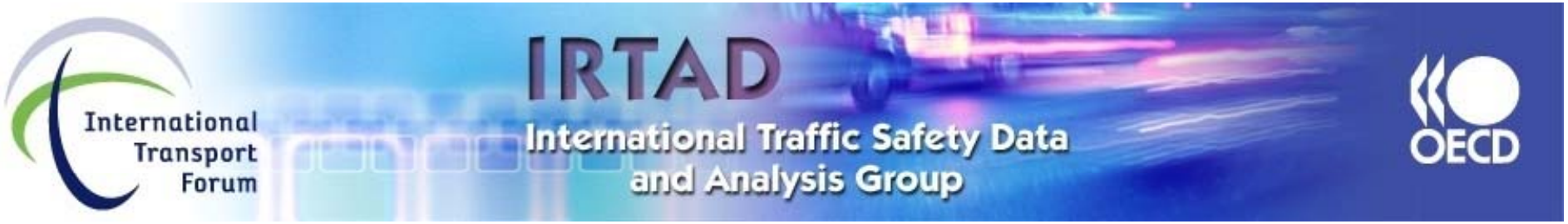


The Construction of Road Accident Analysis and Database System in Malaysia

Hizal Hanis Hashim

Sharifah Allyana Syed Mohamed Rahim

Malaysian Institute of Road Safety Research (MIROS)

4th IRTAD CONFERENCE

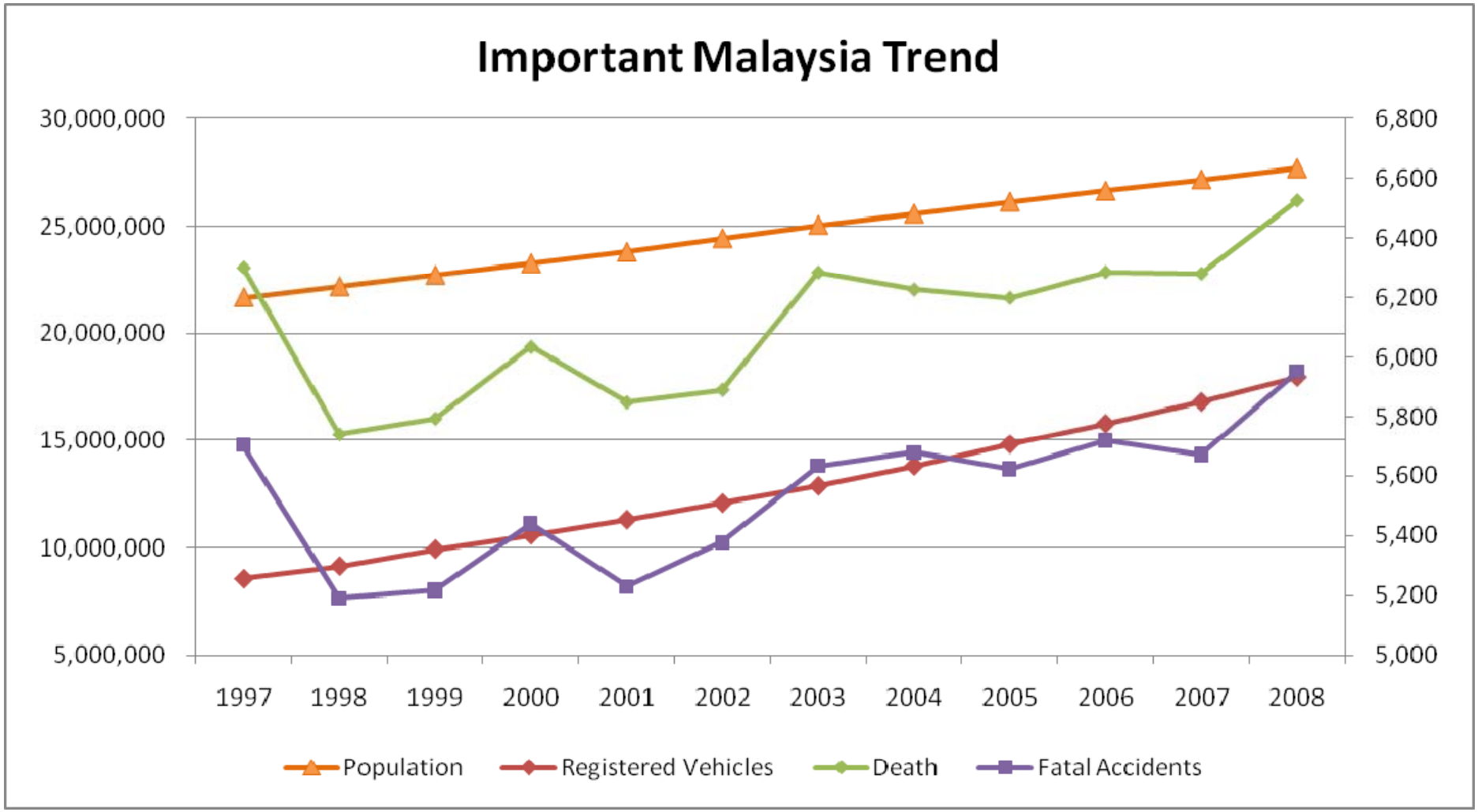
Road safety data: collection and analysis
for target setting and monitoring performances and progress

