Federal Transportation Administration

2nd STATE OF GOOD REPAIR ROUNDTABLE
JULY 21 -23, 2010

TCRP International Studies

State of Good Repair Study Mission
Observations of Jerry Rutledge
Focus Topic – Definition and Measurement

European Observations

Definitions of SGR

- Few agency specified definitions
- No universally used definitions
- Concept/term was readily understood
- When asked, each agency presenter could visualize/recognize a SGR and had their own definition to share
- Definition often based on the persons role and responsibilities in their organization.

European Observations

London, TfL

London seemed to have the most SGR information and documentation, also seemed to be most ingrained into their capital planning process. Recent collapse of the PPP's may be an issue for them.

"there is no established standard by which assets in a SGR can be consistently measured. In particular, there are a number of possible dimensions to the issue including reliability, design life, safety, cost effectiveness and customer satisfaction." (TfL)

- Bus replacement on a 3 year schedule (~3000 bus/yr)
- Street furniture, shelters, signage replaced on An as needed condition basis
- Structures are based on going condition based monitoring of various aspects.
- Still working to develop asset condition indicators for fixed assets

European Observations

London Underground

An asset that meets an established set of condition requirements and risk requirements and has at least 1 year of life remaining is considered in a state of good repair.

- Use a time based condition rating system A-D in conjunction with a risk rating system 1-4
- Where A=>10yrs, B=10-5yrs, C=5yrs, D=1-0yrs of residual life
- Where 4= risk of performance loss, 3=extraordinary maint/operation, 2=safety risk mitigated, 1=statutory non-compliance

European Observations

General Practices – Rolling Stock

- Most properties use 12-15 years for bus replacement schedules
- Tram replacements were around 30 years
- Most properties had mid life major rebuilds for all rolling stock
- Bus service often contracted out to private providers. Rolling stock replacement up to the provider but most were 15 years or less.
- Others varied widely based on contractors financial position, type of service and competition.
- The European community has laws in place governing "green bus" requirements when replacing a bus
- Maintenance schedules and tasks based on EU standards or agency standards which often are greater.

European Observations

General Observations – Fixed Assets

- Most properties preformed fixed asset major repairs and replacements based on a cost benefit analysis
- Most properties had life cycles of fixed assets established
- Life cycles established condition based inspection details
- Except for London, many properties major assets were just coming into the final phase of their life cycle and the agencies were struggling to deal with setting up SSGR ratings and replacement schedules.
- All identified funding as an issue.
- 30-50 year life cycles used for track

European Observations

Berlin

- Have developed and prioritized a 10 year list of SGR projects
- Develop 1 year and 4 year work plans
- Annual inspections and documentation of all major system elements
- Very progressive, 2nd to London in SGR identification process
- Use a 1-5 rating system
- Use a time based A-E schedule for rolling stock maintenance
- Germany has legislative requirements for asset maintenance
- The use combination of legislative requirements, life cycle, own experience, observations, testing, operating conditions, and condition based inspection reports for asset maintenance and replacements.
- They do not do just time based replacements for fixed assets
- 40 life cycle for trams
- 12 year life cycle for bus
- Climate change agreement with city
- Berlin subway uses a 1-4 level of inspections for cars leading up to a retrofit
- Law requires full inspection every 500,000km

European Observations

Oslo

- Smaller than London and Berlin but very SGR organized
- 4 year investment plan
- Long range investment plan to 2027
- Funding already in place
- Life cycles developed for all assets
- Inspection and documentation cycles identified for all critical elements
- Technical and engineering standards used to determine SGR
- Assets tracked and managed through software systems
- 19M backlog of SGR work

Noteworthy

- Political Will (e.g. bus lanes, closed streets, pricing, parking)
- Commitment to environment (green building, trackways, vehicles, use of art)
- Use of dual mode powered tram to increase service delivery area
- All properties had a high commitment to provide safe, clean and reliable service
- Riders have a choice and service is provided to attract and maintain riders (noticeable emphasis on clean and safe cars, shelters and stations)