Developer Manual

Right-click the icon

打开(O)

添加到压缩文件(A)...
添加到 "TransRNM.zip" (T)
其他压缩命令

打开文件所在的位置(I)

通过QQ发送到

以管理员身份运行(A)

强力卸载此软件

使用 Skype 共享
使用 美图秀秀编辑和美化
进行 图片批量处理
兼容性疑难解答(Y)
固定到"开始"屏幕(P)
Edit with Notepad++

上传到百度网盘

复制文件地址(A)

使用联想电脑管家进行扫描
共享
还原以前的版本(V)

发送到(N)

剪切(T)
复制(C)
粘贴(P)

Run as an administrator

#Stepo Strat up TranRNM

TransRNM

Network structure

Existing or customized?
- ● Existing
- ○ Customized

Existing network
Braess ▼

⬚ Browse   Input file path [   ]   ✓ OK

Serial number	Start node	End node	Free flow time	Capacity
1	1	3	1	9999
2	1	4	1	9999
3	4	2	1	9999
4	3	2	1	9999
5	3	4	1	9999

Serial number	Origin node	Destination node	Upper bound of travel dema
1	1	2	

Is link and OD information visible?   Off ⬤ On

⬚ Browse   Output file path [   ]   ⬇ Save

Travel cost function

$$
\begin{cases}
C_{p,1}^{w} = \rho_1 t_p^{w} + \omega_1 \\
C_{p,2}^{w} = \rho_2 t_p^{w} + \gamma_2 t_p^{w} - \left(b_2 - m_2 \sum_p f_{p,2}^{w} \right) + \omega_2 \\
C_{p,3}^{w} = \rho_3 t_p^{w} + \gamma_3 t_p^{w} - \left(b_3 - m_3 \sum_p f_{p,3}^{w} \right) + \omega_3 \\
C_{p,4}^{w} = \rho_4 t_p^{w} + \gamma_4 t_p^{w} + \left(b_4 + m_4 \sum_p f_{p,4}^{w} \right) + \omega_4 \\
C_{p,5}^{w} = \rho_5 t_p^{w} + \gamma_5 t_p^{w} + \left(b_5 + m_5 \sum_p f_{p,5}^{w} \right) + \omega_5
\end{cases}, \forall w, p
$$

	Vaule of time	Inconvenience coefficient	Benchmark price	Surge price coefficient	Miscellaneous cost
ρ_1	1				ω_1 1
ρ_2	0.8	γ_2 0.3	b_2 5	m_2 0.5	ω_2 1
ρ_3	0.8	γ_3 0.4	b_3 5	m_3 0.5	ω_3 1
ρ_4	0.4	γ_4 0.3	b_4 5	m_4 0.1	ω_4 0
ρ_5	0.4	γ_5 0.4	b_5 5	m_5 0.1	ω_5 0

Operation log   🗑 Clear log   ⟳ Update log

Choice behaviour

Distribution of travlers' perception error

Gumbel: G(0, 1/θ), 1	Logit-based SRUE
Gumbel: G(0, 1/θ), 2	C-Logit-based SRUE
Normal: N(μ, σ^2)	Probit-based SRUE
One-point: I(a, 0)	RUE

Gumbel θ [0.05]

Normal μ [0] σ [1]

One-point a [0]

Demand elasticity

$$q_w = D_w(S_w) = \bar{q}_w \exp(-\mu S_w), \forall w \in W$$

Elasticity μ [0.05]

[**Run**]   [**Pause**]   [**Cancel**]

[**Reset**]   Free ⬤

Open output file in folder

Open log file in folder

UI interface of the tool TransRNM

*Select the **existing** transportation network in the system or the **customized** transportation network*

TransRNM

Network structure

Existing or customized?
- ⦿ Existing
- ○ Customized

Existing network

Braess ▼

Browse | Input file path [ ] | ✓ OK

Serial number	Start node	End node	Free flow time	Capacity
1	1	3	1	9999
2	1	4	1	9999
3	4	2	1	9999
4	3	2	1	9999
5	3	4	1	9999

Serial number	Origin node	Destination node	Upper bound of travel dema
1	1	2	

Is link and OD information visible? Off ⬤ On

Browse | Output file path [ ] | 💾 Save

Travel cost function

$$
\begin{cases}
C_{p,1}^w = \rho_1 t_p^w + \omega_1 \\
C_{p,2}^w = \rho_2 t_p^w + \gamma_2 t_p^w - \left(b_2 - m_2 \sum_p f_{p,2}^w \right) + \omega_2 \\
C_{p,3}^w = \rho_3 t_p^w + \gamma_3 t_p^w - \left(b_3 - m_3 \sum_p f_{p,3}^w \right) + \omega_3 \\
C_{p,4}^w = \rho_4 t_p^w + \gamma_4 t_p^w + \left(b_4 + m_4 \sum_p f_{p,4}^w \right) + \omega_4 \\
C_{p,5}^w = \rho_5 t_p^w + \gamma_5 t_p^w + \left(b_5 + m_5 \sum_p f_{p,5}^w \right) + \omega_5
\end{cases}, \forall w, p
$$

