Asset Management and Valuation - Case Finland

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Structure of the presentation

1. Asset management and valuation
   - What is asset management?
   - Valuation and accounting
   - Framework for asset management

2. Case Finland

3. Conclusions
1. Asset Management and Valuation
What is it about?

- Based on pavement management systems developed in 1980's
- Integrated use of varied management systems in 1990’s
- Integration of geographical information systems (IMS) in 2000’s
- Valuation of assets
- Integration with accounting
- Managing a road administration’s resources more like a business
Definition for road asset management

“A systematic process of maintaining, upgrading and operating assets, combining engineering principles with sound business practice and economic rationale, and providing tools to facilitate a more organized, and flexible approach to making the decisions necessary to achieve the public's expectations.”

SOURCE: OECD, 2001
Definition for road asset management (2)

Asset management is a strategic and systematic approach to managing your business, e.g. road infrastructure, road transport and road administration.

SOURCE: PIARC Technical Committee C 6, 2003
Business-like approach

“Managing road assets requires valuation of assets in monetary terms”
Valuation as a key issue

- Each asset has an economic value to the transport network
- Each asset has a capital value
- Valuation in monetary terms is a key element in developing the common language and knowledge between engineers and financial managers and between road administration and its stakeholders

Stages for valuation

1. Definition and inventory of the assets
2. Valuation of the assets and reporting them in monetary terms
3. Implementing accounting and financial reporting
4. Integration of road management and accounting
Definition and inventory of the assets

- Definition of assets
  - roads and land areas
  - other fixed assets
- Inventory and registering roads
  - substructures, pavements etc.
  - bridges, tunnels and other structures
  - land areas (road areas, rest areas etc.)
  - unfinished road projects
- Classifying assets
  - similar type of assets with similar life of service
Valuation of the assets

- Inventory and valuation for book-keeping
- Can be defined in many ways
  - book value
  - written down value
  - market value
  - replacement value
  - present value
  - nominal value
  - real value, taxable value, utility value etc.
- Definition of yearly expenses and capital investment costs
Implementing accounting – capitalisation

- The annual increase of the value
- The annual upkeep, improvement or other investments with long term effects
Implementing accounting (2) – depreciation

- The annual loss of the value or the annual wearing of the assets
- Planned depreciation or measured condition
- Depreciation parameters should be planned beforehand and confirm according to local accounting standards and legislation
Depreciation methods

Degressive

Progressive
Depreciation methods (2)

Linear

Linear with residual value
## Different types of road assets

<table>
<thead>
<tr>
<th>Asset type</th>
<th>Economical lifetime</th>
<th>Annual depreciation</th>
<th>Residual value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roads</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- substructures</td>
<td>20-50 years</td>
<td>5-2 %</td>
<td>0 %</td>
</tr>
<tr>
<td>- pavements</td>
<td>10-20 years</td>
<td>10-5 %</td>
<td>0 %</td>
</tr>
<tr>
<td>- bridges</td>
<td>25-100 years</td>
<td>4-1 %</td>
<td>0 %</td>
</tr>
<tr>
<td>- other structures</td>
<td>5-20 years</td>
<td>20-5 %</td>
<td>0 %</td>
</tr>
<tr>
<td>Unfinished road structures</td>
<td></td>
<td>0 %</td>
<td>100 %</td>
</tr>
<tr>
<td>Land areas</td>
<td></td>
<td>0 %</td>
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*SOURCE: PIARC Technical Committee C 6, 2003*
Implementing accounting (3) – financial reporting

- Implementing financial statements
  - profit and loss account
  - balance sheet
- Reporting
  - monitoring the performance
  - allocation of resources for road management
Integration of road management and accounting

- Integration of the information
- Using information for financial planning and for estimating needed maintenance and investments
- Depreciation should reflect the annual need for maintenance and upkeep
Framework for Asset Management

“Managing assets is something else than just using integrated systems”

“Asset management should be developed as a systematic procedure or as a set of guidelines.”

SOURCE: PIARC Technical Committee C 6, 2003
Framework for Asset Management

TECHNICAL TOOLS
- information technology
- management Systems
- accounting Systems
- performance measures

ADMINISTRATIVE ARRANGEMENTS
- organisational reforms
- competition
- outsourcing
- privatisation

CUSTOMER ORIENTATION
- owner’s guidance
- customer Needs
- customer Satisfaction

BUSINESS REFORM
- risk sharing
- life time costing
- new types of funding, user charges
- public/private partnership

SOURCE: PIARC Technical Committee C 6, 2003
2. Case Finland
NORTHERN DIMENSION
TRANSPORT CORRIDORS
AND AREAS
Road Asset Management in Finland