Seoul, 16-17 September 2009

Content

- Road safety situation in Malaysia
- Accident data collection
- Accident data recording system
- Problem with the current data system
- System development
- Results
- Applications

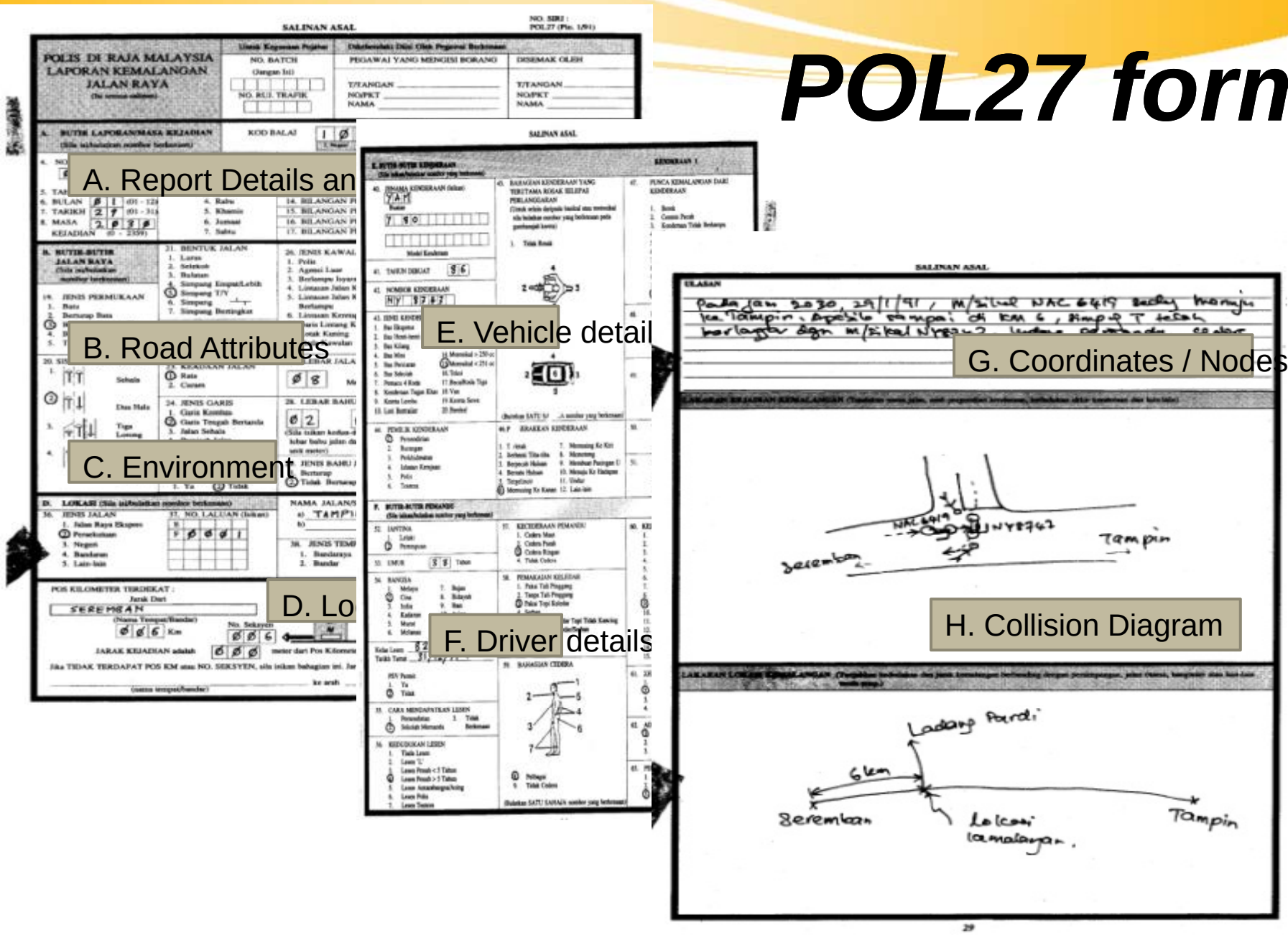
Situation in Malaysia



Accident data collection

- Accident data collected by traffic police
- Collection through Police Form 27 (POL.27)
- 91 variables are collected consisting information on:-
  - General accident information
  - Vehicle information
  - Driver information
  - Passenger information
  - Pedestrian information
  - Animal involved information
  - Location information

POL27 form



MIROS MALAYSIAN INSTITUTE OF ROAD SAFETY RESEARCH

Accident recording system

- 1991 – Microcomputer Accident Analysis Package (MAAP)
  - DOS-based
  - Capable of handling medium amount of records
  - Data management and cross-tabulation analysis
- 2006 till Present – Computerised Accident Reporting System (CARS)
  - Data management as well as personnel management
  - Limited variables for cross-tabulation analysis
  - District based and are not centralised

