



DaCRISS

Workshop/Training on STRADA

C: Installation of STRADA and DaCRISS Database
D: Various Use of Highway Reporter

24-25 March 2010
Danang
JICA Study Team

■ Installation of STRADA

■ Insert JICA STRADA Software Disk

■ Manuals

- Check by My Computer
- Local Disk C:¥Program Files
- JICA STRADA 35

- Folders for Manuals by Language
- Program Files

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■ Contents of Manual

■ Folder Manual_Eng

- EFormatV35.pdf : Input/Output files by STRADA
- EM30-00.pdf : Content
- EM30-01.pdf : Set up
- EM30-02.pdf : Trip Matrix Builder
- EM30-03.pdf : Disaggregate Model
- EM30-04.pdf : OD Calibrator
- EM35-05.pdf : Matrix Manipulator
- EM30-06.pdf : GIS Converter
- EM35-07.pdf : Network Editor
- EM35-08.pdf : Transit Editor
- EM35-09.pdf : Incremental Assignment
- EM35-10.pdf : UEA
- EM30-11.pdf :
- EM30-12.pdf : Transit Assignment
- EM30-13.pdf :

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■ Contents of Manual (continued)

- (Continued)
- EM30-14.pdf :
- EM30-15.pdf : LP
- EM35-16.pdf : Highway Reporter
- EM30-17.pdf : Intersection Analyzer
- EM30-18.pdf : Evaluator
- EM35-19.pdf : UEA with Diversion

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■ DaCRISS Database

- GIS
- STRADA

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■ STRADA Database for DaCIRSS

- Network
 - DaC2008.int : the present DaCRISS network (year 2008)
 - DaC08+NH.int : the present DaCRISS network and improved NH1 (4 lanes)
 - DaC08+Com.int : the present DaCRISS network and the committed roads
 - DaCPlan.int : the future DaCRISS network
- OD Table
 - DaC08.aod : the present DaCRISS OD table by mode
 - S3A0.aod : the future DaCRISS OD table of scenario 3 and base case
- Parameter Files
 - DaC08-5.par : the present network parameters
 - Dac08+ComOcc36.par : the committed road network & Bus occupancy 36
 - ...
- Others

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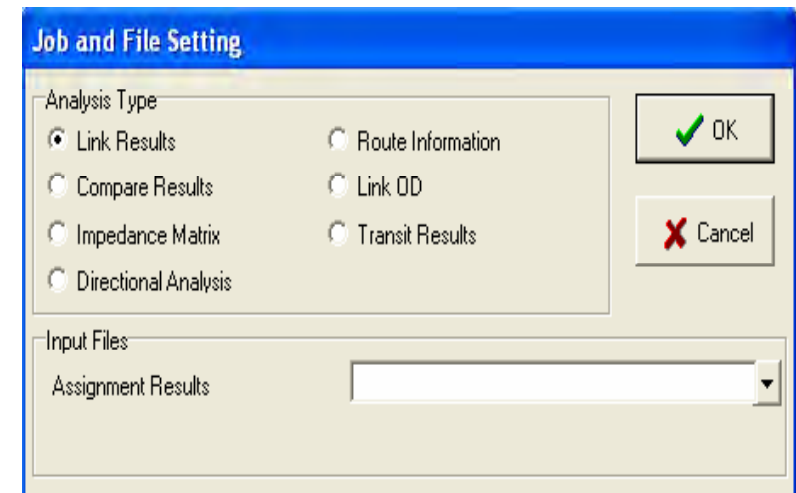
■ STRADA Database for DaCRISS (Continued)

- Others
 - DaC-D7O6.pzn : zone division file (from traffic zone to district)
 - DaC56E.zxy : zone border coordinates (56 zones Danang City only)
 - DaC-D7O6.zxy : zone border coordinates (District in Danang & 6 zones in outside)

