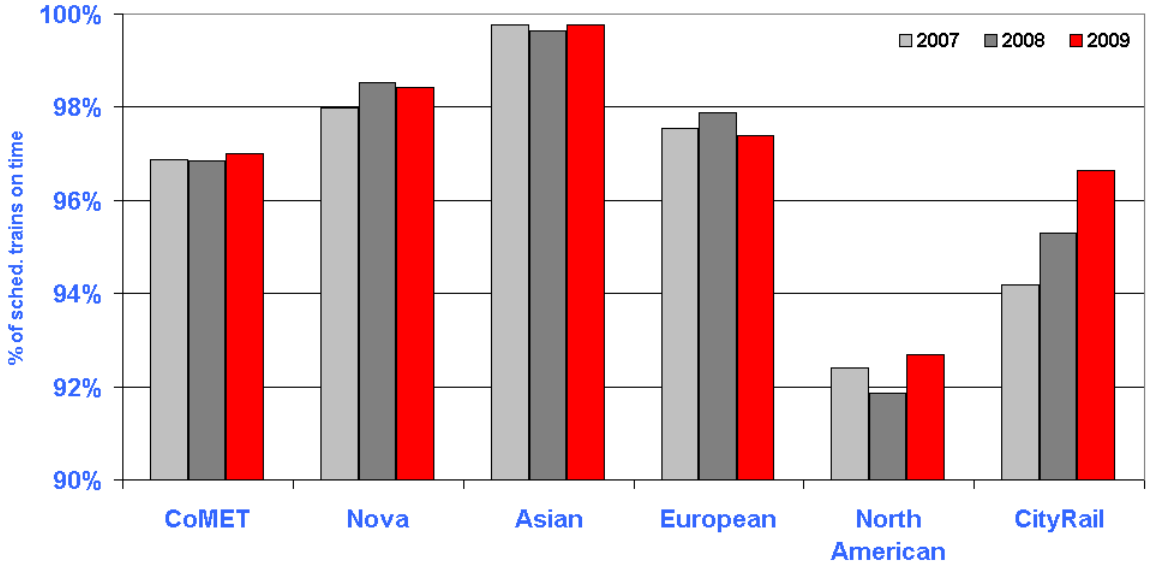
# CityRail Performance

## Comparison to International CoMET / Nova Benchmarking Community peers

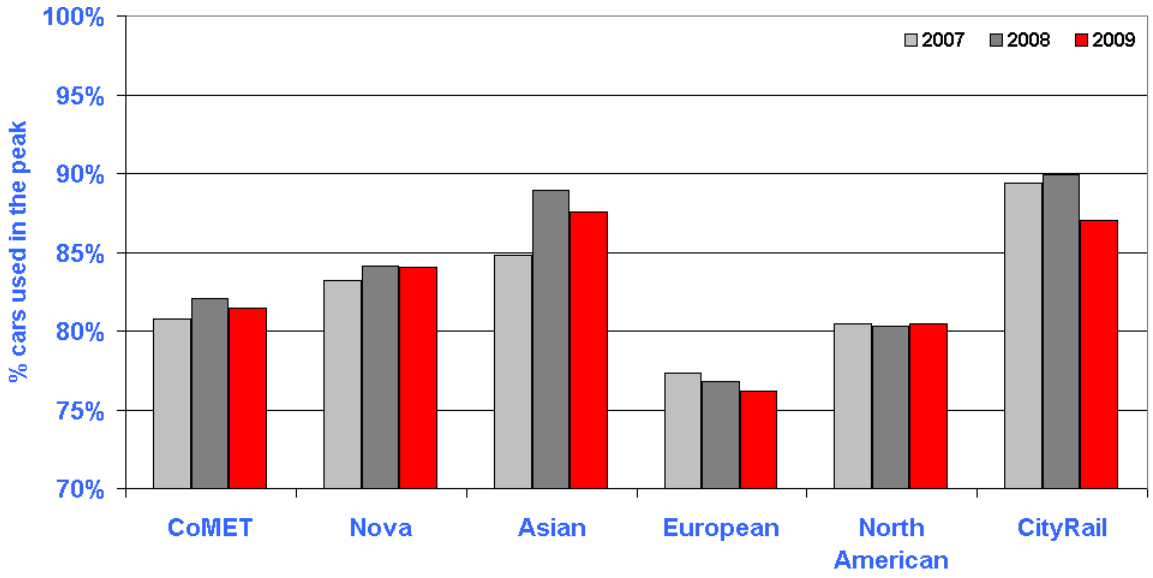
- CoMET is a consortium of the world's largest metros where members have more than 500 million passenger journeys per annum.
- Nova is more diverse, comprised of small to medium metro systems, including commuter type members that have less than 500 million passenger journeys per annum.
- CityRail joined the Nova Benchmarking Group in September 2007.
- Membership enables RailCorp to compare its CityRail network with other international metropolitan railway systems, benchmark the reasons for variations and identify opportunities for improvement through the sharing of best practises.
- Benchmarking is undertaken annually on a calendar year basis.
- Results are shown for years 2007, 2008 and 2009, where available.
- CityRail performance is shown compared to the:
  - Average of all CoMET Members
  - Average of all Nova Members
  - Average of all Asian Members
  - Average of all European Members
  - Average of all North American Members
- Comparison to averages may disguise some significant 'highs' and 'lows' in performance. Some individual metros within each group will vary enormously, particularly amongst the European and North American operators.
- CityRail has a much larger network than any of its peers and large areas of its network with low utilisation. When compared to the majority of its peers, CityRail has relatively low passenger densities in the busiest CBD areas and very low densities at the extremities of the CityRail network.
- CityRail is a suburban-style railway in nature with predominantly one-way commuting passenger flows in peak periods, higher average distances between stations, and carrying passengers over greater average distances than most CoMET and Nova members.
- CityRail is the only CoMET or Nova member with a double-decker fleet and CityRail typically uses 8-car sets.
- CityRail has two-person operation (Driver and Guard), whereas most railways are now Driver-only.
- Fares are amongst the lowest in the Nova and CoMET Groups.