Vaule of time	Inconvenience coefficient	Benchmark price	Surge price coefficient	Miscellaneous cost
ρ_1 [1]				ω_1 [1]
ρ_2 [0.8]	γ_2 [0.3]	b_2 [5]	m_2 [0.5]	ω_2 [1]
ρ_3 [0.8]	γ_3 [0.4]	b_3 [5]	m_3 [0.5]	ω_3 [1]
ρ_4 [0.4]	γ_4 [0.3]	b_4 [5]	m_4 [0.1]	ω_4 [0]
ρ_5 [0.4]	γ_5 [0.4]	b_5 [5]	m_5 [0.1]	ω_5 [0]

Operation log | 🗑 Clear log | 🔄 Update log

Choice behaviour

Distribution of travlers' perception error

Gumbel: G(0, 1/θ), 1	Logit-based SRUE
Gumbel: G(0, 1/θ), 2	C-Logit-based SRUE
Normal: N(μ, σ^2)	Probit-based SRUE
One-point: I(a, 0)	RUE

Gumbel θ [0.05]

Normal μ [0] σ [1]

One-point a [0]

Demand elasticity

$$q_w = D_w(S_w) = \bar{q}_w \exp(-\mu S_w), \forall w \in W$$

Elasticity μ [0.05]

Run | Pause | Cancel

Reset | Free ⦿

Open output file in folder

Open log file in folder

#Step1 Determine the network structure

TranRNM sets up three optional networks: the Braess network, the Sioux-Falls network and the Eastern-Massachusetts network.

If selecting the existing network...

*Enter the EXCEL file path corresponding to the network, then **click the OK button.***

TransRNM

Network structure

Existing or customized ?
- ○ Existing
- ● Customized √

Existing network
Braess ▼

📁 Browse   Input file path [   ]   ☑ OK

Serial number	Start node	End node	Free flow time	Capacity
1	1	3	1	9999
2	1	4	1	9999
3	4	2	1	9999
4	3	2	1	9999
5	3	4	1	9999

Serial number	Origin node	Destination node	Upper bound of travel dema
1	1	2	

Is link and OD information visible? Off ⬤ On

📁 Browse   Output file path [   ]   💾 Save

Travel cost function

$$
\begin{cases}
C_{p,1}^w = \rho_1 t_p^w + \omega_1 \\
C_{p,2}^w = \rho_2 t_p^w + \gamma_2 t_p^w - \left(b_2 - m_2 \sum_p f_{p,2}^w\right) + \omega_2 \\
C_{p,3}^w = \rho_3 t_p^w + \gamma_3 t_p^w - \left(b_3 - m_3 \sum_p f_{p,3}^w\right) + \omega_3 \\
C_{p,4}^w = \rho_4 t_p^w + \gamma_4 t_p^w + \left(b_4 + m_4 \sum_p f_{p,4}^w\right) + \omega_4 \\
C_{p,5}^w = \rho_5 t_p^w + \gamma_5 t_p^w + \left(b_5 + m_5 \sum_p f_{p,5}^w\right) + \omega_5
\end{cases}, \forall w, p
$$

Vaule of time	Inconvenience coefficient	Benchmark price	Surge price coefficient	Miscellaneous cost
ρ_1 1				ω_1 1
ρ_2 0.8	γ_2 0.3	b_2 5	m_2 0.5	ω_2 1
ρ_3 0.8	γ_3 0.4	b_3 5	m_3 0.5	ω_3 1
ρ_4 0.4	γ_4 0.3	b_4 5	m_4 0.1	ω_4 0
ρ_5 0.4	γ_5 0.4	b_5 5	m_5 0.1	ω_5 0

Operation log   🗑 Clear log   🔄 Update log

Choice behaviour

Distribution of travlers' perception error

Gumbel: G(0, 1/θ), 1	Logit-based SRUE
Gumbel: G(0, 1/θ), 2	C-Logit-based SRUE
Normal: N(μ, σ^2)	Probit-based SRUE
One-point: I(a, 0)	RUE

Gumbel θ 0.05

Normal μ 0 σ 1

One-point a 0

Demand elasticity

$$q_w = D_w(S_w) = \bar{q}_w \exp(-\mu S_w), \forall w \in W$$

Elasticity μ 0.05

Run   **Pause**   **Cancel**

Reset   Free ⬤

Open output file in folder

Open log file in folder

If selecting the customized network...