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■ Highway Reporter

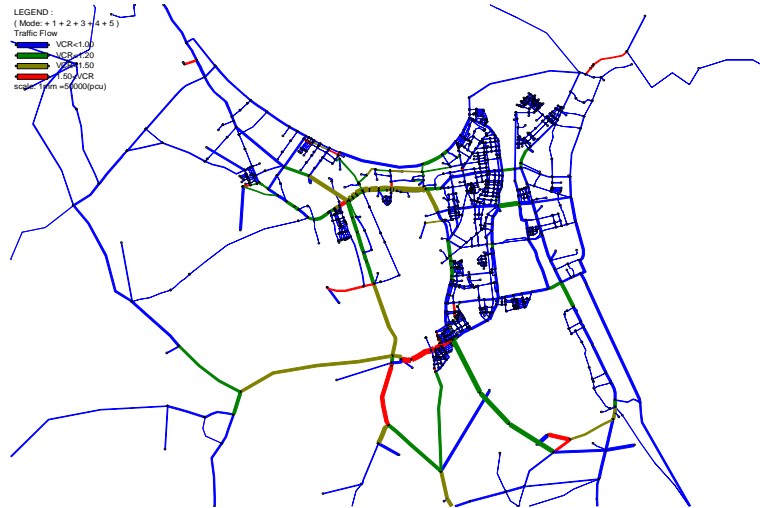
■ Menu



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Showing Traffic Volume by Link Result

2025 Traffic Flows by V/C Ratio



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Showing Traffic Volume by Number

2025 Traffic Flows with Traffic Volume



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Print Conditions Menu

Specification of Print Conditions

Print Conditions

Print Area

All Area
 Displayed Area
 Specified Area

Print

Cancel

Preview

Specified Area

Upper Left: X: 414439, Y: 583748
Bottom Right: X: 431899, Y: 596192

Print Area: 414439 x 583748 ... 431899 x 596192

Line Color: Monochrome, Color Line
Print Value: Nothing, with Value
Node: Circle, None

Line Width: Auto, Volume per 1mm: 60000, Max Volume: 293946
Legend: Print, Unit: 100

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Link Information

Link Information

Link Name	Node-i	Node-j	Distance	Vmax	Qmax
12649	8337	8315	2.68	50.0	44,000

Mode	In-In	In-Out	Out-Out	Total
1	27,783	3,975	9	31,767
2	5,119	490	0	5,609
3	4,388	3,009	21	7,418
Total	37,290	7,474	30	44,794

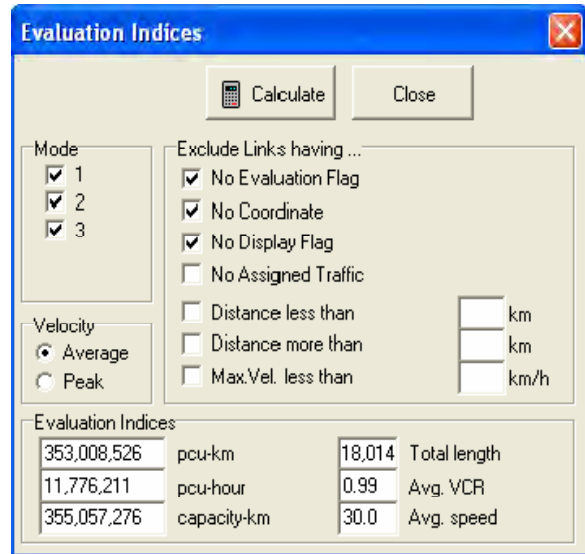
Traffic Volume: 44,794
Vol/Cap Ratio: 1.02
Avg. Velocity: 42.2
Peak Velocity: 25.0
Avg. Trip Length: 37.3