# Customer: Trains On Time / Total Scheduled Trains



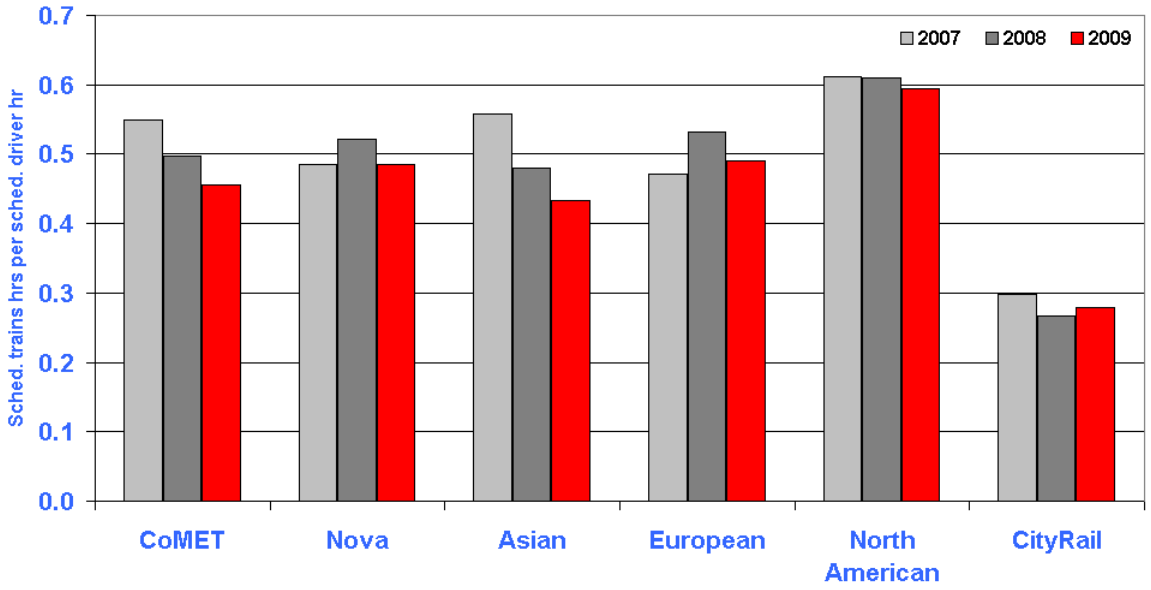

- CityRail's performance has improved each year over the three-year period and is better than its most comparable peers - those who are more suburban-like railways.
- On Time Running (OTR) is just 2%-points below the Nova average, however comparable to the CoMET average and very good compared to those railways with similar characteristics.
- OTR is supported by high fleet utilisation and improving rolling stock reliability.
- This measure is heavily influenced by asset quality, maintenance practices, culture and investment levels.
- North American: tend to have aging assets and historical levels of underinvestment which affects asset quality.
- Asian: are very high performing in terms of on time performance and reliability, due to the maintenance culture, in particular reliability centred maintenance, and a culture of continuous improvement , and also due to the physical design of their railways and equipment age.
- Trains on Time is defined as trains that ran on time within a five-minute threshold for their journey.