Switch the visibility of link and OD information

TransRNM

Network structure

Existing or customized?
- ○ Existing
- ● Customized

Existing network
Braess ▼

[Browse] Input file path [_____] ✓ OK

Serial number	Start node	End node	Free flow time	Capacity
1	1	3	1	9999
2	1	4	1	9999
3	4	2	1	9999
4	3	2	1	9999
5	3	4	1	9999

Serial number	Origin node	Destination node	Upper bound of travel dema
1	1	2	

Is link and OD information visible? Off ⬤ On

[Browse] Output file path [_____] 💾 Save

Travel cost function

$$\begin{cases} C_{p,1}^{w} = \rho_1 t_p^{w} + \omega_1 \\ C_{p,2}^{w} = \rho_2 t_p^{w} + \gamma_2 t_p^{w} - \left(b_2 - m_2 \sum_p f_{p,2}^{w} \right) + \omega_2 \\ C_{p,3}^{w} = \rho_3 t_p^{w} + \gamma_3 t_p^{w} - \left(b_3 - m_3 \sum_p f_{p,3}^{w} \right) + \omega_3 \\ C_{p,4}^{w} = \rho_4 t_p^{w} + \gamma_4 t_p^{w} + \left(b_4 + m_4 \sum_p f_{p,4}^{w} \right) + \omega_4 \\ C_{p,5}^{w} = \rho_5 t_p^{w} + \gamma_5 t_p^{w} + \left(b_5 + m_5 \sum_p f_{p,5}^{w} \right) + \omega_5 \end{cases}, \forall w, p$$

	Vaule of time	Inconvenience coefficient	Benchmark price	Surge price coefficient	Miscellaneous cost
ρ_1	1				ω_1 1
ρ_2	0.8	γ_2 0.3	b_2 5	m_2 0.5	ω_2 1
ρ_3	0.8	γ_3 0.4	b_3 5	m_3 0.5	ω_3 1
ρ_4	0.4	γ_4 0.3	b_4 5	m_4 0.1	ω_4 0
ρ_5	0.4	γ_5 0.4	b_5 5	m_5 0.1	ω_5 0

Operation log 🗑 Clear log 🔄 Update log

Choice behaviour

Distribution of travlers' perception error

Gumbel: G(0, 1/θ), 1	Logit-based SRUE
Gumbel: G(0, 1/θ), 2	C-Logit-based SRUE
Normal: N(μ, σ^2)	Probit-based SRUE
One-point: I(a, 0)	RUE

Gumbel θ 0.05

Normal μ 0 σ 1

One-point a 0

Demand elasticity

$$q_w = D_w(S_w) = \bar{q}_w \exp(-\mu S_w), \forall w \in W$$

Elasticity μ 0.05

[**Run**] [Pause] [Cancel]

[Reset] Free ⬤

Open output file in folder

Open log file in folder

Note that these parameters are all **non-negative**.

An error message will be generated if the parameter value does not meet the requirements.

#Step2 Input the parameters of travel cost functions

Network structure

Existing or customized?
- ○ Existing
- ● Customized

Existing network
[Braess ▼]

📁 Browse   Input file path [   ]   ✅ OK

Serial number	Start node	End node	Free flow time	Capacity
1	1	3	1	9999
2	1	4	1	9999
3	4	2	1	9999
4	3	2	1	9999
5	3	4	1	9999

Serial number	Origin node	Destination node	Upper bound of travel dema
1	1	2	

Is link and OD information visible?   Off 🔘 On

📁 Browse   Output file path [   ]   💾 Save

Travel cost function

$$
\begin{cases}
C_{p,1}^w = \rho_1 t_p^w + \omega_1 \\
C_{p,2}^w = \rho_2 t_p^w + \gamma_2 t_p^w - \left(b_2 - m_2 \sum_p f_{p,2}^w \right) + \omega_2 \\
C_{p,3}^w = \rho_3 t_p^w + \gamma_3 t_p^w - \left(b_3 - m_3 \sum_p f_{p,3}^w \right) + \omega_3 \\
C_{p,4}^w = \rho_4 t_p^w + \gamma_4 t_p^w + \left(b_4 + m_4 \sum_p f_{p,4}^w \right) + \omega_4 \\
C_{p,5}^w = \rho_5 t_p^w + \gamma_5 t_p^w + \left(b_5 + m_5 \sum_p f_{p,5}^w \right) + \omega_5
\end{cases}, \forall w, p
$$