Current data system

- No hard and fast rule on data quality and entry
- Compiled by national police headquarters quarterly every year
- Basic functions
  - Record management
  - General statistics
- Accident data as record keeping
- Abundance of accident data available but are not fully analyzed for road safety intelligence

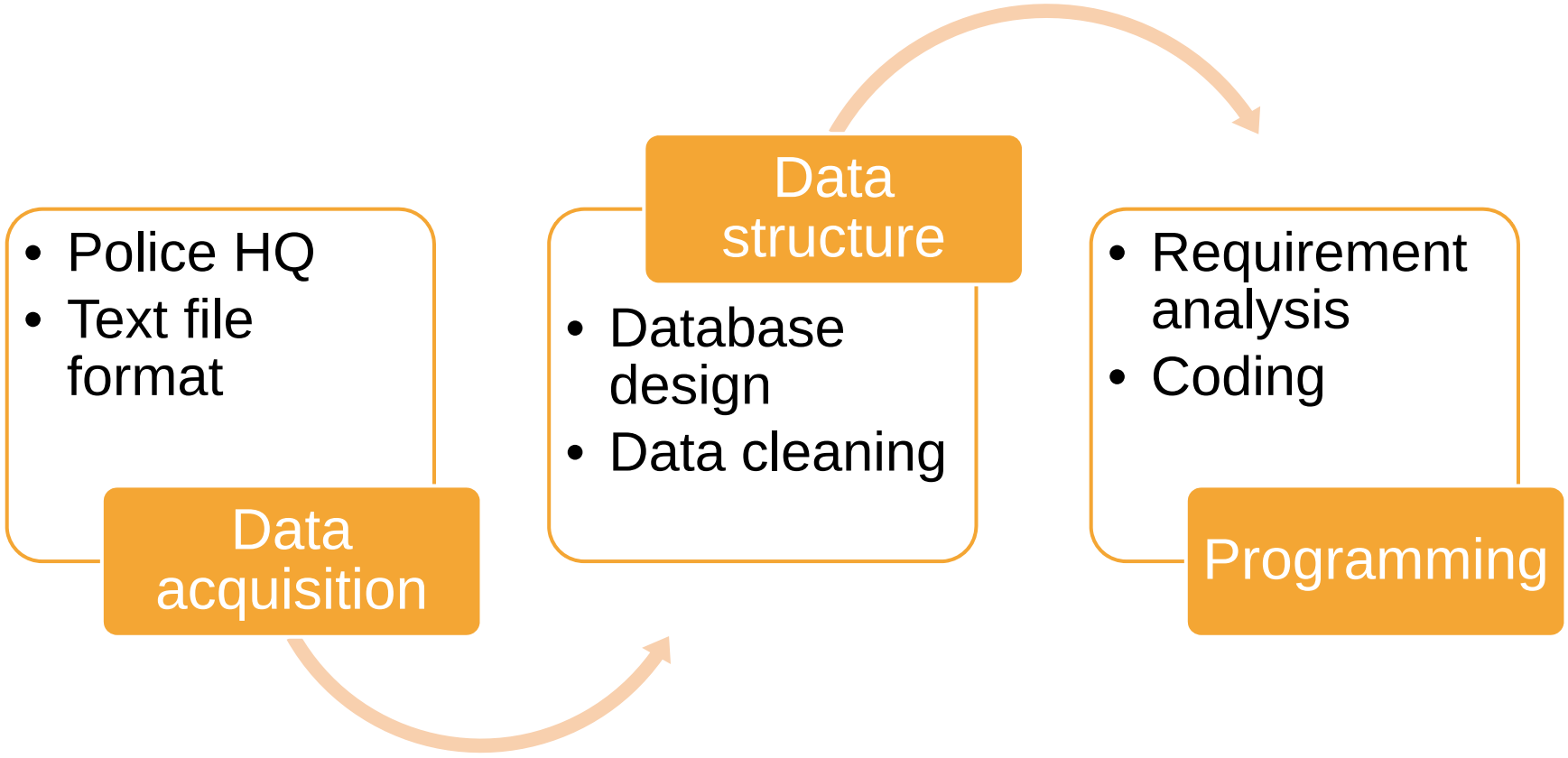
Objective and scope

- To provide government and road safety stakeholders with accurate, continuous and comprehensive information on road crashes