# Efficiency: Percentage of Cars Used in the Peak Period



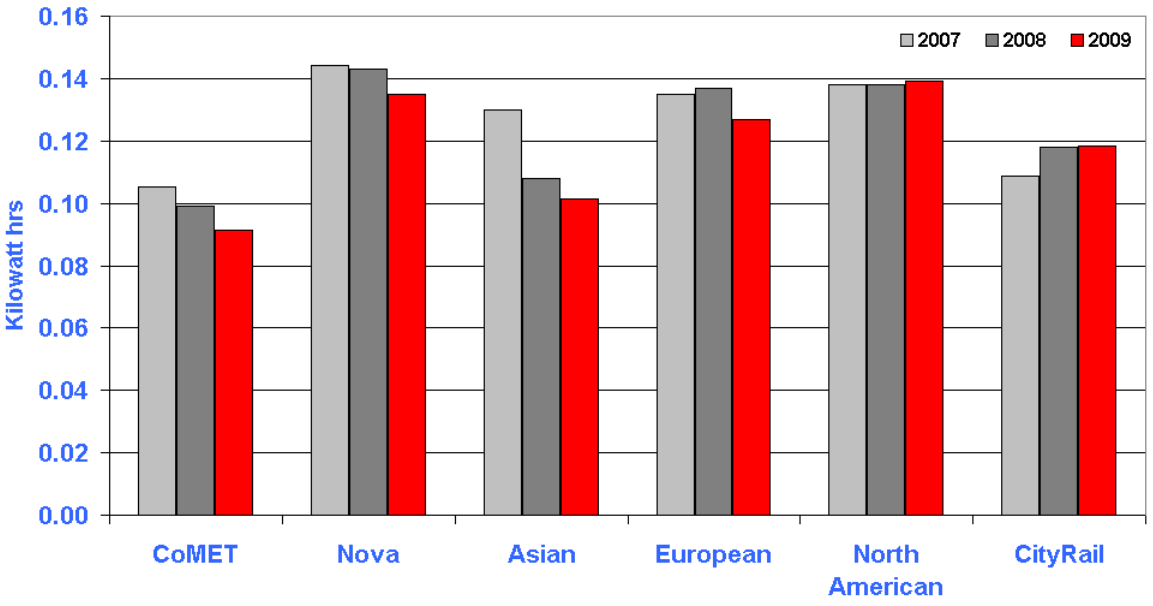

- CityRail outperforms almost all of its peer group averages in terms of maximising the use of available cars, i.e., fleet utilisation, during the peak periods. CityRail also performs better than the Nova average for the % of cars available in the peak period for use, and again well above its European and North American peers.
- 2009's result is due to the arrival of new Oscars into the total fleet which were not immediately timetabled into service during the critical peak periods; plus timing of some rolling stock maintenance reform activities, and refurbishments, temporarily taking cars out of commission, resulting in fleet available for use dropping slightly below 90% in 2009.
- European: heavily influenced by policy decisions such as over-procurement of cars / regulatory contracts with the Authority.
- North American: higher spare ratios than necessary due policy and maintenance practices, not being able to maintain during off-peak means that more maintenance is done during the peak.
- Asian: a number of metros have higher than necessary spares ratio so that service quality / reliability is not compromised. Optimised maintenance practices also ensure that cars are not out of service for non-scheduled maintenance.
- Around 90%-92% peak utilisation is considered best practice, i.e., meaning reliability is not compromised in case of train failure.
- Investment in new fleet and length of maintenance periods affect this measure.

