Enterprise Wide Integration of Spatial Data Into Core Business Practices

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DIER Road Information

- Disparate data sets
- Textual data
- Oracle database with an Intranet delivered interface
Road Information Management System (RIMS)
Oracle Spatial for RIMS

- Spatial data stored with textual data
- Opportunities for greater functionality
RIMS in 2002

- Data manipulated outside system
- Reliance on desktop applications for mapping
- Potential not realised
Oracle Spatial Benefits

- Business functionality
- Data
- Reporting
- Key person dependencies
- Access
- Desktop applications
Phase 3 Development of RIMS

- Crash Data Manager
- Bus Route Manager
- Traffic Statistics Manager
- Map Viewer
TRIPS Data in RIMS

- Custom linear referencing system
- Only used for State maintained roads
- Roads segmented into manageable lengths called Links
- Carriageways define traffic flow
- Chainage measured in km from start of link
## TRIPS Data in RIMS

<table>
<thead>
<tr>
<th>ROAD_NO</th>
<th>LINK_NO</th>
<th>CHNG</th>
<th>C'WAY_CODE</th>
<th>DATA</th>
</tr>
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<tbody>
<tr>
<td>A1125</td>
<td>5</td>
<td>3.1</td>
<td>A</td>
<td>X</td>
</tr>
</tbody>
</table>
TRIPS Use in DIER

- Link maps used to define and locate road assets using TRIPS in the field
- TRIPS textual references stored in RIMS
- TRIPS continues to be used extensively within DIER and RIMS
“Spatialisation” of RIMS

- Base road network data converted from MapInfo into an Oracle Spatial table
- LRS package written to generate SDO_GEOMETRY objects from a TRIPS reference
- Triggers created on all TRIPS referenced tables to ensure spatial object is updated when TRIPS reference or base road data changes
Results of Spatialisation

- No changes to RIMS interface but spatial objects created and maintained behind the scenes
- Spatial data viewed and analysed using MapInfo
- Existing culture of TRIPS within DIER maintained but with added benefit of spatial analysis
Phase 3 of RIMS

• Included a map viewer (Exposure)
• Allows users to view spatial data
• RIMS reports can also contain maps
Phase 3 Crash Data Manager

- Stores crash data collected by Tasmania Police
- Used to support formulation and evaluation of effectiveness of road safety strategies
- Crash locations are entered via map viewer instead of using a TRIPS reference
Phase 3 Crash Data Manager

- Locations of Interest tool finds clusters of crashes
Phase 3 Crash Data Manager

- Crash Maps tool produces thematic maps of road network based on crash rate
Phase 3 Bus Route Manager

- Captures information about regular passenger transport services and service providers
- Bus routes entered via map viewer
- Facilitates origin/destination requests
Conclusions

• TRIPS data is more easily analysed and presented
• TRIPS data can be analysed with non-TRIPS referenced data
• Spatial analysis of RIMS data is available to a wider audience within DIER