- Based on management systems developed in the 1980’s
- Implementation of the State accounting system 1998
- Road reform 2001-2004
- Stakeholder and customer orientation 2001-2004
- Business reform going on
Implementing State Accounting System

- Accounting for budget revenues
- Business accounting for bookkeeping
Structure of the State Accounting

State

Parliament

Ministries ~ 13
- Ministry of Finance
- State Treasury

State Agencies ~ 110

Regions ~ 20
Regional units of state agencies ~ 100-200

Municipalities ~ 450
Fixed Assets of the Nation 2005

Total EUR 560 000 million

- Residential buildings: 31%
- Office buildings: 20%
- Land and water structures: 10%
- Built environment: 11%
- Forests: 10%
- Other land areas and natural resources: 3%
- Machinery, equipment, means of transport: 10%
- Softwares, reserves and other: 5%

Statistics Finland & VTT 10/2005
Fixed Assets of the State of Finland

Total EUR 49 500 million

- Road assets: 36%
- Other transport networks: 30%
- Companies & stocks: 25%
- Other fixed assets: 9%

Statistics Finland, 2005
Fixed assets of the Finnish Road Administration

Total EUR 14,695 million, 30% of the state assets

Valuation of road assets

- Based on original investment cost
- Depreciated and then written off from the original investment cost by the annual need of maintenance and upkeep estimated by management systems (such as PMS)
- Valuated first time for the first balance sheet 1.1.1998 - EUR 14 500 million (30 % of the state assets)
## Types of road assets

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State road network 78 000 km owned by the Finnish Road Administration, Finnra
Depreciation of road assets

State road network 78,000 km owned by the Finnish Road Administration, Finnra
Road assets of Finnish Road Administration

Total EUR 13 778 million

Capitalisation of road assets

- Increased by the original investment cost
  - upkeeping and repaving
  - replacement and reconstruction investments
  - expansion and new investments
  - road design
  - acquisition of land areas
- Calculated monthly
Depreciation of road assets

- Decreased by depreciation matching the annual need of periodic maintenance and reconstruction
- Roads removed from service or surrendered to local authorities is decreased
- Calculated monthly by straight-line depreciation without residual value
Basis of the valuation

- Based on original construction cost (acquisition cost) decreased by annual depreciation
- Calculated as a single value for the whole network (slump sum)
- Updated annually through the state accounting system
- Reported in profit and loss account and in balance sheet
# Change in road assets in 2006 EUR million

<table>
<thead>
<tr>
<th>Road assets (EUR million)</th>
<th>1.1.2006</th>
<th>Increase</th>
<th>Depreciation/</th>
<th>31.12.2006</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road substructures</td>
<td>9846</td>
<td>145</td>
<td>235</td>
<td>9755</td>
<td>-90</td>
</tr>
<tr>
<td>Pavements</td>
<td>1037</td>
<td>156</td>
<td>263</td>
<td>931</td>
<td>-107</td>
</tr>
<tr>
<td>Bridges</td>
<td>2832</td>
<td>88</td>
<td>67</td>
<td>2854</td>
<td>21</td>
</tr>
<tr>
<td>Other structures</td>
<td>249</td>
<td>45</td>
<td>56</td>
<td>238</td>
<td>-11</td>
</tr>
<tr>
<td><strong>Rocks total</strong></td>
<td><strong>13965</strong></td>
<td><strong>435</strong></td>
<td><strong>622</strong></td>
<td><strong>13778</strong></td>
<td><strong>-187</strong></td>
</tr>
<tr>
<td>Land areas</td>
<td>591</td>
<td>32</td>
<td>0</td>
<td>622</td>
<td>31</td>
</tr>
<tr>
<td>Assets under construction</td>
<td>293</td>
<td>467</td>
<td>495</td>
<td>265</td>
<td>-28</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14848</strong></td>
<td><strong>934</strong></td>
<td><strong>1117</strong></td>
<td><strong>14665</strong></td>
<td><strong>-1834</strong></td>
</tr>
</tbody>
</table>

Change in road assets, 1999-2008

State road network 78 000 km owned by the Finnish Road Administration, Finnra
Lessons learned in Finland

- Value in monetary terms key element in developing the common language and knowledge
- Depreciations should match the need of upkeep and reconstruction and the value should reflect the physical conditions
- Preservation of the asset value less important than the service value
3. Conclusions

Day of purchase: 18.11.02
Best before: 18.11.12

Highway 12

EUR 120 mill
12,7 km
EUR 9,5 mill/km
Conclusion

- Valuation has to be done
- Asset management systems and accounting should be integrated at some level
- Asset management should be developed as a systematic procedure, or a set of guidelines and methodology
Conclusions (2)

- Asset management is a strategic approach to managing your business
- Value for money means you need to focus on
  - technical tools
  - administrative reform
  - customer orientation
  - business and funding reform
Thank you for your attention!