Trip Length Distribution

OK

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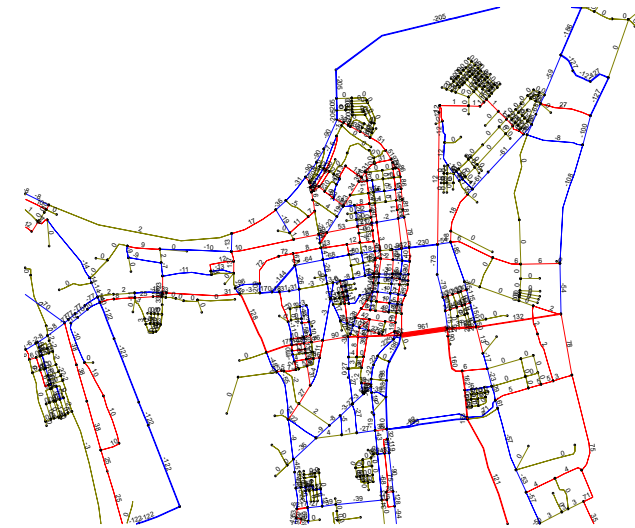
Evaluation Indices



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Compare Results

(with Dragon Bridge) – (w/o Dragon Bridge)



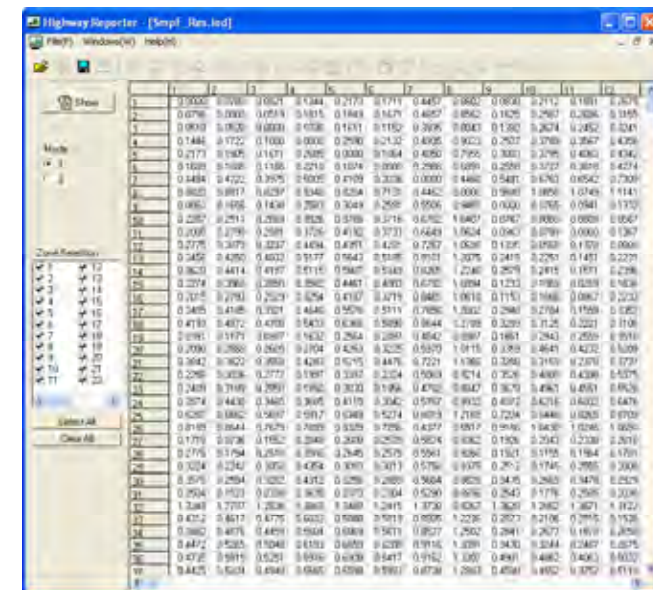
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Some Remark for Traffic Assignment

- Remark: If some links do not exist in without case, this option can not draw those links, so one technique is needed. A link in without case is given very slow travel speed for example 0.1km/h.

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Impedance Matrix



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■ Display Conditions in Directional Analysis

■ Specification of Display Conditions

Traffic Flow Diagram | Drawing Option | Traffic Volume

Mode
 1
 2

Flow Line Width
 Auto
 Volume per dot

Arrow Style Option
 Length
 Position
 Spacing

Names of Approaches

	Name
N1104	N1104
N1510	N1510
N1504	N1504
N1507	N1507
N1102	N1102

Direction
 Right side
 Left side

Minimum Angle
 15 30 45

Drawing Option
 Names of Approaches
 Display Traffic Volume
 Unit of Volume(veh)
 Name of Intersection

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■ Traffic Volume in Directional Analysis

Traffic Flow Diagram | Drawing Option | Traffic Volume

No. of Links

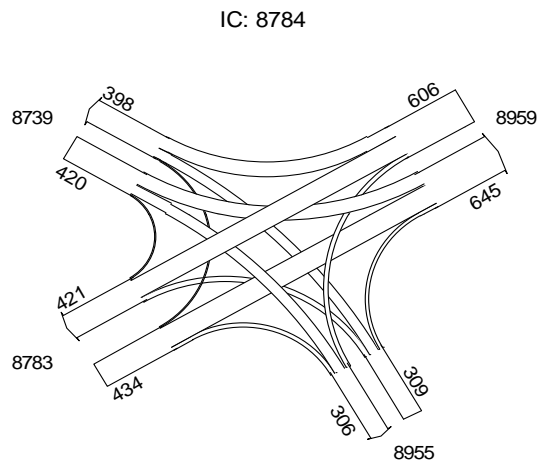
Save as ... (A)

