

# PTV Vistro



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# PTV Vistro

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## Traffic engineering tools

- Small and medium sized network
- Intersection Level of Service
- TIA Functionality
- Signal Optimization
- Automatic Reporting
- Export for further Analysis or Simulation

# PTV Vistro

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In solving traffic engineering problems, PTV Vistro helps traffic engineers and transport planners:

- Evaluate the impacts of new developments
- Identify solutions to ensure smooth traffic flow for the road network



# PTV Vistro GUI

Workflow Panel

Menu Bar

Network Object Toolbar

Network Editor

Graphic Parameters

Data Table

PTV Vistro 6.00-02 - C:\Users\Think\Desktop\TSS TRAINING 2018\VISTRO VISWALK August 2018\Training Vistro\_02082018\Vistro\_Test\_020818 morning session.vistro

File Edit View Signal control Simulation Help Scenario: 1 Roundabout Scenario Intersection: 4 New Intersection

My Network, Internet Map

Intersection Setup

Number	4					
Intersection	New Intersection					
Control Type	Roundabout					
Analysis Method	HCM 6th Edition					
Name						
Show Name	<input type="checkbox"/>					
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	TT		T		T T	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Base Volume Input [veh/h]	112	143	59	149	207	163
Total Analysis Volume [veh/h]	117	192	78	203	301	182
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Pocket	1	0	0	0	1	0
Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	<input checked="" type="checkbox"/>					
Crosswalk Width [m]	2.50		2.50		2.50	
Crosswalk Setback [m]	0		0		0.00	
Bypass Lane	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Bypass Control	Yield right		Yield right		Yield right of way	
Bypass Radius [m]	22.86		22.86		22.86	
Entry Lane Width [m]	6.10		6.10		6.10	
Entry Radius [m]	30.48		30.48		30.48	
Entry Angle	45.00		45.00		45.00	
Approach Half Width [m]	3.66		3.66		3.66	
Flare Length [m]	19.81		19.81		19.81	
Grade Separation [m]	0.00		0.00		0.00	
No. of Circulating Lanes	1		1		1	
No. of Exit Lanes	1		2		3	

1:15041 | 11151656.0288 | 720447.8865

9:25 AM 24/10/2018

# First Step: Change Settings

The screenshot displays the PTV Vistro 6.00-02 software interface. The title bar shows the file path: C:\Users\Think\Desktop\Slides and Notes For Evaluation\Mahkamah Kangar2.vistro\*. The main menu includes 'Edit', 'View', 'Signal control', 'Simulation', and 'Help'. The 'Edit' menu is open, showing 'Undo', 'Redo', and 'Global Settings'. A red circle with the number '1' highlights the 'Edit' menu, and another red circle with the number '2' highlights the 'Global Settings' option. A white callout box with a red arrow points from the text 'Edit' to 'Global Setting'. The background shows a network diagram with a central green node and three branches labeled 1, 2, and 3. The right sidebar contains a 'Mitigation' panel with various settings like 'Critical Movement', 'EBT', 'Number', 'Intersection', 'Control Type', 'Analysis Method', 'Name', 'Approach', 'Lane Configuration', 'Turning Movement', 'Base Volume Input [veh/h]', 'Total Analysis Volume [veh/h]', 'Intersection Settings', and 'Lanes'.

PTV Vistro 6.00-02 - C:\Users\Think\Desktop\Slides and Notes For Evaluation\Mahkamah Kangar2.vistro\*

Edit View Signal control Simulation Help Scenario: 1 Roundabout

Undo Redo Global Settings

My Network

Mitigation

Unmitigated +

Critical Movement EBT

Number Intersection Control Type Analysis Method Name Approach Lane Configuration Turning Movement Base Volume Input [veh/h] Total Analysis Volume [veh/h]

Intersection Settings

Number of Conflicting Circulating Flow Rate [veh/h] Exiting Flow Rate [veh/h] Demand Flow Rate [veh/h] Adjusted Demand Flow Rate

Lanes

**Edit → Global Setting**

# First Step: Change Settings

PTV Vistro 6.00-02 - C:\Users\Think\Desktop\Slides and Notes For Evaluation\Mahkamah Kangar2.vist