# Efficiency: Train Hours / Driver Hours



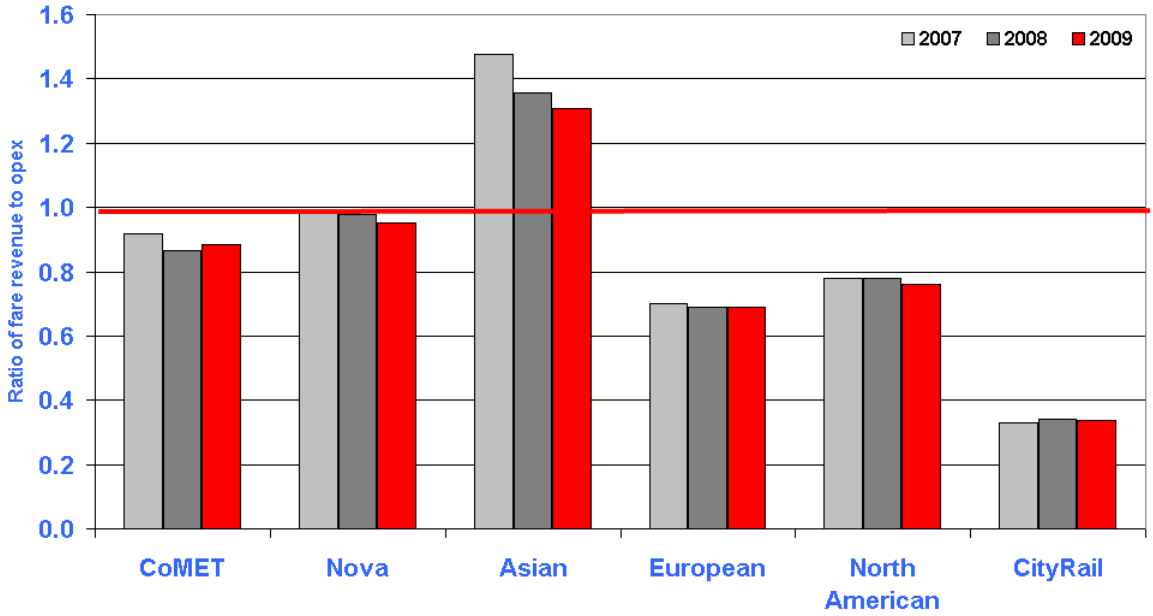

- Driver productivity is lower than all other peer group averages as is “footplate time”. In 2009 CityRail’s Revenue Train Hours/ Driver Hour were the second lowest amongst the CoMET and Nova members. Only 28% of driver hours were spent driving trains in revenue service with the proportion of time driving non-revenue trains affecting results.
- High walking time, clocking on/off, long train preparation, 2nd preparations for re-entering afternoon service, training and other non-driving activities relative to others contributes to lower productivity.
- Weekend inefficiency is high, due to the program of track work and weekend relief rosters under Enterprise Agreements.
- Low driver productivity and two-person operation (driver and guard) are seen as the two greatest cost drivers for CityRail when compared to its international benchmarking group peers, many of which have driver-only operation.
- Shift change inflexibility, driving kilometre restrictions, paid breaks, irregular train operating patterns etc., all influence this measure.
- Training, sick leave levels also affect this measure as more drivers will be required to fill rosters and/or overtime usage.
- Asian: lower labour costs tends to result in more staff / labour hours and less technology or capital investment. There is a trade off seen between labour and capital as the economy matures.
- European and North American: heavily influenced by strong labour unions.
- North American: large differences in performance across this group.