Traffic Volume

	N1104	N1510	N1504	N1507	N1102
N1104	****	5465	13556	727	0
N1510	1777	****	0	26763	1994E9
N1504	29864	0	****	1285	2432C9
N1507	451	36963	2540	****	0
N1102	0	194741	246011	0	****

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■ Traffic Flow in Directional Analysis



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■ Route Information

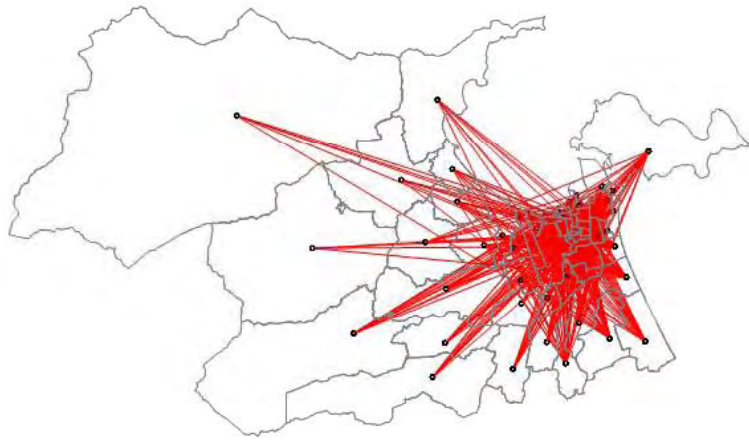


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■ Link OD (Original Zone)

■ Original Zone through Dragon Bridge



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■ Link OD (Integrated Zone)

■ Integrated Zone through Dragon Bridge



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DaCRISS

Workshop/Training on STRADA

E: Matrix Manipulation

25 March 2010

Danang

JICA Study Team

Matrix Manipulation

Performance

The Matrix Manipulator performs the following functions regarding the matrix formats used in the JICA STRADA program modules.

OD Matrices

- 1) New file
- 2) Addition and deletion of modes
- 3) Addition and deletion of zones
- 4) Modification of OD trip data
- 5) Division and consolidation of zones
- 6) Control total adjustment
- 7) Calculation across two or more OD matrices and across files
- 8) Creation of a GA trip file from an OD matrix file

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Matrix Manipulation Menu

Tables of Zonal Indices and GA Trips

- 1) New file
- 2) Addition and deletion of zonal indices
- 3) Addition and deletion of zones
- 4) Modification of data
- 5) Division and consolidation of zones
- 6) Control total adjustment
- 7) Calculation across two or more columns and across files

Graphic Display from Matrices

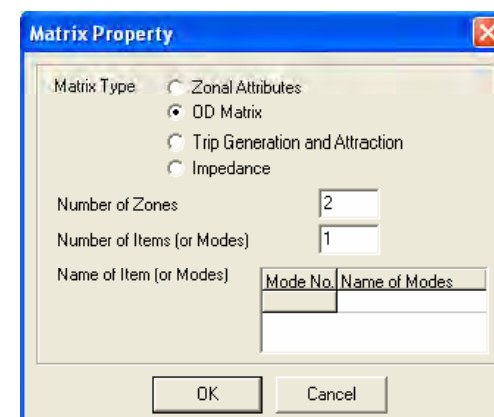
- 1) Composing a desired line network from an OD matrix
- 2) Composing a zone graph from a zonal indices file
- 3) Printing of graphics and creation of metafiles

3

Create New Matrix

New

- The icon creates a new file of zonal indices (*.IDX), OD matrices (*.AOD), or generated/attracted trips (*.GAD).



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Other Commands of Matrix Manipulation

Open

- The icon opens and reads files in the four matrix formats used in the STRADA program modules: namely, OD matrix files (*.AOD), zonal indices files (*.IDX), generated/attracted trip files (*.GAD) and OD details files (*.DOD).