File Edit View Signal control Simulation

## Global Settings

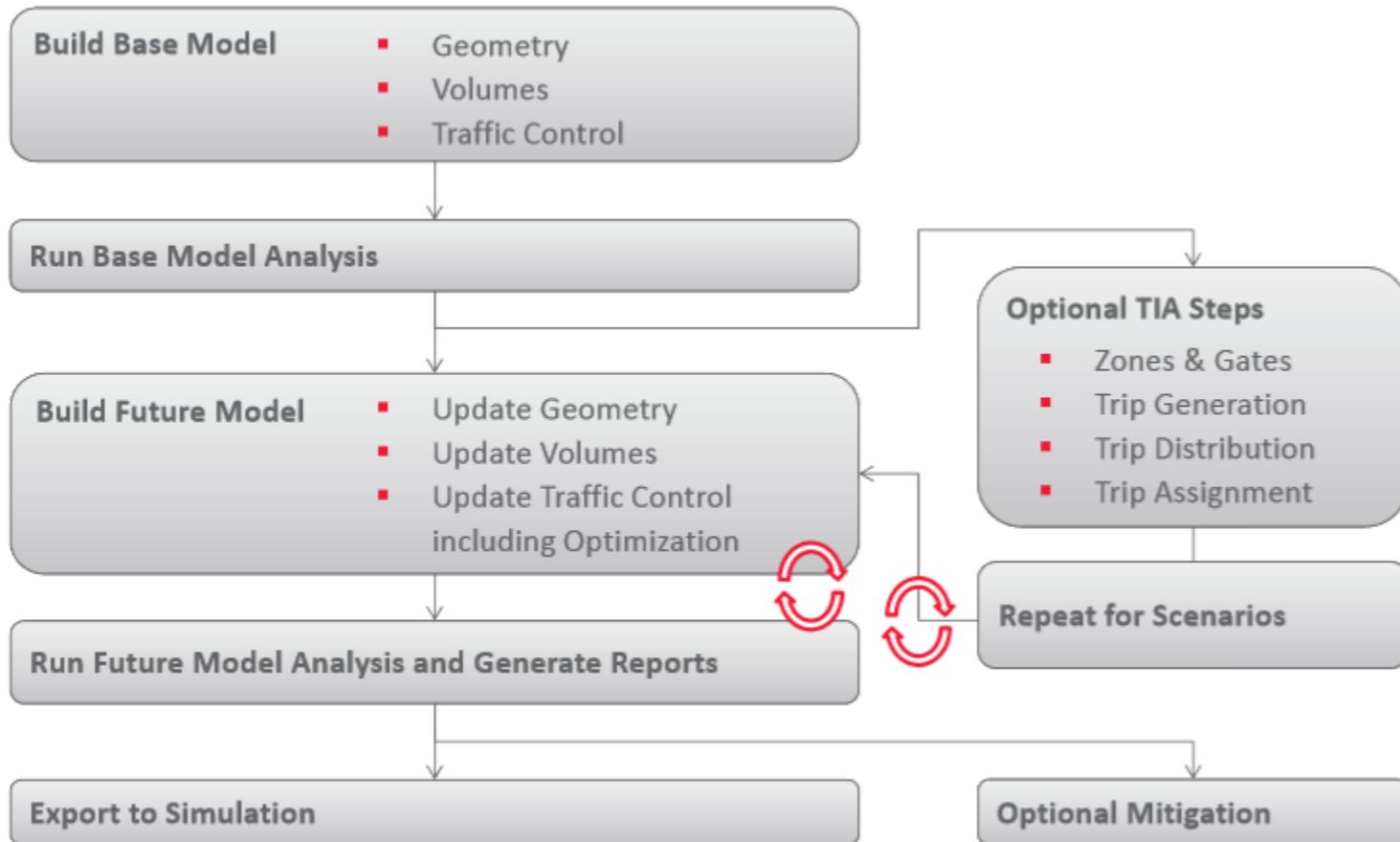
Changes in global settings

Attribute Name:  