# Efficiency: Total Energy Consumption / Passenger Km



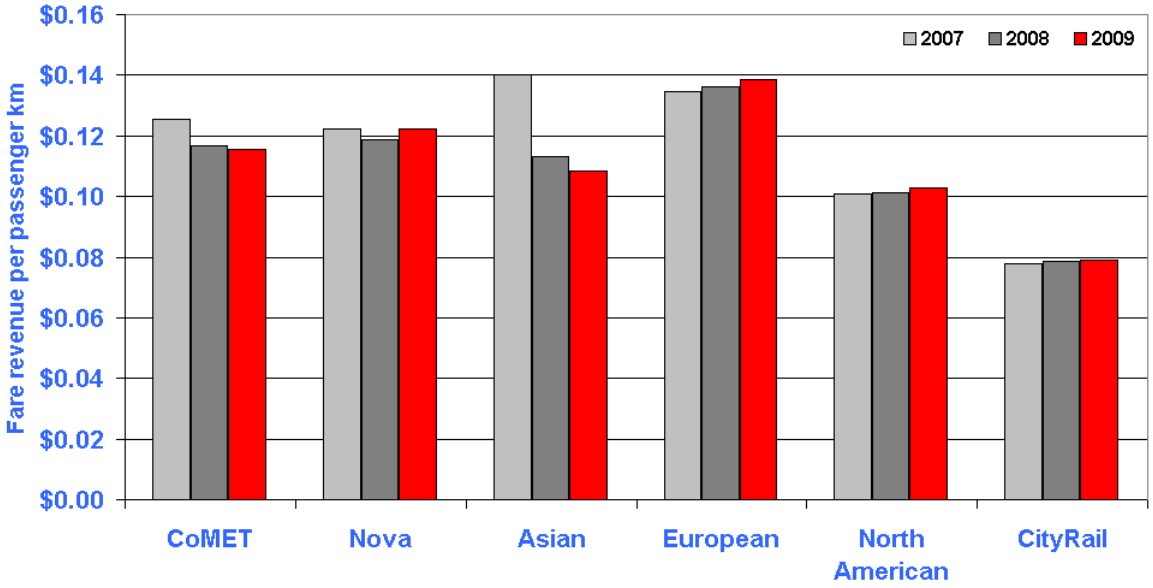

- CityRail is a heavy rail operator and has a fleet of predominantly electric, double-decker carriages, and mostly deployed as eight-car sets. Some shorter diesel services are regularly operated.
- CityRail's $CO_2$ generation is driven by its long trains compared to peers, and the reliance on coal fired electricity generation.
- CityRail also operates over a large, outreaching network.
- CityRail's Total Energy Cost per Kilowatt Hour in 2009 on a purchasing power parity basis was the 2nd lowest of its peers driven by low cost of electricity.
- CityRail is one of the lowest in terms of non-traction energy consumed by stations.
- Much of the year-on-year energy reduction is driven by passenger growth, particularly in Asian metros. The higher the passenger kms, the more the marginal energy consumption will reduce with continued passenger growth.
- Some metros have implemented specific energy saving techniques such as regenerative breaking, 'eco driving' training, review of air-conditioning temperatures, station lighting, turning off escalators during off-peak, etc..
- Automatic Train Operation (ATO) adoption is increasing and is resulting in improved operating efficiency.