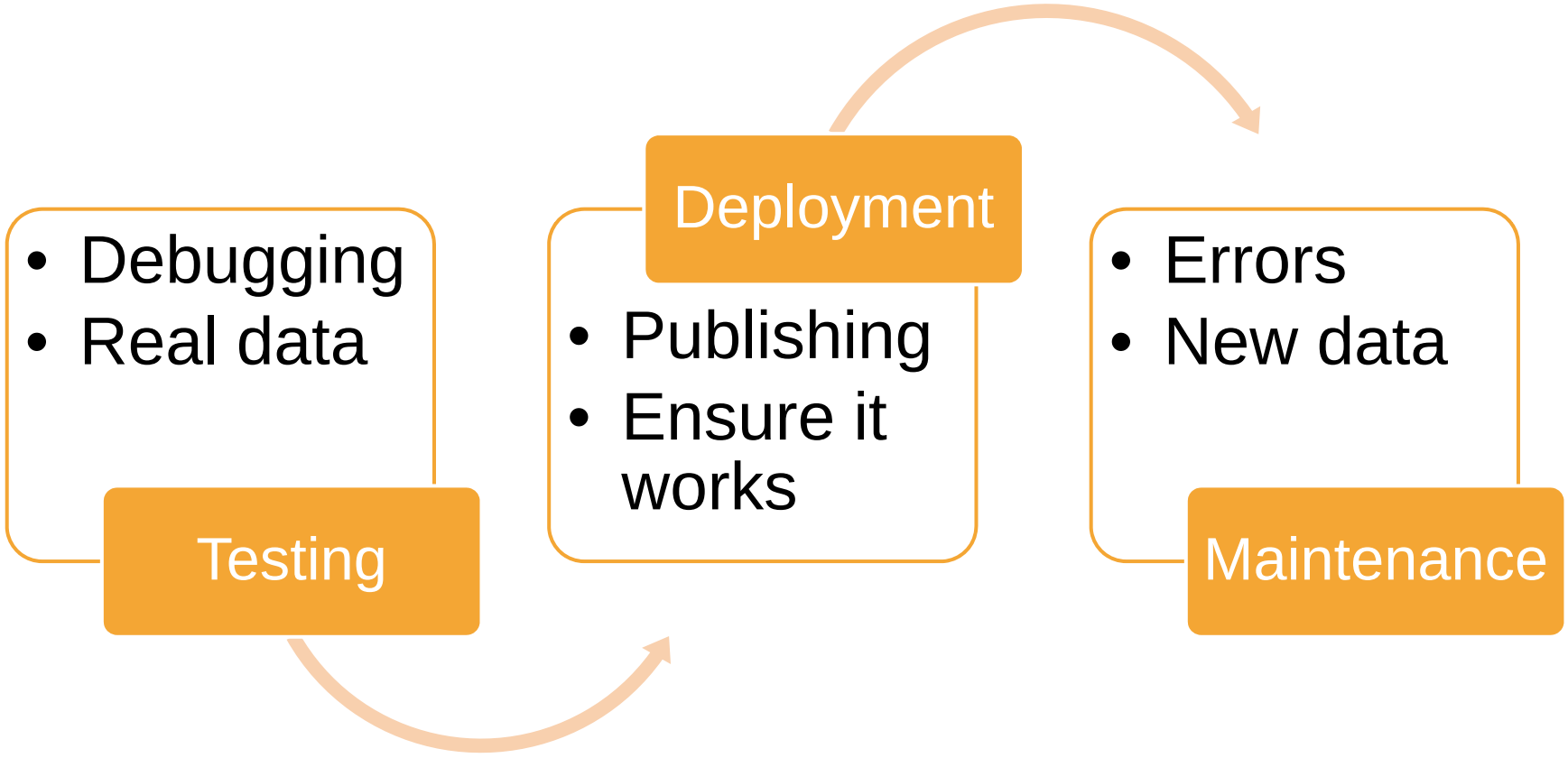
- To increase understanding of the current road safety situation, to plan for appropriate responses and policy, and to evaluate the impact of current and future initiatives

- Only road accident data is included in the system development

Development



Development



Results

MROADS

Miros Road Accident Analysis & Database System

- **M** Management (DB and user)
- **R** Record maintenance
- **O** Cross tabulation
- **A** Accident location ranking
- **D** Data converter
- **S** Set condition

