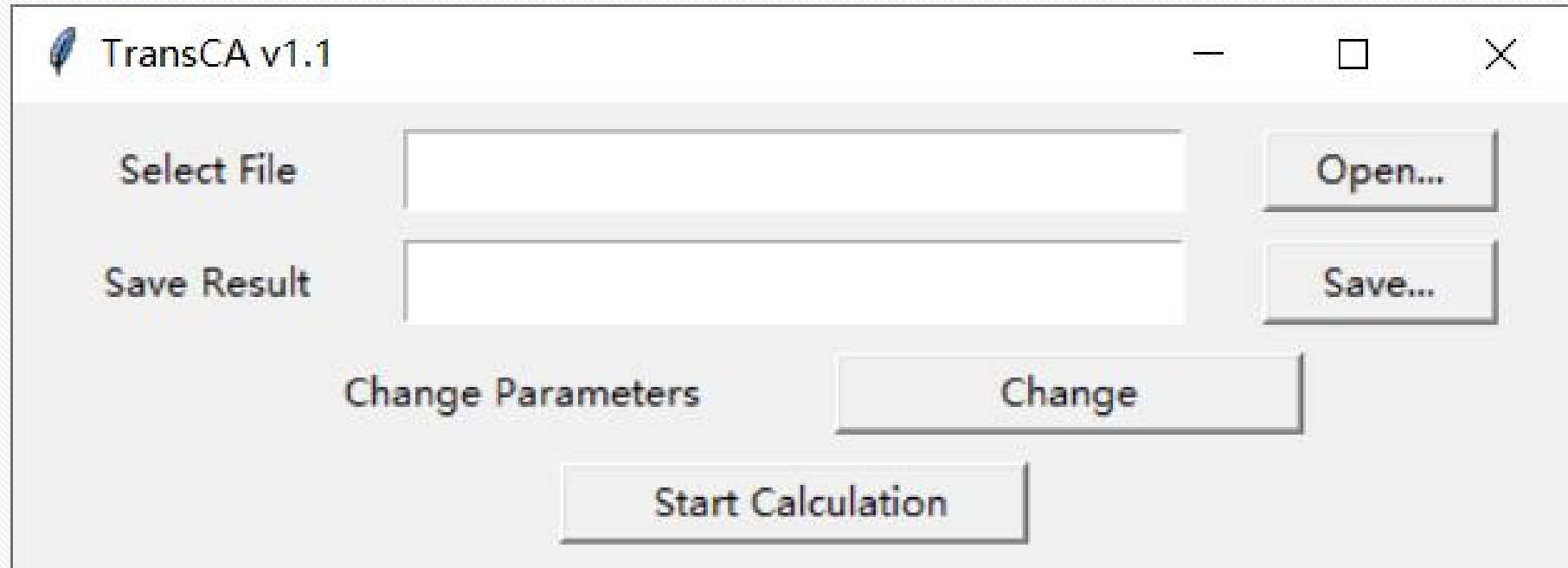
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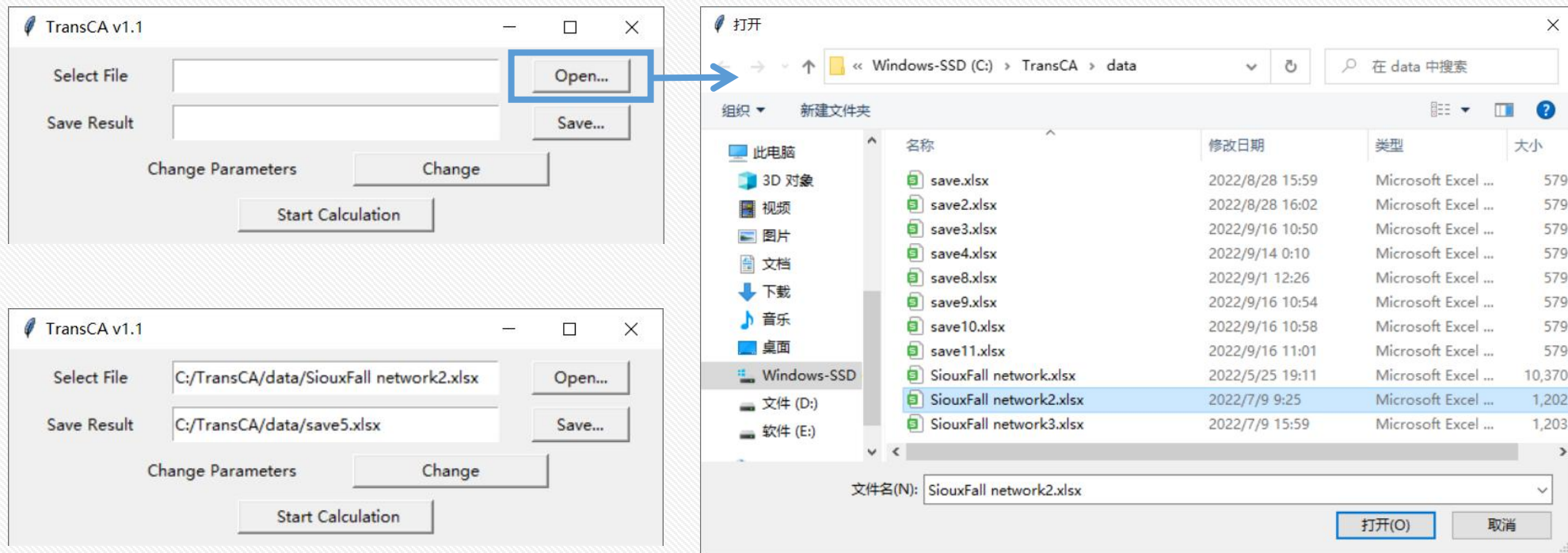
Right click the icon