# Financial: Fare Revenue / Operating Cost




- CityRail's fares are the 2nd lowest amongst its international CoMET and Nova peers relative to average city wages, and have continued to reduce in real terms.
- CityRail provides extensive concession fares under Government directions and policies.
- CityRail fares are also very low compared to the distance travelled.
- In 2008 fare revenue increased by 11.8% driven by both fare and patronage increases.
- In 2009 fare revenue increased by only 2.6% with a fall in patronage due to the GFC offsetting fare increase gains.
- In 2008 operating costs increased year-on-year by 8%, and then by 4% in 2009.
- CityRail operates over a large, outreaching network when compared to its peers.
- Increased operating costs in 2009 reflect increased labour costs as a result of EA wage increases, plus increased timetabled services with the introduction of the ECRL and then the 2009 Timetable in the 2nd half of the year.
- Asian: high performance is driven by high city densities, i.e., fare revenue concentration, and market-driven fare policies such as fares set to cover costs. Lower labour costs in part result in Asian metros tending to have lower operating costs.
- See later slide for more detailed comment on Operating Cost.

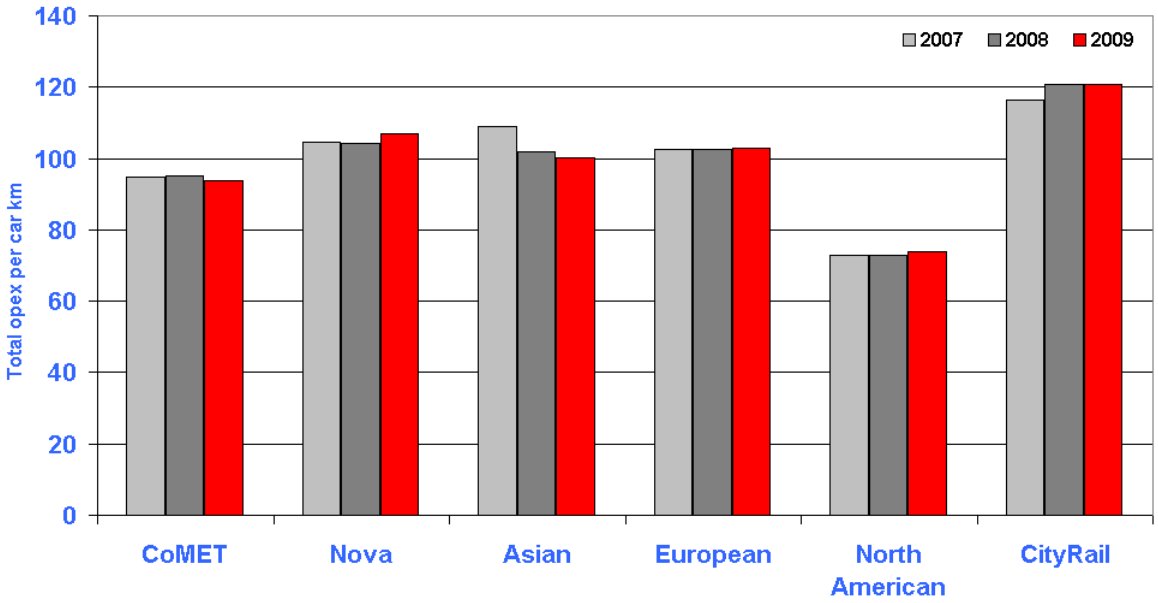
# Financial: Fare Revenue / Passenger Km (2009 US$ PPP)




- CityRail's fares are the 2nd lowest amongst its international CoMET and Nova peers relative to average city wages.
- CityRail provides extensive concession fares under Government directions and policies.
- CityRail fares are also very low compared to the distance travelled.
- CityRail has a much larger network than any of its peers, with predominantly one-way commuting passenger flows in peak periods, low passenger densities in the busiest CBD areas and very low densities at the extremities of the CityRail network, higher average distances between stations, carrying passengers over greater average distances than most CoMET and Nova members, and deploying 8-car sets.
- Hence, CityRail carries the lowest passenger kms per standard capacity km of its CoMET and Nova peers.
- Move to lower, zonal fares and away from charging distance based fares results in a drop in fare revenue.
- See earlier slide for comment of Fare Revenue.