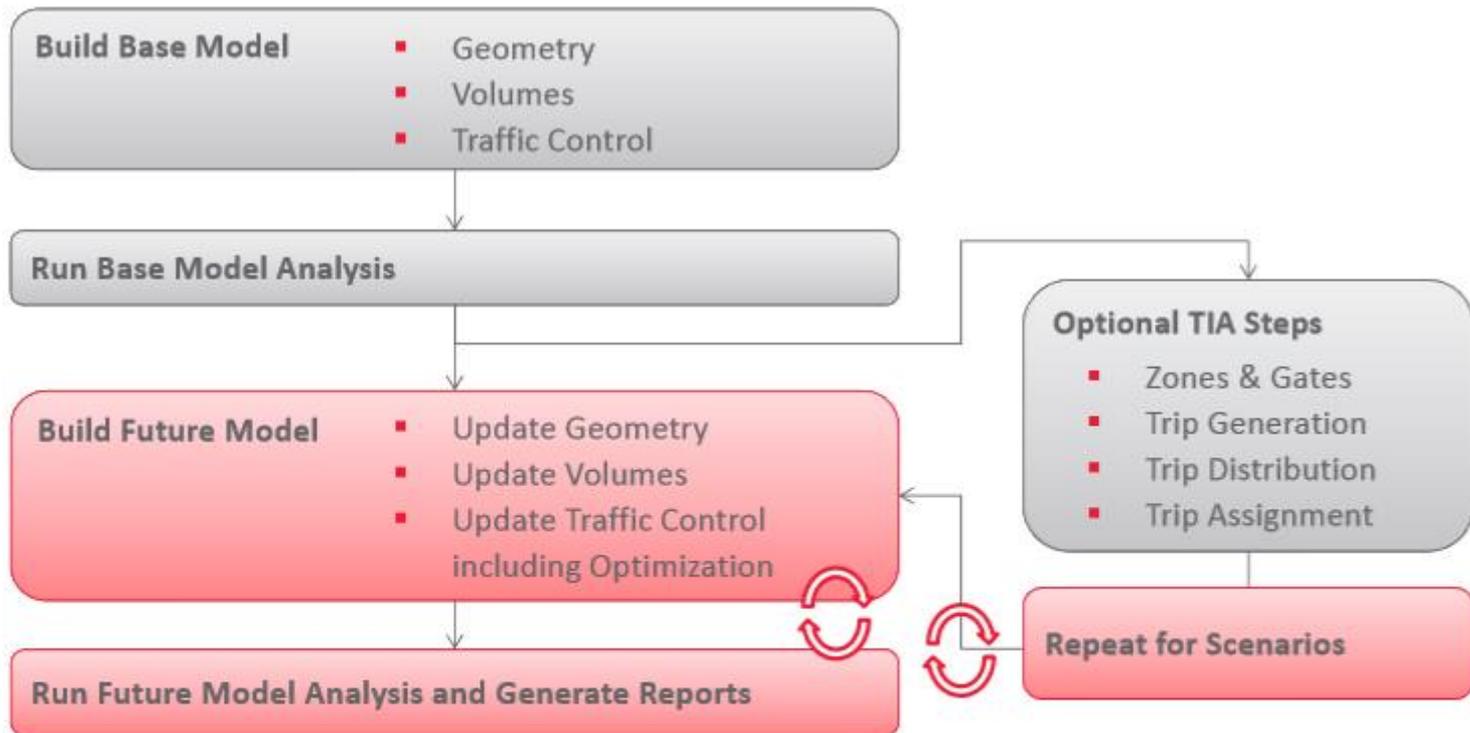
Language	English
Direction Of Traffic	Left-hand traffic
Unit	Metric
Analysis Method for Signalized Intersections	HCM 6th Edition
Analysis Method for Un-Signalized Intersections	HCM 6th Edition
Analysis Method for Roundabouts	HCM 6th Edition
Default Lane Width [m]	3.5
Speed [km/h]	50.00
Pedestrian Crosswalk Width [m]	2.50
Right Turn on Red	<input checked="" type="checkbox"/>
Splitter Island Length [m]	3.00
Splitter Island Width [m]	6.00
Heavy Vehicle Percentage [%]	2.00
Growth Rate	1.00
Default Ideal Saturation Flow Rate, HCM [veh/h]	1900
Default Ideal Saturation Flow Rate, ICU 1 [veh/h]	1600
Default Ideal Saturation Flow Rate, ICU 2 [veh/h]	1600
Default Ideal Saturation Flow Rate, CCG [PCU/h]	1850
Default PHF	1.00
Located in CBD	<input checked="" type="checkbox"/>
Major Flow Direction	North-South
Northbound Signal Group	2
Northwestbound Signal Group	2
Lead/Lag Setting	Lead
Cycle Length [s]	on