Results

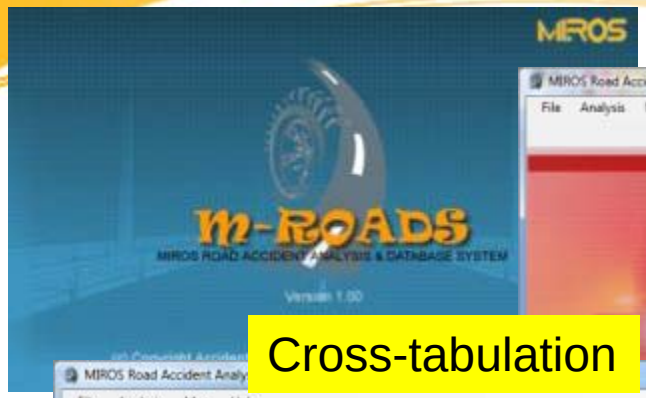
Main menu

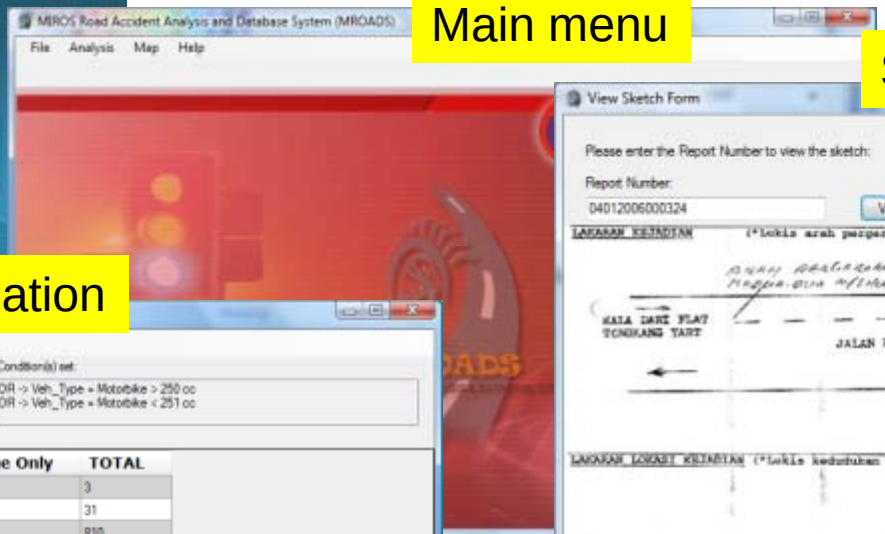
Sketch Diagram View

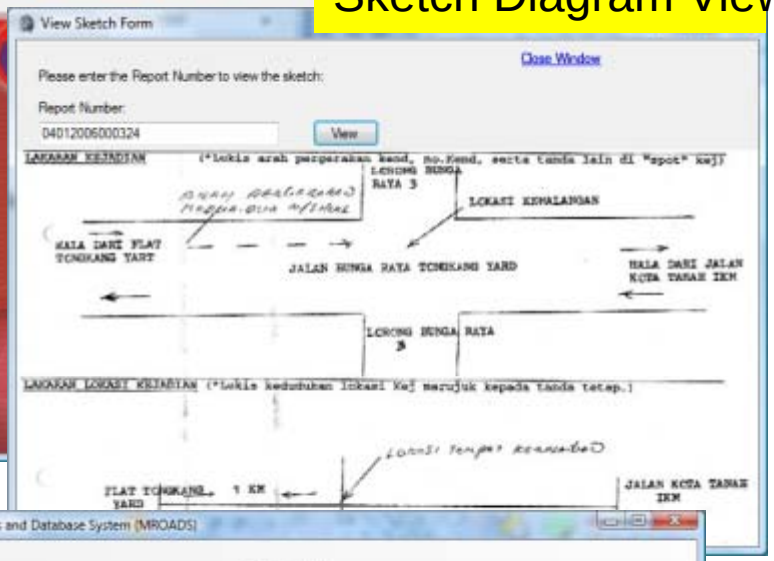
Cross-tabulation

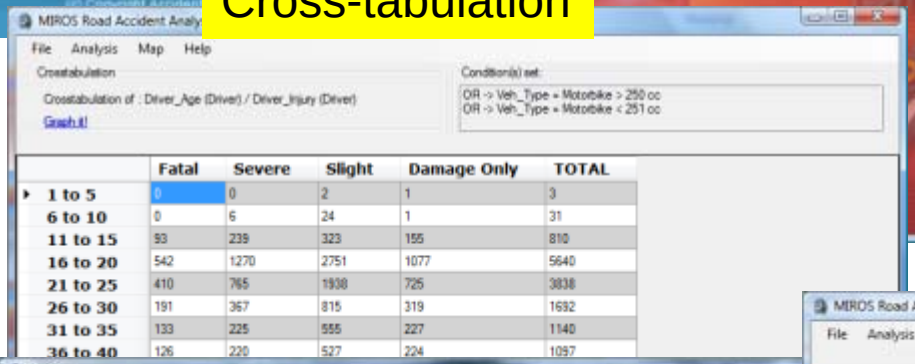
Graph Output

Ranking

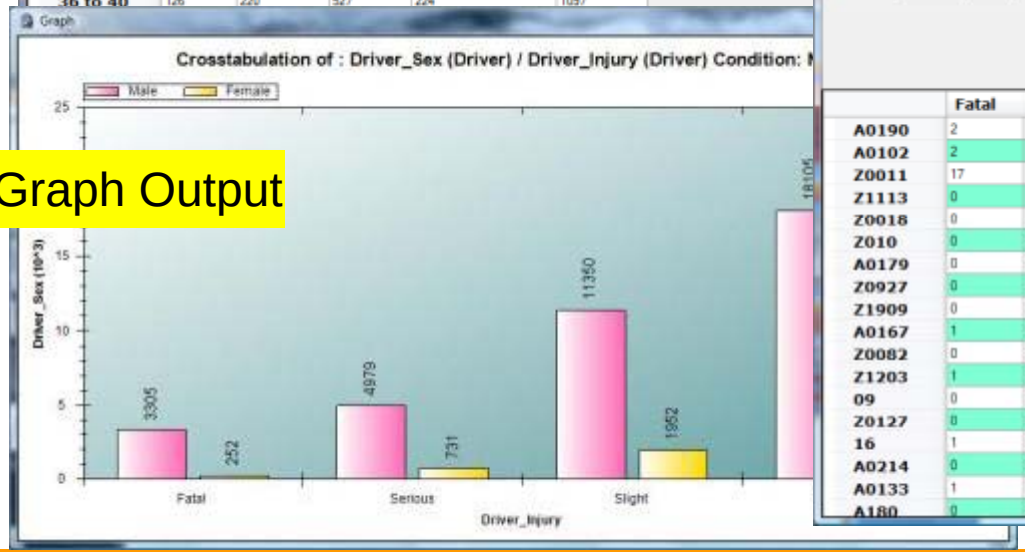