Run as Administrator



Graphical user interface of TransCA

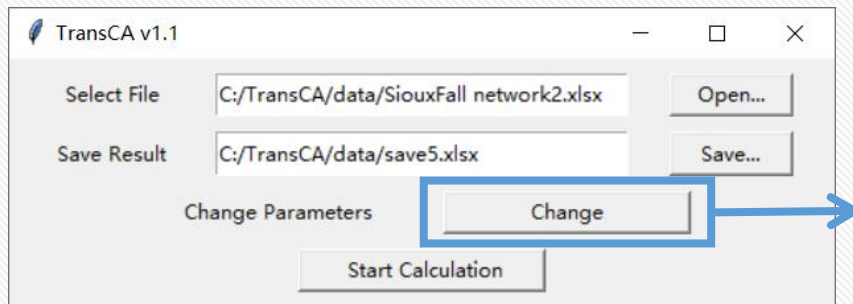


Click 'Open...' to input network information.

Click 'Save...' to find a place to save then enter the name of file.(xlsx)

## 2 Set Parameters

### Operating instruction of TransCA



Change Parameters

Value of time	Inconvenience coefficient	Ridesharing time price	Ridesharing mileage price	Surge pricing parameters	Fixed cost of car
$\rho_1$ [1]	$\gamma_2$ [0.3]	$b_2$ [0.4]	$\rho_2$ [0.2]	$r_2$ [0.5]	$cf$ [3]
$\rho_2$ [0.8]	$\gamma_3$ [0.3]	$b_3$ [0.4]	$\rho_3$ [0.2]	$r_3$ [0.5]	Car usage cost
$\rho_3$ [0.8]	$\gamma_4$ [0.2]	$b_4$ [0.4]	$\rho_4$ [0.2]	$r_4$ [0.3]	$cu$ [5]
$\rho_4$ [0.4]	$\gamma_5$ [0.2]	$b_5$ [0.4]	$\rho_5$ [0.2]	$r_5$ [0.3]	Bus mileage price
$\rho_5$ [0.3]					$\tau$ [0.4]
$\rho_6$ [0.05]					
$\rho_7$ [0.03]					

[Equation] [Default] [Confirm]

Click 'Change' button to open the network parameters setting window.