2

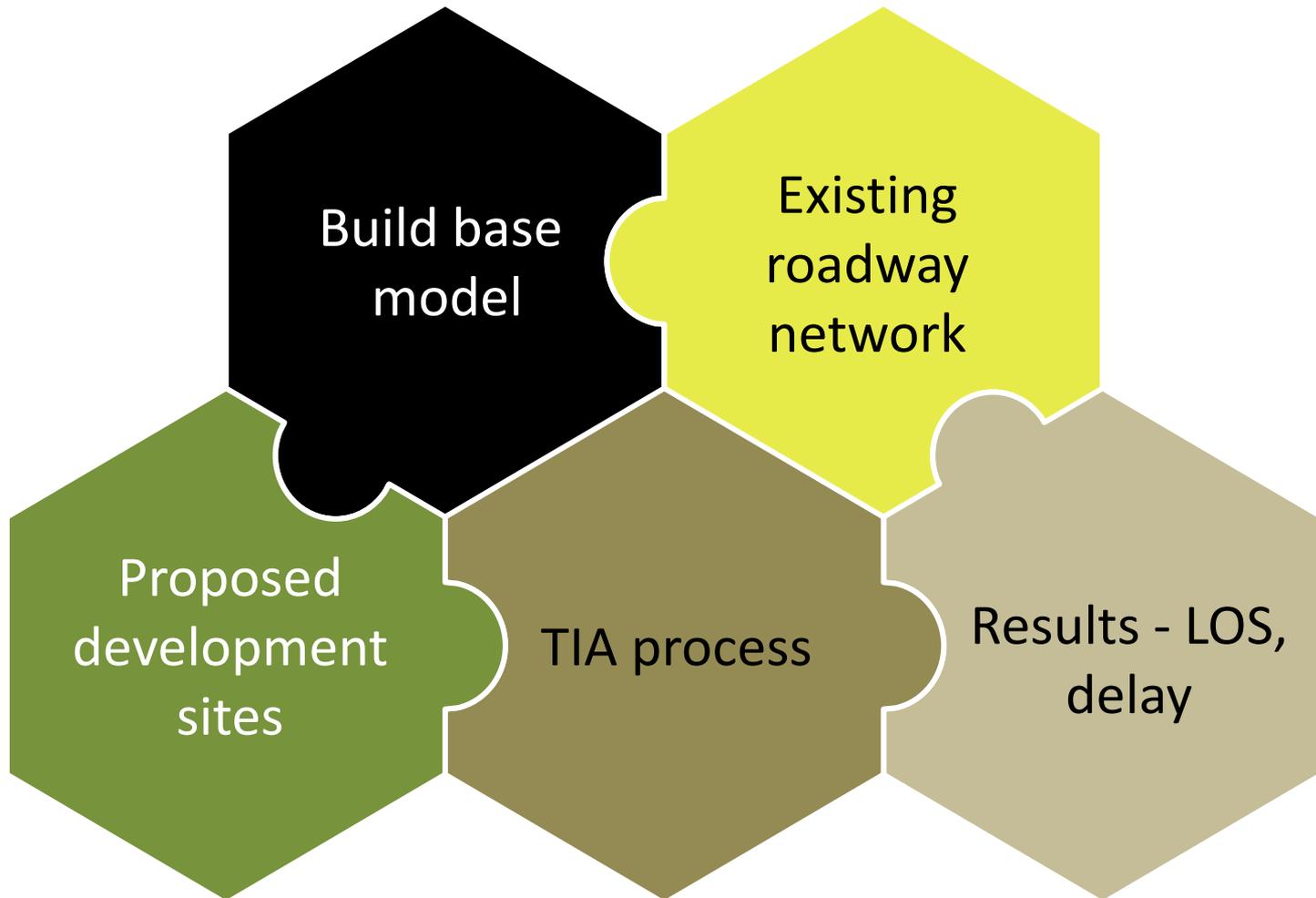
# TIA Process Using PTV Vistro



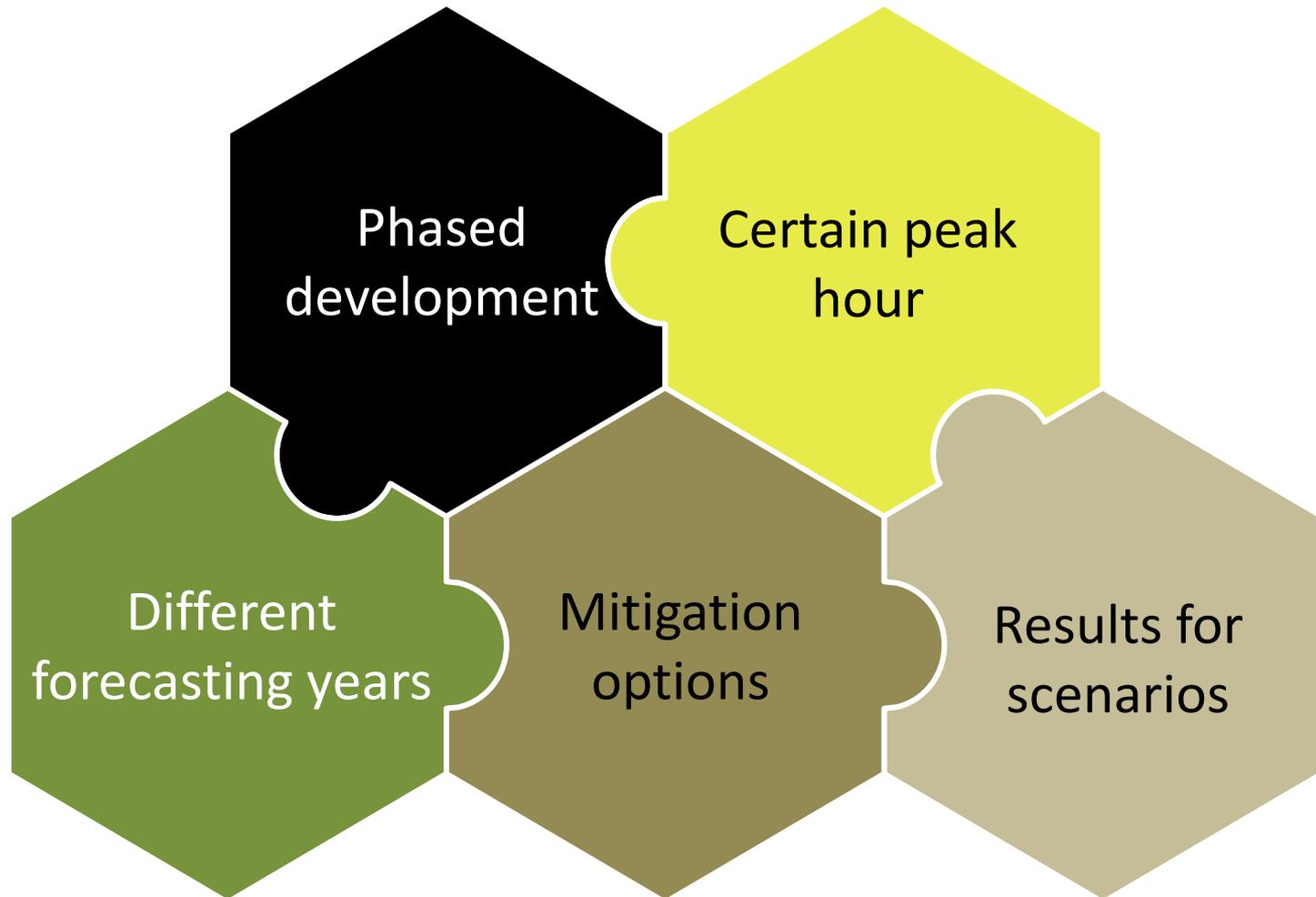
# Scenario Management



# Base Scenario



# New Scenario(s)



# Scenario Management

PTV Vistro 6.00-02 - C:\Users\Think\Desktop\Slides and Notes For Evaluation\Mahkamah Kangar2.vistro

The screenshot displays the PTV Vistro software interface. The main window shows a satellite map of an intersection with three approaches labeled 1, 2, and 3. A 'Scenario Manager' dialog box is open, showing a list of scenarios with 'Base Scenario' selected. A red arrow points from the 'Scenario Manager' label in a yellow box to the 'Base Scenario' entry in the list. The 'Scenario Manager' dialog also contains an information icon and a warning message: 'Adding, duplicating or deleting scenarios cannot be undone'. On the right side of the interface, a settings panel is visible, showing various configuration options for the intersection, including 'Lane Configuration', 'Turning Movement', 'Base Volume Input [veh/h]', 'Total Analysis Volume [veh/h]', 'Intersection Settings', and 'Capacity Analysis'.