	Vaule of time	Inconvenience coefficient	Benchmark price	Surge price coefficient	Miscellaneous cost
	ρ_1 [1]				ω_1 [1]
	ρ_2 [0.8]	γ_2 [0.3]	b_2 [5]	m_2 [0.5]	ω_2 [1]
	ρ_3 [0.8]	γ_3 [0.4]	b_3 [5]	m_3 [0.5]	ω_3 [1]
	ρ_4 [0.4]	γ_4 [0.3]	b_4 [5]	m_4 [0.1]	ω_4 [0]
	ρ_5 [0.4]	γ_5 [0.4]	b_5 [5]	m_5 [0.1]	ω_5 [0]

Operation log   🗑 Clear log   🔄 Update log

[   ]

Choice behaviour

Distribution of travlers' perception error

Gumbel: G(0, 1/θ), 1	*Logit-based SRUE*
Gumbel: G(0, 1/θ), 2	*C-Logit-based SRUE*
Normal: N(μ, σ^2)	*Probit-based SRUE*
One-point: I(a, 0)	*RUE*

Gumbel θ [0.05]

Normal μ [0] σ [1]

One-point a [0]

Demand elasticity

$$q_w = D_w(S_w) = \bar{q}_w \exp(-\mu S_w), \forall w \in W$$

Elasticity μ [0.05]

[**Run**]   [Pause]   [Cancel]

[**Reset**]   Free ⚪

Open output file in folder

Open log file in folder

#Step3 Select the distribution of traveler's perception error

Choice behaviour

Distribution of travlers' perception error

Gumbel: G(0, 1/θ), 1	Logit-based SRUE
Gumbel: G(0, 1/θ), 2	C-Logit-based SRUE
Normal: N(μ, σ^2)	Probit-based SRUE
One-point: I(a, 0)	RUE

Gumbel   θ   0.05

Normal   μ   0   σ   1

One-point   a   0

Normal

Normal $\rightarrow$ Probit-based SRUE

Distribution parameters: μ, σ

σ ≥ 0

Choice behaviour

Distribution of travlers' perception error

Gumbel: G(0, 1/θ), 1	Logit-based SRUE
Gumbel: G(0, 1/θ), 2	C-Logit-based SRUE
Normal: N(μ, σ^2)	Probit-based SRUE
One-point: I(a, 0)	RUE

Gumbel   θ   0.05

Normal   μ   0   σ   1

One-point   a   0

Gumbel

Gumbel_1 $\rightarrow$ Logit-based SRUE
Gumbel_2 $\rightarrow$ C-Logit-based SRUE

Distribution parameters: θ

θ > 0

Choice behaviour

Distribution of travlers' perception error

Gumbel: G(0, 1/θ), 1	Logit-based SRUE
Gumbel: G(0, 1/θ), 2	C-Logit-based SRUE
Normal: N(μ, σ^2)	Probit-based SRUE
One-point: I(a, 0)	RUE

Gumbel   θ   0.05

Normal   μ   0   σ   1

One-point   a   0

One-point

One-point $\rightarrow$ RUE

Distribution parameters: a

Choice behaviour

Distribution of travlers' perception error

Gumbel: G(0, 1/θ), 1	Logit-based SRUE
Gumbel: G(0, 1/θ), 2	C-Logit-based SRUE
Normal: N(μ, σ^2)	Probit-based SRUE
One-point: I(a, 0)	RUE

Gumbel   θ   0.05

Normal   μ   0   σ   1

One-point   a   0

Input the necessary distribution parameters

TransRNM

Network structure

Existing or customized?
○ Existing
● Customized

Existing network
Braess ▼

⊡ Browse   Input file path [   ]   ✔ OK

Serial number	Start node	End node	Free flow time	Capacity
1	1	3	1	9999
2	1	4	1	9999
3	4	2	1	9999
4	3	2	1	9999
5	3	4	1	9999

Serial number	Origin node	Destination node	Upper bound of travel dema
1	1	2	

Is link and OD information visible?   Off ⬤ On

⊡ Browse   Output file path [   ]   💾 Save

Travel cost function

$$C_{p,1}^w = \rho_1 t_p^w + \omega_1$$

$$C_{p,2}^w = \rho_2 t_p^w + \gamma_2 t_p^w - \left(b_2 - m_2 \sum_p f_{p,2}^w \right) + \omega_2$$

$$C_{p,3}^w = \rho_3 t_p^w + \gamma_3 t_p^w - \left(b_3 - m_3 \sum_p f_{p,3}^w \right) + \omega_3 \quad , \forall w, p$$

$$C_{p,4}^w = \rho_4 t_p^w + \gamma_4 t_p^w + \left(b_4 + m_4 \sum_p f_{p,4}^w \right) + \omega_4$$

$$C_{p,5}^w = \rho_5 t_p^w + \gamma_5 t_p^w + \left(b_5 + m_5 \sum_p f_{p,5}^w \right) + \omega_5$$