# Financial: Total Operating Cost / Car Km

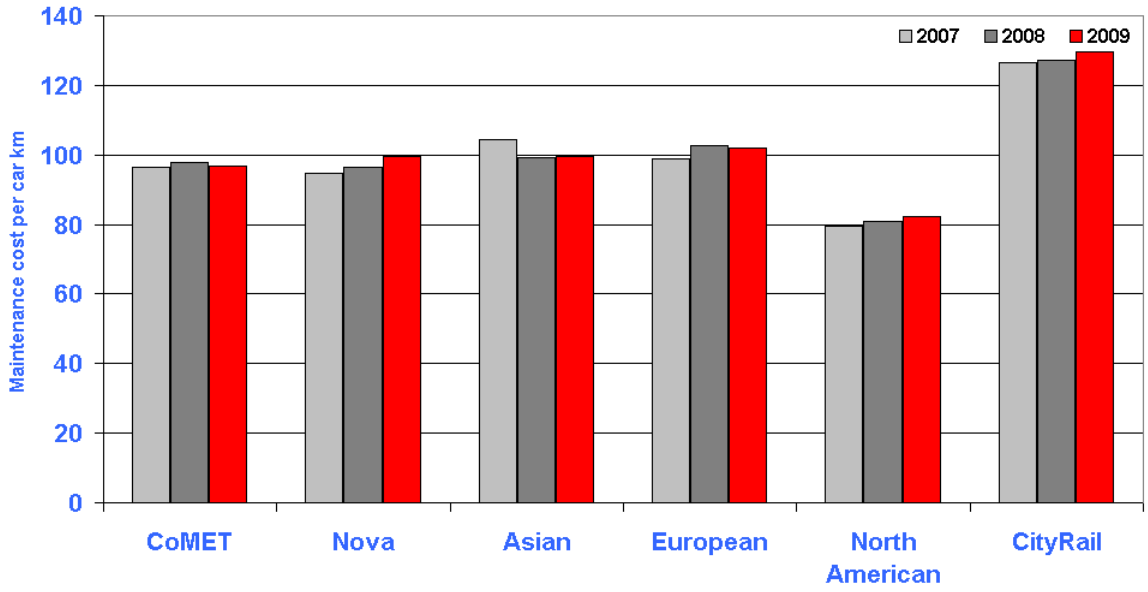
(Indexed to 2007 mean)




- CityRail's total operating costs are driven by service operations, maintenance and administration costs.
- Service operations costs are driven by train service costs, the highest of all peer operators, due to high train crewing costs, i.e., onboard Guards, as opposed to one-person, driver-only, operations.
- Non-train service operation support staff is also high, incl. the highest station staffing hours per passenger journey of the peers.
- Maintenance is high for both rolling stock and track, however is still less than 60% of the highest maintenance cost operators.
- Corporate administration costs are high reflecting CityRail's broad organisational scope and the wide range of activities carried out by CityRail itself when compared to other CoMET, Nova members.
- Increased total operating costs were driven by increased labour costs as a result of EA wage increases, plus increased timetabled services with the introduction of the ECRL and then the 2009 Timetable in the 2nd half of the year.
- Unit costs, particularly labour and energy, are high in North America, Europe, and Australia, and tend to rise above inflation rates.
- Asian: tend to have large stations and very high levels of station staffing, however labour costs are relatively low. Asian operators have also adopted some good practices to lower costs, particular in relation to maintenance productivity – reliability centred maintenance (RCM) and reduced frequency of maintenance via preventative maintenance and asset conditioning monitoring.
- European: have minimal station staffing levels, including unstaffed stations.
- Regulation / Policy dictate station staffing levels in many countries.