File Edit View Signal control Simulation Help Scenario: Base Scenario

My Network

Scenarios

Base Scenario

Scenario Manager

Adding, duplicating or deleting scenarios cannot be undone

Lane Configuration

Turning Movement

Base Volume Input [veh/h]

Total Analysis Volume [veh/h]

Intersection Settings

Priority Scheme

Flared Lane

Storage Area [veh]

Two-Stage Gap Acceptance

Number of Storage Spaces in Median

Capacity Analysis

Calculated Rank

v\_c, Conflicting Flow Rate

v\_c, Stage 1

# Scenario Management

PTV Vistro 6.00-02 - C:\Users\Think\Desktop\Slides and Notes For Evaluation\Mahkamah Kangar2.vistro

The screenshot displays the PTV Vistro software interface for scenario management. The main window shows a road network diagram with three nodes labeled 1, 2, and 3. A yellow box with a red border and the text "Base Scenario" is positioned over the diagram, with a red arrow pointing to the "Base Scenario" entry in the "Scenarios" dialog box. The dialog box is titled "Scenarios" and lists "Base Scenario" as the only scenario. A warning message at the bottom of the dialog states: "Adding, duplicating or deleting scenarios cannot be undone". The software interface includes a menu bar (File, Edit, View, Signal control, Simulation, Help), a toolbar with various icons, and a right-hand panel with settings for Lane Configuration, Turning Movement, Base Volume Input, Total Analysis Volume, Intersection Settings, and Capacity Analysis.

# How To Add New Scenario

PTV Vistro 6.00-02 - C:\Users\Think\Desktop\Slides and Notes For Evaluation\Mahkamah Kangar2.vistro

The screenshot displays the PTV Vistro software interface. The main window shows a road network diagram overlaid on a satellite map. The network consists of three roads meeting at a central intersection. The roads are labeled with blue squares containing the numbers 1, 2, and 3. Road 1 is the vertical road at the bottom, road 2 is the road on the left, and road 3 is the road on the right. A yellow callout box with a red border and a red arrow points to a plus sign icon in the Scenarios dialog box. The callout box contains the text "1 Add new scenario". The Scenarios dialog box is open, showing a list of scenarios with "Base Scenario" at the top. At the bottom of the dialog box, there is a plus sign icon and a warning message: "Adding, duplicating or deleting scenarios cannot be undone". The software interface includes a menu bar (File, Edit, View, Signal control, Simulation, Help), a toolbar with various icons, and a right-hand panel with various settings and analysis options.

File Edit View Signal control Simulation Help Scenario: Base Scenario

My Network

Scenarios

Base Scenario

Adding, duplicating or deleting scenarios cannot be undone

1 Add new scenario

2

3

1

42

Zone

Gate

Path

Route

Lane Configuration

Turning Movement

Base Volume Input [veh/h]

Total Analysis Volume [veh/h]

Intersection Settings

Priority Scheme

Flared Lane

Storage Area [veh]

Two-Stage Gap Acceptance

Number of Storage Spaces in Median

Capacity Analysis

Calculated Rank

v\_c, Conflicting Flow Rate

v\_c, Stage 1

# Rename Scenario

PTV Vistro 6.00-02 - C:\Users\Think\Desktop\Slides and Notes For Evaluation\Mahkamah Kangar2.vistro\*

File Edit View Signal control Simulation Help Scenario: 1 VistroScenario

My Network

Scenarios

Base Scenario

1 VistroScenario

Rename  
Duplicate  
Delete

42

2

3

1

Right click to rename Scenario for example: **Roundabout**

Adding, duplicating or deleting scenarios cannot be undone

# Duplicate And Remove Scenario

PTV Vistro 6.00-02 - C:\Users\Think\Desktop\Slides and Notes For Evaluation\Mahkamah Kangar2.vistro\*

File Edit View Signal control Simulation Help Scenario: 1 Roundabout Scenario

My Network

## Scenarios

Base Scenario

1 Roundabout Scenario

**Duplicate** **Remove**

Adding, duplicating or deleting scenarios cannot be undone

**Example of Scenario  
Management based on  
Mitigation Measures**

# Baseline Scenario

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File Edit View Signal control Simulation Help Scenario: Base Scenario Intersection: 4 New Intersection