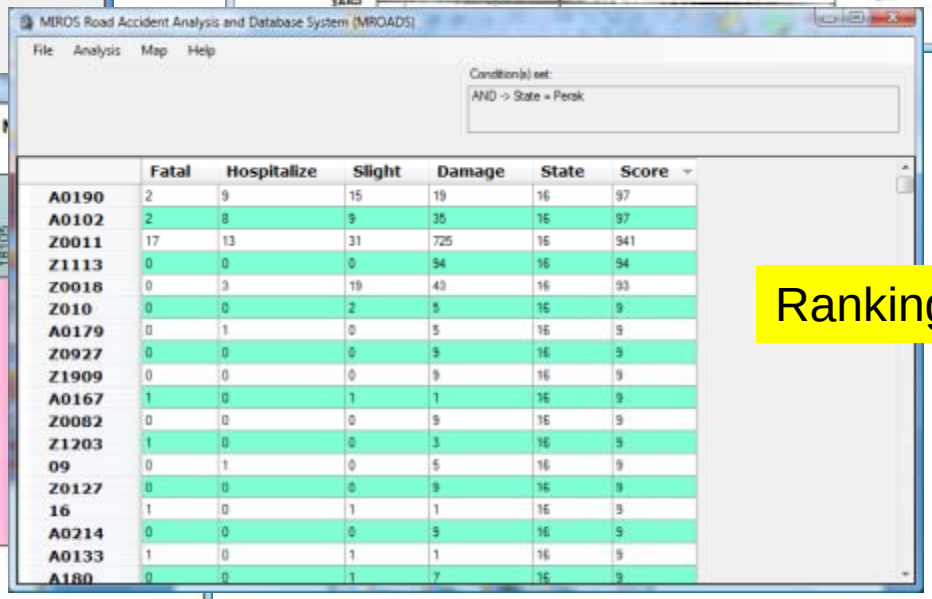






	Fatal	Severe	Slight	Damage Only	TOTAL
1 to 5	0	0	2	1	3
6 to 10	0	6	24	1	31
11 to 15	93	239	323	155	810
16 to 20	542	1270	2751	1077	5640
21 to 25	410	765	1938	725	3838
26 to 30	191	367	815	319	1692
31 to 35	133	225	555	227	1140
36 to 40	126	220	527	224	1097

