Managing a 40-year-old public transport network – The case of Lyon

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Lyon public transport network, already a success story

- 470 M Pax per annum
- 350 annual trips per annum
- 60% farebox coverage ratio
- 75% green power
- 40% car modal share
The network asset base, a key driver of the success
AM roles & responsibilities

Le SYTRAL (Asset Owner)

✓ Network strategy
✓ Network development
✓ Asset renewal
✓ ...

KEOLIS (Asset Manager)

✓ Network operation
✓ Network condition monitoring
✓ Regular maintenance
✓ Some heavy maintenance operations
✓ Advisory services to Asset Owner

DSP contract 6 years
The path so far... and the ambition

<table>
<thead>
<tr>
<th></th>
<th>Il y a 10 ans</th>
<th>Aujourd'hui</th>
<th>En 2030</th>
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</thead>
<tbody>
<tr>
<td>Part modale voiture</td>
<td>48%</td>
<td>40%</td>
<td>&lt;35%</td>
</tr>
<tr>
<td>Part modale TC</td>
<td>15%</td>
<td>20%</td>
<td>&gt;25%</td>
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<tr>
<td>% énergies propres</td>
<td>55%</td>
<td>75%</td>
<td>100%</td>
</tr>
<tr>
<td>Fréquentation annuelle</td>
<td>330M pax</td>
<td>470M pax</td>
<td>700M pax</td>
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<td>Valeur patrimoine</td>
<td>3,5 Mds€</td>
<td>4,8 Mds€</td>
<td>6,0 Mds€</td>
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Asset management challenges

1. Encourage modal shift to public transport with a more attractive network
2. Support ridership growth through network development
3. Accelerate energy transition of the network
4. Optimise assets lifespan
5. Further improve accessibility
Asset management strategy for Lyon network

1. Ensure assets safety & reliability
2. Maximise the potential of existing assets
3. Optimise asset lifecycle
4. Sustain & develop competencies
5. Advise on network development choices
#1 – Ensure asset safety & availability

- Get the basics right – 99.6% network availability
- Migration towards higher degree of preventive maintenance for higher reliability
- Development of condition-based / predictive maintenance on critical assets
- Review of maintenance plans based on asset criticality
#2 – Maximise the potential of existing assets

- 90% capacity limit in peak
- Network design choices (inter-operable fleet, mutualised depots between lines...)
- Peak regime (capacity oriented) versus off-peak regime (energy saving oriented)
- For rolling-stock, component based maintenance for shorter downtimes and better flee usage
#3 – Optimise Investments

- 200 M€ Sytral investment per annum
- Find the right balance between network development investments and network sustainability investments
- Find the right lifespan for each category of assets
- Define the right content of heavy overhaul programmes
- Minimise impact of heavy works on the continuity of operations
#4 – Sustain key skills

- 80% of the maintenance done inhouse
- 80 maintenance & engineering job categories in the organisation
- Sustain skills on 30 years old systems; ensure continuity of knowledge between generations
- Incorporate new skills related to new technologies (programming, digital, ...)

www.railway-asset-management.org
#5 – Support network development

- 30% capacity increase on the metro through automation

- Integrate energy transition requirements (Loie de transition énergetique) and reduce the carbon footprint of the network

- Find the right balance between network development and existing network modernization (accessibility, obsolescence management, asset renewal...)