**LOS D**

**LOS D**

Unmitigated Summary						
Critical Movement	Volume / Capacity		Delay		LOS	
NBR	0.542		26.58		D	
Number	4					
Intersection	New Intersection					
Control Type	Two-way stop					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	TT		III		TII	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Base Volume Input [veh/h]	112	143	59	149	207	163
Total Analysis Volume [veh/h]	117	192	78	203	301	182
Intersection Settings						
Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	<input type="checkbox"/>					
Number of Storage Spaces in Median	0		0		0	
Capacity Analysis						
Calculated Rank	2	3	1	2	1	1
v_c, Conflicting Flow Rate	91	627	0	182	0	0
v_c, Stage 1	91	182	0	182	0	0
v_c, Stage 2	0	445	0	0	0	0
c_p,x, Potential Capacity [veh/h]	949	416	0	1391	0	0
c_p,x, Stage 1 [veh/h]	1129	831	0	1711	0	0
c_p,x, Stage 2 [veh/h]	1084	613	0	1622	0	0
c_m,x, Movement Capacity [veh/h]	949	354	100000	1391	100000	100000

1:493 11150010.9659 720489.6038

3:05 PM 23/10/2018

# Scenario 1 (Roundabout)

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File Edit View Signal control Simulation Help Scenario: 1 Roundabout Scenario Intersection: 4 New Intersection

My Network, Internet M...

42

Mitigation

Unmitigated Option 1: Roundabout Option 2: Signalized +

Unmitigated Summary

Critical Movement	Volume / Capacity	Delay	LOS
WBL	0.118	4.57	A

Number 4

Intersection New Intersection

Control Roundabout

Analysis HCM 6th Edition

Name

Approach Northbound Eastbound Westbound

Turning Movement	Northbound		Eastbound		Westbound	
	Left	Right	Thru	Right	Left	Thru
Base Volume Input [veh/h]	112	143	59	149	207	163
Total Analysis Volume [veh/h]	117	192	78	203	301	182

**LOS A**

**Intersection Settings**

	Northbound	Eastbound	Westbound			
Number of Conflicting Circulating Lanes	1	1	1			
Circulating Flow Rate [veh/h]	186	196	207			
Exiting Flow Rate [veh/h]	514	305	275			
Demand Flow Rate [veh/h]	117	192	78	203	301	182
Adjusted Demand Flow Rate [veh/h]	117	192	78	203	301	182

**Lanes**

	Northbound	Eastbound	Westbound
Overwrite Calculated Critical Headway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091
HV Adjustment Factor	0.98	0.98	0.98

20 m

5th St

1:493 | 11150004.9171 | 720437.26

3:07 PM 23/10/2018

# Scenario 2 (Signalized)

PTV Vistro 6.00-02 - C:\Users\Think\Desktop\TSS TRAINING 2018\VISTRO VISWALK August 2018\Training Vistro 02082018\Vistro\_Test\_020818 morning session.vistro\*

File Edit View Signal control Simulation Help Scenario: 2 Signal Scenario Intersection: 4 New Intersection

**Mitigation**

Unmitigated Option 1: Roundabout Option 2: Signalized +

Unmitigated Summary

Critical Movement	Volume / Capacity	Delay	LOS
NBR	0.336	12.17	B

**LOS B**

Number: 4  
 Intersection: New Intersection  
 Control: Signalized  
 Analysis: HCM 6th Edition  
 Name: [Blank]  
 Approach: Northbound, Eastbound, Westbound  
 Lane Configuration: [Blank], [Blank], [Blank]  
 Turning Movement: [Blank], [Blank], [Blank], [Blank], [Blank], [Blank]  
 Base Volume Input [veh/h]: 112, 143, 59, 149, 207, 163  
 Total Analysis Volume [veh/h]: 117, 192, 78, 203, 301, 182

**Intersection Settings**

Priority Scheme	Minor	Major	Major
[Blank]	[Blank]	[Blank]	[Blank]

**Sequence**

Ring	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SG: 4 33s  
 SG: 104 15s  
 SG: 5 27s  
 SG: 8 33s  
 SG: 105 15s

20 m

5th St

1:493 | 11150010.0455 | 720453.04

3:11 PM 23/10/2018

# Changes in Scenario(s)

The Base Scenario (BS) is the foundation for all other Scenarios

If we make changes in BS, it will change in all scenarios

If we make changes in a scenario, it will only change in that specific scenario

# **Basic User Interface & Scenario Management in PTV Vistro**

**THANK YOU**

**Any question?**