	Vaule of time	Inconvenience coefficient	Benchmark price	Surge price coefficient	Miscellaneous cost
ρ_1	1				ω_1 1
ρ_2	0.8	γ_2 0.3	b_2 5	m_2 0.5	ω_2 1
ρ_3	0.8	γ_3 0.4	b_3 5	m_3 0.5	ω_3 1
ρ_4	0.4	γ_4 0.3	b_4 5	m_4 0.1	ω_4 0
ρ_5	0.4	γ_5 0.4	b_5 5	m_5 0.1	ω_5 0

Operation log   🗑 Clear log   🔄 Update log

Choice behaviour

Distribution of travlers' perception error

Gumbel: G(0, 1/θ), 1	*Logit-based SRUE*
Gumbel: G(0, 1/θ), 2	*C-Logit-based SRUE*
Normal: N(μ, σ^2)	*Probit-based SRUE*
One-point: I(a, 0)	*RUE*

Gumbel θ [0.05]

Normal μ [0] σ [1]

One-point a [0]

Demand elasticity
$$q_w = D_w(S_w) = \bar{q}_w \exp(-\mu S_w), \forall w \in W$$

Elasticity μ [0.05]

[Run]   [Pause]   [Cancel]

[Reset]   Free ⬤

Open output file in folder

Open log file in folder

Note that $\mu \geq 0$.

$\mu = 0$, fixed demand;
$\mu > 0$, elastic demand

#Step4 Input the elasticity of travel demand

#Step5 Click Run button to start the calculation

Run
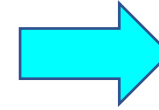
Pause

Resume

Cancel

Complete
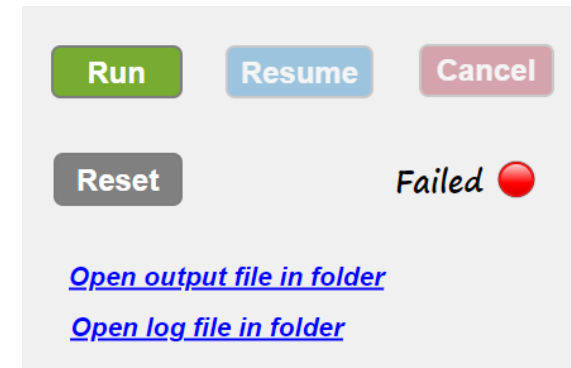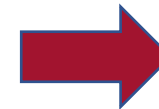
Cancel

During the calculation, users can **pause** or **cancel** the process.

The lamp will also change color with the change of operation status.

During the calculation...

TransRNM

Network structure

Existing or customized?
- ● Existing
- ○ Customized

Existing network: Braess ▼

Browse | Input file path [ ] | ✓ OK

Serial number	Start node	End node	Free flow time	Capacity
1	1	3	1	9999
2	1	4	1	9999
3	4	2	1	9999
4	3	2	1	9999
5	3	4	1	9999

Serial number	Origin node	Destination node	Upper bound of travel dema
1	1	2	

Is link and OD information visible? Off ⬤ On

Browse | Output file path C:\Users\Summer\Desktop\Results.xls | 💾 Save

Travel cost function

$$C_{p,1}^w = \rho_1 t_p^w + \omega_1$$

$$C_{p,2}^w = \rho_2 t_p^w + \gamma_2 t_p^w - \left(b_2 - m_2 \sum_p f_{p,2}^w\right) + \omega_2$$

$$C_{p,3}^w = \rho_3 t_p^w + \gamma_3 t_p^w - \left(b_3 - m_3 \sum_p f_{p,3}^w\right) + \omega_3 \quad , \forall w, p$$

$$C_{p,4}^w = \rho_4 t_p^w + \gamma_4 t_p^w + \left(b_4 + m_4 \sum_p f_{p,4}^w\right) + \omega_4$$

$$C_{p,5}^w = \rho_5 t_p^w + \gamma_5 t_p^w + \left(b_5 + m_5 \sum_p f_{p,5}^w\right) + \omega_5$$

	Vaule of time	Inconvenience coefficient	Benchmark price	Surge price coefficient	Miscellaneous cost
ρ_1	1				ω_1 1
ρ_2	0.8	γ_2 0.3	b_2 5	m_2 0.5	ω_2 1
ρ_3	0.8	γ_3 0.4	b_3 5	m_3 0.5	ω_3 1
ρ_4	0.4	γ_4 0.3	b_4 5	m_4 0.1	ω_4 0
ρ_5	0.4	γ_5 0.4	b_5 5	m_5 0.1	ω_5 0

Operation log | 🗑 Clear log | 🔄 Update log

Start TransRNM time: 21-Aug-2022 09:05:02
Start calculation time: 21-Aug-2022 09:05:22
Braess
Network structure: 5 links, 1 ODs, 3 Routes