## 2 Set Parameters

### Operating instruction of TransCA



Change Parameters

Value of time	Inconvenience coefficient	Ridesharing time price	Ridesharing mileage price	Surge pricing parameters	Fixed cost of car
$\rho_1$ 1	$\gamma_2$ 0.3	$b_2$ 0.4	$\rho_2$ 0.2	$r_2$ 0.5	$cf$ 2
$\rho_2$ 0.9	$\gamma_3$ 0.3	$b_3$ 0.4	$\rho_3$ 0.2	$r_3$ 0.5	Car usage cost
$\rho_3$ 0.9	$\gamma_4$ 0.2	$b_4$ 0.4	$\rho_4$ 0.2	$r_4$ 0.3	$cu$ 8
$\rho_4$ 0.5	$\gamma_5$ 0.2	$b_5$ 0.4	$\rho_5$ 0.2	$r_5$ 0.3	Bus mileage price
$\rho_5$ 0.5					$\tau$ 0.2
$\rho_6$ 0.04					
$\rho_7$ 0.01					

Equation Default Confirm

Enter the network parameters in these text boxes.  
(tips: please enter positive number)



Change Parameters

Value of time	Inconvenience coefficient	Ridesharing time price	Ridesharing mileage price	Surge pricing parameters	Fixed cost of car	
$\rho_1$ 1	$\gamma_2$ 0.3	$b_2$ 0.4	$\rho_2$ 0.2	$r_2$ 0.5	$c_f$ 3	
$\rho_2$ 0.8	$\gamma_3$ 0.3	$b_3$ 0.4	$\rho_3$ 0.2	$r_3$ 0.5	Car usage cost	
$\rho_3$ 0.8	$\gamma_4$ 0.2	$b_4$ 0.4	$\rho_4$ 0.2	$r_4$ 0.3		$c_u$ 5
$\rho_4$ 0.4	$\gamma_5$ 0.2	$b_5$ 0.4	$\rho_5$ 0.2	$r_5$ 0.3	Bus mileage price	
$\rho_5$ 0.3						$\tau$ 0.4
$\rho_6$ 0.05						
$\rho_7$ 0.03						

Equation Default Confirm

Generalized Travel Cost

$$\left\{ \begin{array}{l} C_{p,1}^w = \rho_1 t_p^{w,vh} + c_f + c_u \\ C_{p,2}^w = \rho_2 t_p^{w,vh} + \gamma_2 t_p^{w,vh} - \left( b_2 t_p^{w,vh} + \varphi_2 l_p^w - r_2 \sum_p f_{p,2}^w \right) + c_f + c_u + \lambda_{p,2}^w \\ C_{p,3}^w = \rho_3 t_p^{w,vh} + \gamma_3 t_p^{w,vh} - \left( b_3 t_p^{w,vh} + \varphi_3 l_p^w - r_3 \sum_p f_{p,3}^w \right) + c_f + c_u + \lambda_{p,3}^w \\ C_{p,4}^w = \rho_4 t_p^{w,vh} + \gamma_4 t_p^{w,vh} + \left( b_4 t_p^{w,vh} + \varphi_4 l_p^w - r_4 \sum_p f_{p,4}^w \right) + c_f - \lambda_{p,2}^w \\ C_{p,5}^w = \rho_5 t_p^{w,vh} + \gamma_5 t_p^{w,vh} + \left( b_5 t_p^{w,vh} + \varphi_5 l_p^w - r_5 \sum_p f_{p,5}^w \right) - \lambda_{p,3}^w \\ C_{p,6}^w = \rho_6 t_p^{w,tr} + \tau l_p^w + c_f \\ C_{p,7}^w = \rho_7 t_p^{w,tr} + \tau l_p^w \end{array} \right. , \forall w, p$$

Click the 'Equation' button to show the mathematical equation of the travel cost function.

