OBJECTIVE:

OVERVIEW OF THE MODELLING FRAMEWORK

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Outline of the Presentation

1. Statistics About Malta
2. Background
   1. Transport demand
   2. Transport Supply Network
   3. GIS-based modelling in Cube Voyager Suite
   4. Outputs of modelling
3. Limitations/difficulties encountered
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### Quick Statistics About Malta

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2025</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area (km²)</td>
<td></td>
<td></td>
<td>316</td>
</tr>
<tr>
<td>Population Density</td>
<td>1,341</td>
<td>1,420</td>
<td>1,481</td>
</tr>
<tr>
<td>Number of employees</td>
<td>159,952</td>
<td>170,891</td>
<td>181,680</td>
</tr>
</tbody>
</table>

**Population**

Values estimated at 2015
# Quick Statistics About Malta

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2025</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total road network</td>
<td>2,856 km</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Transport Network</td>
<td>2,612 km (all routes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual PT Trips</td>
<td>56,725,868</td>
<td>59,077,000</td>
<td>60,729,000</td>
</tr>
<tr>
<td>Daily Trips All Modes</td>
<td>1,107,458</td>
<td>1,168,000</td>
<td>1,239,000</td>
</tr>
</tbody>
</table>

Values estimated at 2015
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Logical Development of the Strategy and Master Plan

- National / EU Policy & Plans
- Computer Simulation + Future Forecasting
- Data Gathering

Strategic Context + Current & Future Trends

Strategy
- Vision
- Strategic Goals
- Guiding Principles

Problem Identification + SWOT Analysis

Master Plan
- Objectives
- Measures
- Scenarios

Testing Measures & Scenarios in Model

Prioritization of Measures

- In accordance with DG-REGIO and JASPERS guidance notes
- Process continuously supported and reviewed by JASPERS
- Technical support by INECO / Systematica consortium
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Transport DEMAND

Employees density

Population density

2050, Optimistic

Employees density

Population density

Model Zone number

- 10 - 800
- 801 - 1600
- 1601 - 3000
- 3001 - 5500
- 5501 - 8000
- 8001 - 17000
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Modelling Software INPUT: Characteristic of the roads

- Arterial
- Distributor
- Local access
- Other urban
- Other rural
- Connectors
- Ferry
THE NATIONAL TRANSPORT STRATEGY & TRANSPORT MASTER PLAN

Transportation SUPPLY

Public Transport Network (PT)

Road Network (HW)

Sample: Pembroke area
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Cube Voyager Suite Key features (Citilabs)

**Cube GIS** provides unlimited layering, signing, intersection coding and analysis, unmatched network editing and analysis, charting, links to digital media.

**Scenario Manager** makes creating, managing and running scenarios very easy to do.

**Flow-Chart** provides extremely easy to use model interface for building, running and documentation.
Modelling Software Demonstration: Final Model Framework
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Modelling Software Demonstration:
Example of Road Network Layer
Comparison – ‘Base Year’ 2014 AM Peak

Volume-demand/Capacity at AM peak hour
Comparison – ‘Do Minimum’ Year 2020 AM Peak

Volume-demand/Capacity at AM peak hour
Comparison – ‘Do Minimum’ Year 2025 AM Peak

Volume-demand/Capacity at AM peak hour
Comparison – ‘Do Minimum’ Year 2050 AM Peak

Volume-demand/Capacity at AM peak hour
Final Deliverables

2050 Strategy
Vision
Strategic Goals
Guiding Principles
Targets

2025 Master Plan
Operational Objectives
Sector Measures
Appraisal of Measures
Appraisal of Policy Scenarios
Environmental Considerations
Preferred Option
Targets, Delivery and Timelines
Monitoring
Conclusion
Final Deliverables - Supporting Documents

- Existing Conditions Report
- Base Year Model Report
- Forecasting Report
- Strategic Environmental Assessment
- Technical User Manual
- Additional Data Report
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Limitations/difficulties encountered

• **Tourism’s** impact in Malta
• Limitation of the academic and research staff since there is only one University in Malta
• How to deal with **different results** from different Models
• **GDP forecasting** (from different entities)
• **Difficulties on insufficiently** accuracy dataset
• **Data estimation** since was no clear where people working and living
• **Moving of resources** from the organizations
Transport Malta


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Thank you