Choice behaviour

Distribution of travlers' perception error

Gumbel: G(0, 1/θ), 1	Logit-based SRUE
Gumbel: G(0, 1/θ), 2	C-Logit-based SRUE
Normal: N(μ, σ^2)	Probit-based SRUE
One-point: I(a, 0)	RUE

Gumbel θ 0.05

Normal μ 0   σ 1

One-point a 0

Demand elasticity

$$q_w = D_w(S_w) = \bar{q}_w \exp(-\mu S_w), \forall w \in W$$

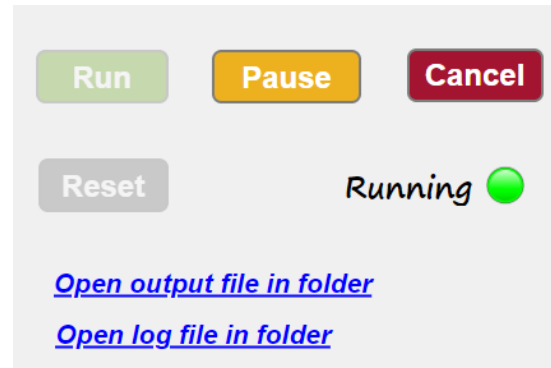Elasticity μ 0.05

Run | Pause | Cancel
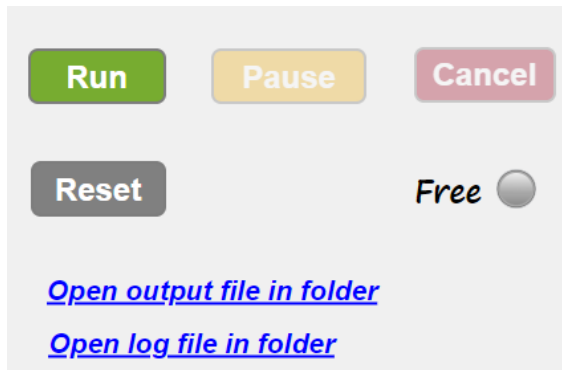
Reset | Completed ⬤
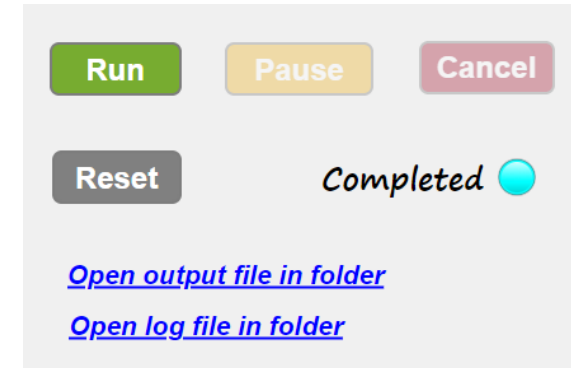
Open output file in folder
Open log file in folder

Enter the output file path, then click Save button.

#Step6 Save the result file

After storage, users can view the output file in the folder.

TransRNM

Network structure

Existing or customized?
- ( ) Existing
- ( ) Customized

Existing network
Braess ▼

Browse   Input file path [   ]   ✓ OK

Serial number	Start node	End node	Free flow time	Capacity
1	1	3	1	9999
2	1	4	1	9999
3	4	2	1	9999
4	3	2	1	9999
5	3	4	1	9999

Serial number	Origin node	Destination node	Upper bound of travel dema
1	1	2	

Is link and OD information visible? Off ⬤ On

Browse   Output file path C:\Users\Summer\Desktop\Results.xls   💾 Save

Travel cost function

$$
\begin{cases}
C_{p,1}^{w} = \rho_1 t_p^{w} + \omega_1 \\
C_{p,2}^{w} = \rho_2 t_p^{w} + \gamma_2 t_p^{w} - \left(b_2 - m_2 \sum_p f_{p,2}^{w} \right) + \omega_2 \\
C_{p,3}^{w} = \rho_3 t_p^{w} + \gamma_3 t_p^{w} - \left(b_3 - m_3 \sum_p f_{p,3}^{w} \right) + \omega_3 \\
C_{p,4}^{w} = \rho_4 t_p^{w} + \gamma_4 t_p^{w} + \left(b_4 + m_4 \sum_p f_{p,4}^{w} \right) + \omega_4 \\
C_{p,5}^{w} = \rho_5 t_p^{w} + \gamma_5 t_p^{w} + \left(b_5 + m_5 \sum_p f_{p,5}^{w} \right) + \omega_5
\end{cases} , \forall w, p
$$