## 2 Set Parameters

### Operating instruction of TransCA



Change Parameters

Value of time	Inconvenience coefficient	Ridesharing time price	Ridesharing mileage price	Surge pricing parameters	Fixed cost of car
$\rho_1$ <input type="text" value="1"/>	$\gamma_2$ <input type="text" value="0.3"/>	$b_2$ <input type="text" value="0.4"/>	$\rho_2$ <input type="text" value="0.2"/>	$r_2$ <input type="text" value="0.5"/>	$cf$ <input type="text" value="3"/>
$\rho_2$ <input type="text" value="0.8"/>	$\gamma_3$ <input type="text" value="0.3"/>	$b_3$ <input type="text" value="0.4"/>	$\rho_3$ <input type="text" value="0.2"/>	$r_3$ <input type="text" value="0.5"/>	Car usage cost
$\rho_3$ <input type="text" value="0.8"/>	$\gamma_4$ <input type="text" value="0.2"/>	$b_4$ <input type="text" value="0.4"/>	$\rho_4$ <input type="text" value="0.2"/>	$r_4$ <input type="text" value="0.3"/>	$cu$ <input type="text" value="5"/>
$\rho_4$ <input type="text" value="0.4"/>	$\gamma_5$ <input type="text" value="0.2"/>	$b_5$ <input type="text" value="0.4"/>	$\rho_5$ <input type="text" value="0.2"/>	$r_5$ <input type="text" value="0.3"/>	Bus mileage price
$\rho_5$ <input type="text" value="0.3"/>					$\tau$ <input type="text" value="0.4"/>
$\rho_6$ <input type="text" value="0.05"/>					
$\rho_7$ <input type="text" value="0.03"/>					

Click the 'Default' button to restore initial network parameters.



## 2 Set Parameters

### Operating instruction of TransCA



Change Parameters

Value of time	Inconvenience coefficient	Ridesharing time price	Ridesharing mileage price	Surge pricing parameters	Fixed cost of car
$\rho_1$ 1	$\gamma_2$ 0.3	$b_2$ 0.4	$\rho_2$ 0.2	$r_2$ 0.5	$cf$ 3
$\rho_2$ 0.8	$\gamma_3$ 0.3	$b_3$ 0.4	$\rho_3$ 0.2	$r_3$ 0.5	Car usage cost
$\rho_3$ 0.8	$\gamma_4$ 0.2	$b_4$ 0.4	$\rho_4$ 0.2	$r_4$ 0.3	
$\rho_4$ 0.4	$\gamma_5$ 0.2	$b_5$ 0.4	$\rho_5$ 0.2	$r_5$ 0.3	$cu$ 5
$\rho_5$ 0.3					Bus mileage price
$\rho_6$ 0.05					
$\rho_7$ 0.03					

Equation Default **Confirm**

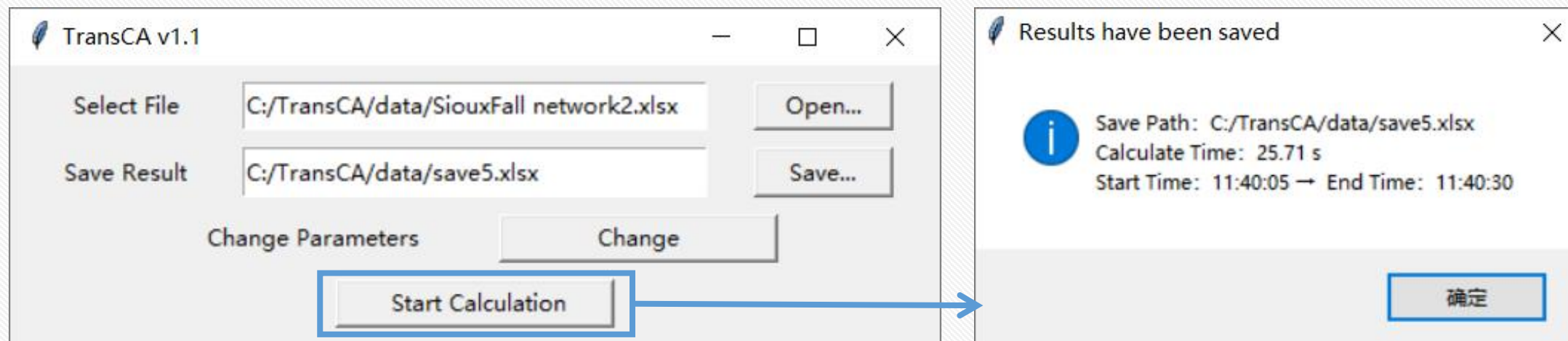
$\tau$  0.4

Done

Parameters have been changed

确定

Click the 'Confirm' button to confirm the entered network parameters and close the parameter setting window.



Click the ‘Start Calculation’ button to start calculating. The calculation results will be saved.



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Let's turn to an operating  
example of TransCA.

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