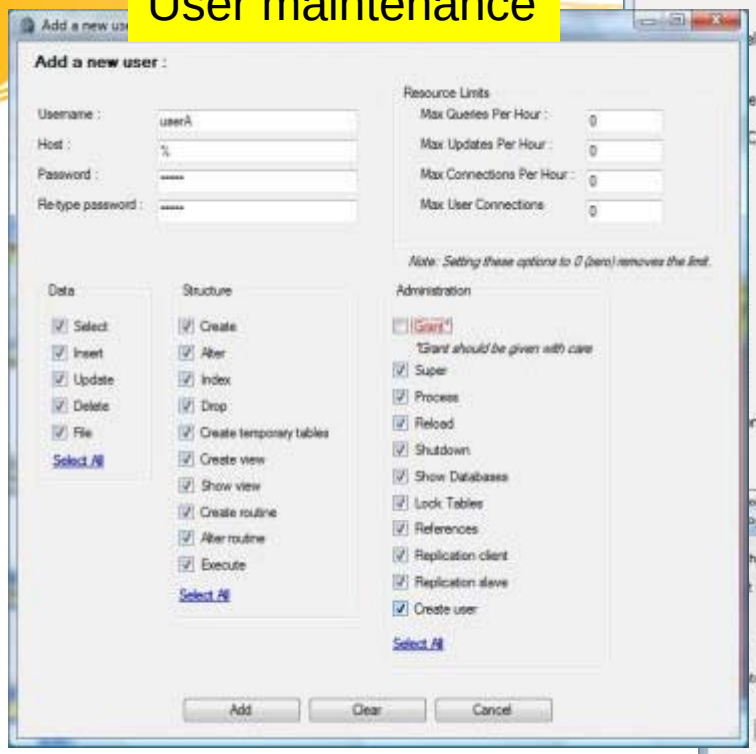


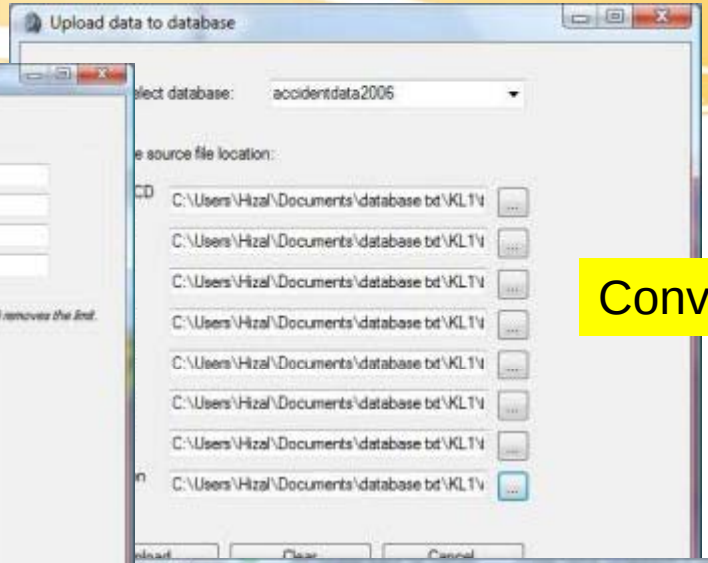


	Fatal	Hospitalize	Slight	Damage	State	Score
A0190	2	9	15	19	16	97
A0102	2	8	9	35	16	97
Z0011	17	13	31	725	16	941
Z1113	0	0	0	94	16	94
Z0018	0	3	19	43	16	93
Z010	0	0	2	5	16	9
A0179	0	1	0	5	16	9
Z0927	0	0	0	9	16	9
Z1909	0	0	0	9	16	9
A0167	1	0	1	1	16	9
Z0082	0	0	0	9	16	9
Z1203	1	0	0	3	16	9
09	0	1	0	5	16	9
Z0127	0	0	0	9	16	9
16	1	0	1	1	16	9
A0214	0	0	0	9	16	9
A0133	1	0	1	1	16	9
A180	0	0	1	7	16	9

Results

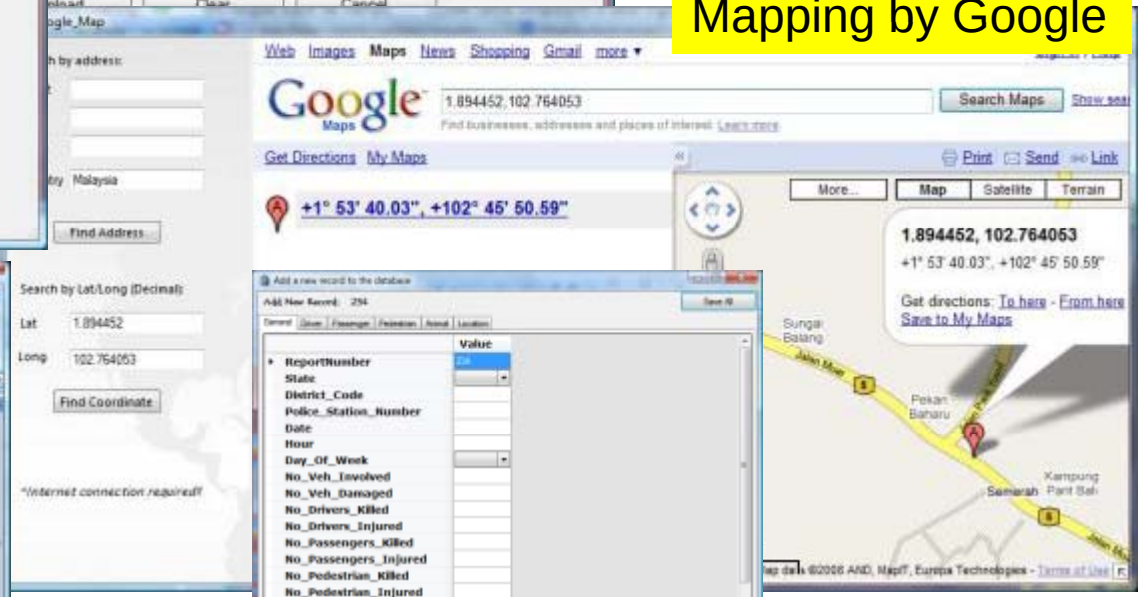
User maintenance

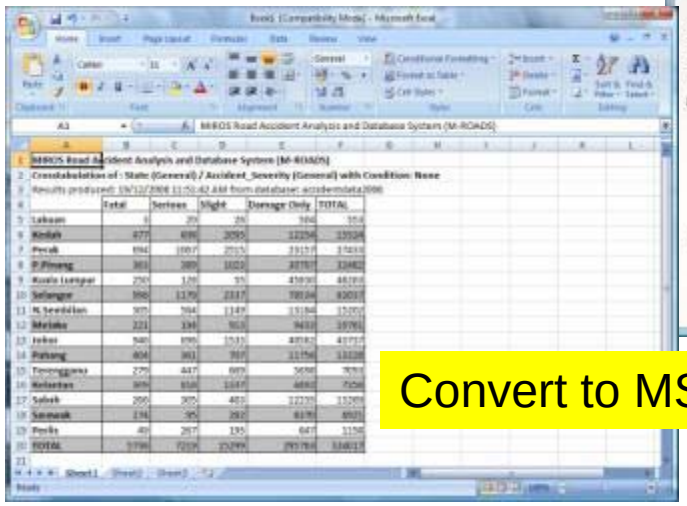




Convert data

Mapping by Google





Convert to MS Excel

Add New Record

Advantage of M-ROADS

- Flexible data tabulation
  - All variables collected can be analysed
  - Specific condition
- Black-spot location ranking
  - District
  - Route no
  - Location
  - Coordinate
- Centralized database server
  - Record management