	Vaule of time	Inconvenience coefficient	Benchmark price	Surge price coefficient	Miscellaneous cost
ρ_1	1				ω_1 1
ρ_2	0.8	γ_2 0.3	b_2 5	m_2 0.5	ω_2 1
ρ_3	0.8	γ_3 0.4	b_3 5	m_3 0.5	ω_3 1
ρ_4	0.4	γ_4 0.3	b_4 5	m_4 0.1	ω_4 0
ρ_5	0.4	γ_5 0.4	b_5 5	m_5 0.1	ω_5 0

Operation log   🗑 Clear log   🔄 Update log

Start TransRNM time: 21-Aug-2022 09:05:02
Start calculation time: 21-Aug-2022 09:05:22
Braess
Network structure: 5 links, 1 ODs, 3 Routes

Choice behaviour

Distribution of travlers' perception error

Gumbel: G(0, 1/θ), 1	*Logit-based SRUE*
Gumbel: G(0, 1/θ), 2	*C-Logit-based SRUE*
Normal: N(μ, σ^2)	*Probit-based SRUE*
One-point: I(a, 0)	*RUE*

Gumbel   θ [0.05]

Normal   μ [0]   σ [1]

One-point   a [0]

Demand elasticity

$$q_w = D_w(S_w) = \bar{q}_w \exp(-\mu S_w), \forall w \in W$$

Elasticity   μ   [0.05]

[Run] [Pause] [Cancel]

[**Reset**]   *Completed* ⬤

Open output file in folder

Open log file in folder

#Step7 Click Reset button to reinitialize TransRNM

Users can change some inputs or reset TransRNM for the next calculation.

Log files are named after the startup time of TransRNM.

Choice behaviour

Distribution of travlers' perception error

Gumbel: G(0, 1/θ), 1	*Logit-based SRUE*
Gumbel: G(0, 1/θ), 2	*C-Logit-based SRUE*
Normal: N(μ, σ^2)	*Probit-based SRUE*
One-point: I(a, 0)	*RUE*

Gumbel θ 0.05

Normal μ 0 σ 1

One-point a 0

Demand elasticity

$$q_w = D_w(S_w) = \bar{q}_w \exp(-\mu S_w), \forall w \in W$$

Elasticity μ 0.05

Run **Pause** **Cancel**

Reset Completed ⬤

Open output file in folder

Open log file in folder

Miscellaneous cost

ρ_3	0.8	γ_3	0.4	b_3	5	m_3	0.5	ω_3	1
ρ_4	0.4	γ_4	0.3	b_4	5	m_4	0.1	ω_4	0
ρ_5	0.4	γ_5	0.4	b_5	5	m_5	0.1	ω_5	0

Is link and OD information visible? Off [ ] On

Browse Output file path C:\Users\Summer\Desktop\Results.xls Save

Operation log   Clear log   Update log

Start TransRNM time: 21-Aug-2022 09:05:02
Start calculation time: 21-Aug-2022 09:05:22
Braess
Network structure: 5 links, 1 ODs, 3 Routes

Clear/Update log
Users can clear or update the log records in the window

PS 1 Operation log

The operation log is displayed in the window, and the corresponding TXT file is stored in the default folder: C:\Program Files\TransRNM Log

Network structure

Existing or customized?
- ○ Existing
- ● Customized

Existing network
[Braess ▼]

[📁 Browse] Input file path [   ] [✓ OK]

Serial number	Start node	End node	Free flow time	Capacity
1	1	3	1	9999
2	1	4	1	9999
3	4	2	1	9999
4	3	2	1	9999
5	3	4	1	9999

Serial number	Origin node	Destination node	Upper bound of travel dema
1	1	2	

Is link and OD information visible? Off ⬤ On

[📁 Browse] Output file path [   ] [💾 Save]

---

help ─ □ ✕

In order to facilitate user input, common values of some parameters have been provided in advance in the TransRNM tool. The user can also customize these parameter values.

[OK]

$$C_{p,2}^w = \rho_2 t_p^w + \gamma_2 t_p^w - \left(b_2 - m_2 \sum_p f_{p,2}^w\right) + \omega_2$$

$$C_{p,3}^w = \rho_3 t_p^w + \gamma_3 t_p^w - \left(b_3 - m_3 \sum_p f_{p,3}^w\right) + \omega_3$$

$$, \forall w, p$$

$$C_{p,4}^w = \rho_4 t_p^w + \gamma_4 t_p^w + \left(b_4 + m_4 \sum_p f_{p,4}^w\right) + \omega_4$$

$$C_{p,5}^w = \rho_5 t_p^w + \gamma_5 t_p^w + \left(b_5 + m_5 \sum_p f_{p,5}^w\right) + \omega_5$$