Save

- The icon saves the matrix data in the current file. If you want to change your file formatting, click Save as, and then choose the format you want.

Open Zoning Parameters

- Click this command to open the division parameter file (*.PZN), which will be applied to a file of zonal indices, GA trips or OD matrices

Open Zone Coordinate

- Open a zone border coordinates file (*.ZXY) to get a desired line network or zone graphs from the assignment results.

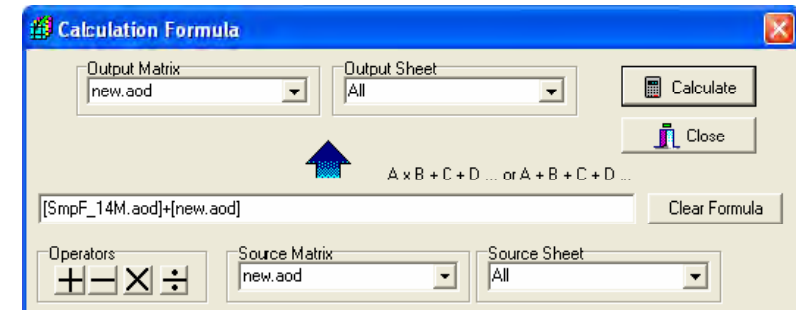
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Matrix Calculation using Formula

Matrix Calculation

Formula

- The Matrix Manipulator can perform arithmetic calculation between two or more OD matrices, two or more paired columns of generated/attracted trips, and two or more columns of indices.



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Matrix Calculation

- Specifying a new output sheet and a new output file to save the results of calculation

- For example

(Output) = (Source A) + (Source B) : $T_{ij} = A_{ij} + B_{ij}$

(Output) = (Source A) - (Source B) : $T_{ij} = A_{ij} - B_{ij}$

(Output) = (Source A) * (Source B) : $T_{ij} = A_{ij} * B_{ij}$

(Output) = (Source A) / (Source B) : $T_{ij} = A_{ij} / B_{ij}$

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Calculation Commands

Control Total Adjustment

- There are 3 types the control total adjustment:

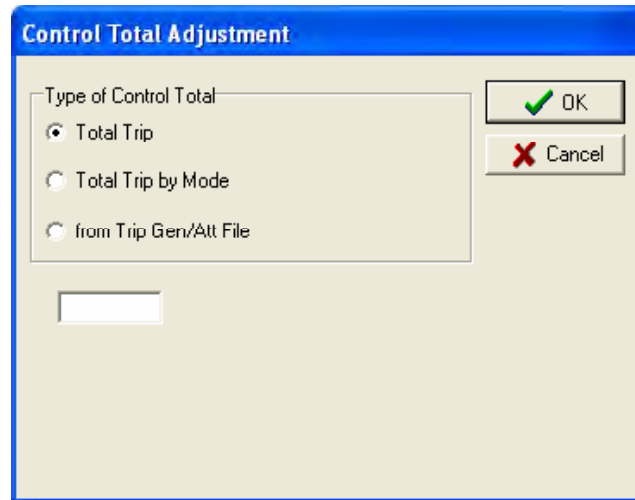
- Total trip adjustment**

- Total trip adjustment by mode**

- Trip adjustment by reading from the GA traffic file (called Fratar Method)**

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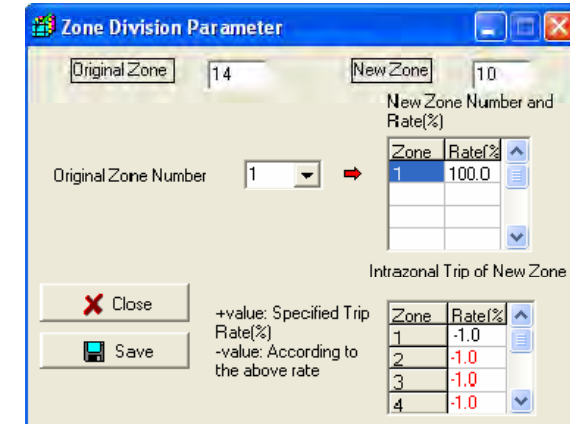
■ Control Total Adjustment