Application

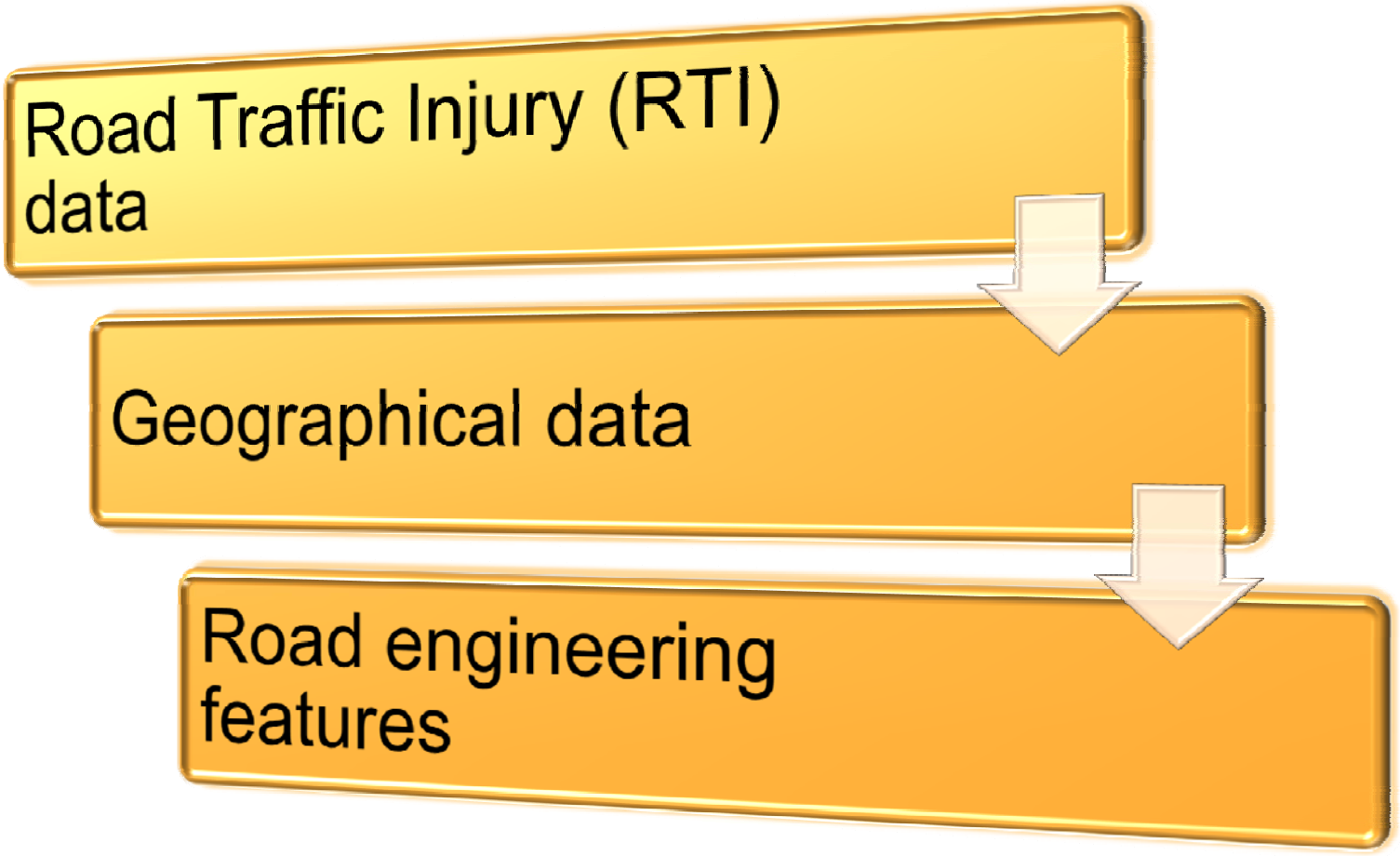
Intelligence-based policing by traffic enforcement

Automated Enforcement System (AES)

Community-based program (CBP)

Road safety education (RSE)

Future expansion



Conclusion

- Accident data can serve as evidence for planning on road safety programmes and interventions as well as performance monitoring
- Data management has to be done properly to support a comprehensive analysis
- Strict rule on data entry and quality to ensure accurate and consistent analysis

Thank you

Email: hizalhanis@miros.gov.my

Phone: +603 – 8924 9200

Malaysian Institute of Road Safety Research (MIROS)