	Vaule of time	Inconvenience coefficient	Benchmark price	Surge price coefficient	Miscellaneous cost
ρ_1	1				ω_1 1
ρ_2	0.8	γ_2 0.3	b_2 5	m_2 0.5	ω_2 1
ρ_3	0.8	γ_3 0.4	b_3 5	m_3 0.5	ω_3 1
ρ_4	0.4	γ_4 0.3	b_4 5	m_4 0.1	ω_4 0
ρ_5	0.4	γ_5 0.4	b_5 5	m_5 0.1	ω_5 0

Operation log   [🗑 Clear log] [🔄 Update log]

---

behaviour

n of travlers' perception error

Gumbel: G(0, 1/θ), 1	*Logit-based SRUE*
Gumbel: G(0, 1/θ), 2	*C-Logit-based SRUE*
Normal: N(μ, σ^2)	*Probit-based SRUE*
One-point: I(a, 0)	*RUE*

Gumbel θ [0.05]

Normal μ [0] σ [1]

One-point a [0]

Demand elasticity

$$q_w = D_w(S_w) = \bar{q}_w \exp(-\mu S_w), \forall w \in W$$

Elasticity μ [0.05]

[**Run**] [Pause] [Cancel]

[Reset] Free ⚪

Open output file in folder

Open log file in folder

To facilitate user input, TransRNM provides some default parameter values. The user can also customize these parameter values.

PS 2   Default parameter values

Network structure

Existing or customized?
- ○ Existing
- ● Customized

Existing network

[Braess ▾]

[Browse] Input file path [   ] ✓ OK

Serial number	Start node	End node	Free flow time	Capacity
1	1	3	1	9999
2	1	4	1	9999
3	4	2	1	9999
4	3	2	1	9999
5	3	4	1	9999

Serial number	Origin node	Destination node	Upper bound of travel dema
1	1	2	

Travel cost fu...

$$C_{p,2}^w = \rho_2 t_p^w + \gamma_2 t_p^w - \left(b_2 - m_2 \sum_p f_{p,2}^w\right) + \omega_2$$

$$C_{p,3}^w = \rho_3 t_p^w + \gamma_3 t_p^w - \left(b_3 - m_3 \sum_p f_{p,3}^w\right) + \omega_3$$

$$\forall w, p$$

$$C_{p,4}^w = \rho_4 t_p^w + \gamma_4 t_p^w + \left(b_4 + m_4 \sum_p f_{p,4}^w\right) + \omega_4$$

$$C_{p,5}^w = \rho_5 t_p^w + \gamma_5 t_p^w + \left(b_5 + m_5 \sum_p f_{p,5}^w\right) + \omega_5$$

Distribution of travlers' perception error

Gumbel: G(0, 1/θ), 1	Logit-based SRUE
Gumbel: G(0, 1/θ), 2	C-Logit-based SRUE
Normal: N(μ, σ^2)	Probit-based SRUE
One-point: I(a, 0)	RUE

Gumbel θ 0.05

Normal μ 0   σ 1

One-point a 0

	Vaule of time	Inconvenience coefficient	Benchmark price	Surge price coefficient	Miscellaneous cost
ρ_1	1				ω_1 1
ρ_2	0.8	γ_2 0.3	b_2 5	m_2 0.5	ω_2 1
ρ_3	0.8	γ_3 0.4	b_3 5	m_3 0.5	ω_3 1
ρ_4	0.4	γ_4 0.3	b_4 5	m_4 0.1	ω_4 0
ρ_5	0.4	γ_5 0.4	b_5 5	m_5 0.1	ω_5 0

[Clear log] [Update log]

Demand elasticity

$$q_w = D_w(S_w) = \bar{q}_w \exp(-\mu S_w), \forall w \in W$$

Elasticity μ 0.05

[Run] [Pause] [Cancel]

[Reset]

Open output file
Open log file in t

Close TransRNM

? Close the TransRNM tool? Please confirm that the results have been saved before closing.

[Close] [Do not close]

Clear logs

? Close the operation log? All logs of this operation will be cleared.

[Clear] [Do not clear]

[Browse] Outpu...

Reset or not

? Clear all data and reset the software?

[Reset] [Do not reset]

TransRNM sets question dialog boxes on Clear log button, Reset button and Close TransRNM button, respectively.

PS 3 Prevent mistakenly touching

1. Install MATLAB Runtime 9.12 in advance ! *(See detailed installation method in readme.txt)*

2. Install TransRNM (TransRNM_setup.exe)
   or Run TransRNM directly (TransRNM.exe)

3. Run both TransRNM_setup.exe and TransRNM.exe **as an administrator**

4. GitHub: https://github.com/WangQianlian/TransRNM/tree/master

5. Contact us
wangqianlian@foxmail.com

Thanks for your time !