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■ Zone Calculation

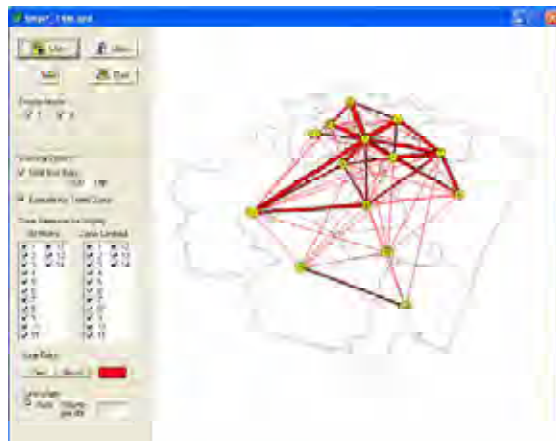
- Open a file to which you want to apply the division parameters and then click the Open Zoning Parameter command of the File Menu. (*.PZN)



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■ Showing Desired Line

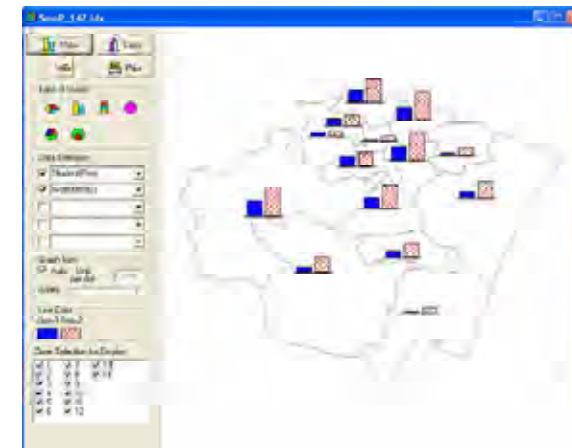
- After opening an OD matrix file (or OD details file) and a zone border coordinates file, click the Show Desired Line command.



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■ Showing Zone Graphs

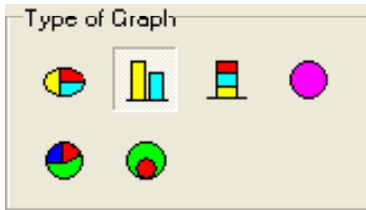
- After opening a zone border coordinates file and a zonal indices file or a GA trip file, click the Show Zone Graph icon or command



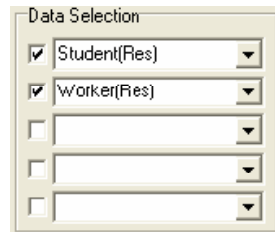
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■ Other Selection Menu for Showing Zone Graphs

- Selection of Graph Type



- Selection of data attributes to use in zone graphs





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F - G: Practice

26 March 2010

Danang

JICA Study Team

■ STRADA File Format

- Format is in the holder of manual, EFormatV35.pdf.
- When to edit/change the data, transfer csv file and edit.

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■ Step 1. Combine Socio and Trip Data by Zone and Show Zone Graphs

■ Data

- Socio08.idx : the present Socio-economic data
- Mode08-7.aod: the present OD table by mode

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■ Step 2: Generate Distance Matrix

■ Data

- Dac2008.int : the present network (-> the present)
- DaCPlan.int : the future planned network (-> future)

■ Hint

- (Hour) = (Distance) / (Speed), if all link's speed=1.0km/h,
- (Hour) = (Distance)

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■ Step 3: Generate Interpolation OD Table (Year 2015)