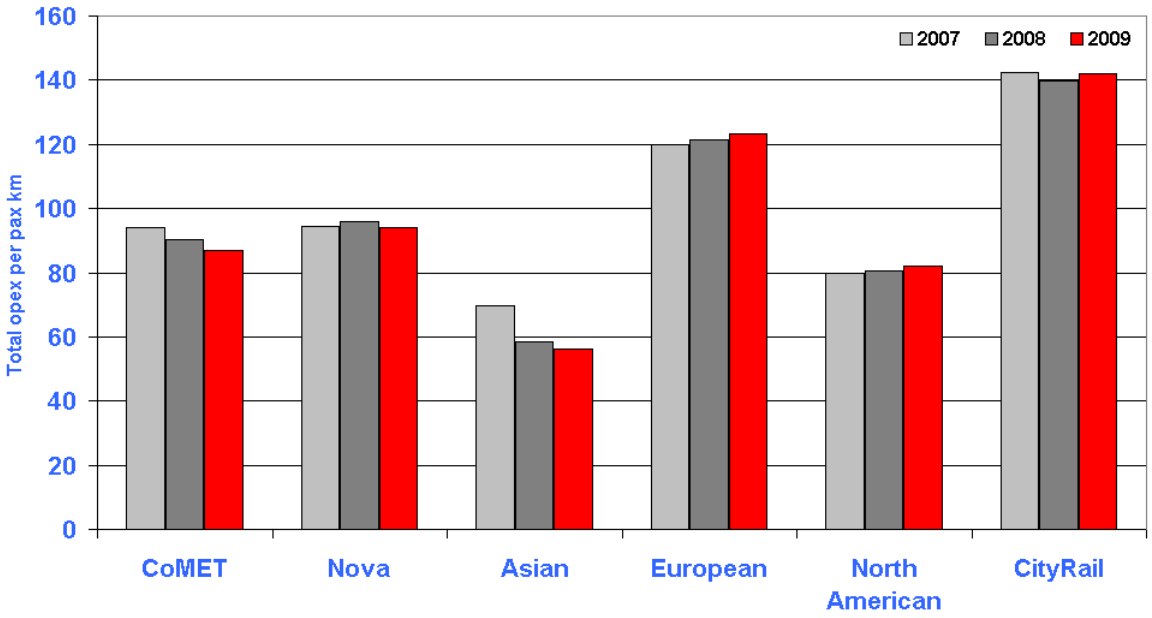
# Financial: Maintenance Cost / Car Km

(Indexed to 2007 mean)




- CityRail has a low density / low utilisation which partly explains performance relative to others. High density / heavy utilisation drives unit costs down.
- In terms of labour hours, rolling stock maintenance is by far the highest proportion of maintenance resourcing.
- CityRail currently outsources 70% of rolling stock maintenance.
- CityRail currently has nine different types of fleet.
- CityRail operates a predominantly double-decker fleet; coupled with an ageing fleet over the period resulting in increased rolling stock maintenance costs.
- Major improvements are underway to address rolling stock differences in these benchmarking results. These include an internal rolling stock reform programme; retendering a number of major contracts; and the introduction of the new Waratah fleet under a long-term Public Private Partnership (PPP).
- Infrastructure maintenance costs are high, however have improved marginally year-on-year, and are expected to show a more significant decrease in future years.
- Asset Operations Group are currently undertaking major reform in the infrastructure and rolling stock areas that will address inefficiencies, over-servicing of products and a review of Engineering standards that contribute to high costs. The review will also cover driving efficiencies in contracting, contract administration and business overheads.

# Financial: Total Operating Cost / Passenger Km




- Total operating cost are driven by increased labour costs as a result of EA wage increases, plus increased timetabled services with the introduction of the ECRL and then the 2009 Timetable in the 2nd half of the year.
- CityRail also incurs higher costs driven by higher train relative crewing costs, i.e., CityRail operates with Guards, as opposed to many metros with one-person, driver-only, operations, and the policy towards station staffing.
- Whilst Total Operating Cost / Car Km are high, Total Operating Cost / Passenger Km are also high driven by the compounding effects of predominantly one-way commuting passenger flows in peak periods, low passenger densities in the busiest CBD areas and very low densities at the extremities of the CityRail network. CityRail has low patronage in off-peak periods and moves 'half-empty' cars very long distances outside the CBD to the network boundaries. These factors combine to result in high costs on a per passenger or passenger km basis.
- CoMET and Nova: passenger growth, particularly for the Asian metros is driving the declining trend.
- European: high operating costs, strong labour unions, high wages, and stagnated or declining passenger growth.
- Asian: very high densities.