- *) Interpolation : $(a*A + b*B) / (a + b)$

■ Data

- DaC08.aod : the present OD table
- S3A0.aod : the future OD table in 2025

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■ Answer 1

■ Method

- (Matrix Manipulator)
- Socio08.idx -> Socio08.csv
- Mode08-7.aod -> Mode08-7.gad -> Mode08-7.csv
- (Excel)
- Mode08-7.csv -> calculate gen/att
- Rearrange get/att to Socio08.csv
- Save SocioTrip08.csv
- (Matrix Manipulator)
- SocioTrip08.csv
- DaC56E.zxy
- Showing Zone Graphs

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■ Answer 1

- (Mode08-7.csv)
- GAD2*Matrix Manipulator 3.52010/03/15 17:31:54
- 172 14
- 1 Gen:WALK
- 2 Att:WALK
- 3 Gen:BICYCLE
- 4 Att:BICYCLE
- 5 Gen:MC
- 6 Att:MC
- 7 Gen:CAR
- 8 Att:CAR
- 9 Gen:BUS
-
- Calculate Generation and Attraction

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■ Answer 1

- (Socio08.csv)
- idx2*Matrix Manipulator 3.52010/03/15 17:25:50
- 56 11 (No. of Zones) (No. of Elements)
- 1 Population
- 2 Student1
- 3 Worker1
- 4 Secondary1
- 5 Tertiary1
- 6 Population2
- 7 Student2
- 8 Worker2
- 9 Secondary2
-

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■ Answer 2

- Parameter file
- Mode -> 1
- 1 Increment % -> 100
- Output Impedance: On
- Dummy OD table
- Zone 172, Mode 1

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■ Answer 2

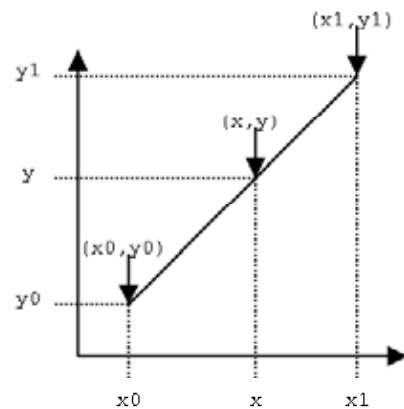
- Dist08.iod

0	1.1	3.18	2.772	1.331	1.402	1.806	0.914	0.474	3.133	2.92	2.283
1.1	0	3.061	2.424	1.99	1.318	1.392	0.786	1.311	3.005	3.637	2.625
3.18	3.061	0	4.577	4.511	4.377	1.686	3.845	3.654	6.064	6.1	5.463
2.772	2.424	4.577	0	3.398	2.409	2.891	2.122	2.719	3.964	4.814	3.976
1.323	1.99	4.503	3.398	0	1.045	3.012	1.527	0.859	2.062	1.95	0.975
1.402	1.318	4.377	2.409	1.045	0	2.691	0.664	1.251	1.861	2.692	1.68
1.806	1.392	1.686	2.891	3.137	2.691	0	2.159	2.28	4.378	4.726	4.017
0.914	0.786	3.845	2.122	1.527	0.664	2.159	0	0.848	2.219	3.069	2.162
0.466	1.303	3.646	2.719	0.859	1.251	2.155	0.848	0	2.832	2.802	1.811
3.133	3.005	6.064	3.964	2.062	1.861	4.378	2.219	2.832	0	1.177	1.213
2.932	3.637	6.112	4.814	1.814	2.692	4.621	3.069	2.673	1.177	0	1.153
2.275	2.625	5.455	3.976	0.975	1.68	3.964	2.162	1.811	1.213	1.153	0

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■ Answer 3

- Interpolation



$$\frac{y - y_0}{y_1 - y_0} = \frac{x - x_0}{x_1 - x_0}$$

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■ Answer 3

- (Matrix Manipulation)
- Open A (S3A0.aod)
- Open B (Dac08-5.aod)
- New OD 172 zones, 5 modes
- Matrix Formula
- [untitled] = [Dac08.aod]*7
- [untitled] = [S3A0.aod]*10+ [untitled]
- [untitled] = [untitled]/17
- Save Dac15.aod

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