

Time-Varying and Continuous Ordinance Limits

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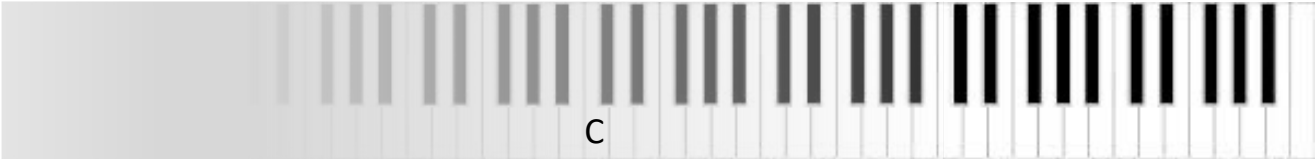
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Overview

- A-weighted criterion is common **LpA criterion value**
 - But, low frequencies are under-represented, so
- C-weighted criterion + low frequencies **LpC criterion value**
 - Considers all frequencies to have equal impact
 - But, some frequencies have more impact than others, so
- Octave Band levels **Lp,Oct criterion values**
 - Better match criterion values to impact
- Leq averaging is common
 - Ok for time-varying signals
- L50 (median) isolates continuous component of noise

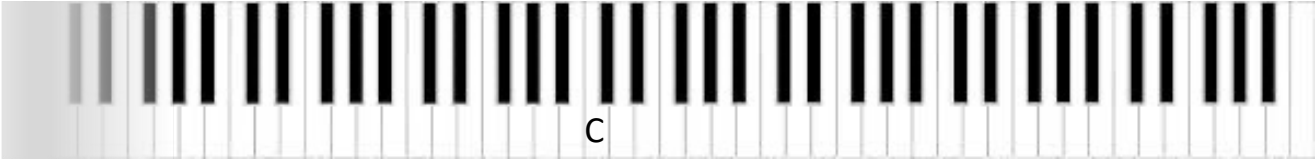
Overall sound levels, time-varying

A



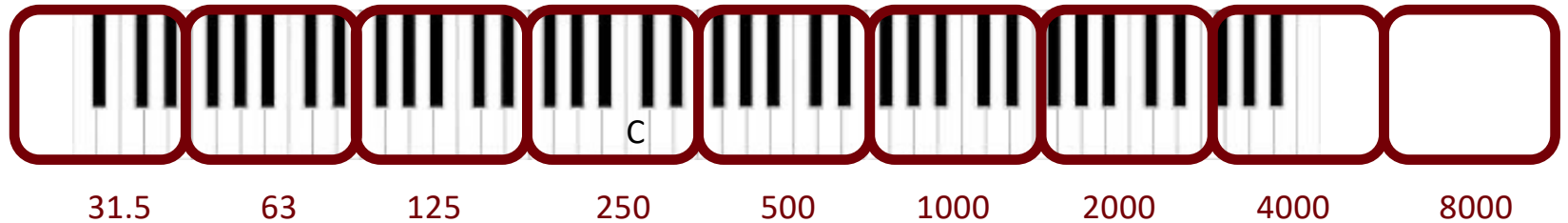
Day: 52 $L_{pA,eq}$ Night: 47 $L_{pA,eq}$

C



Day: 65 $L_{pC,eq}$ Night: 60 $L_{pC,eq}$

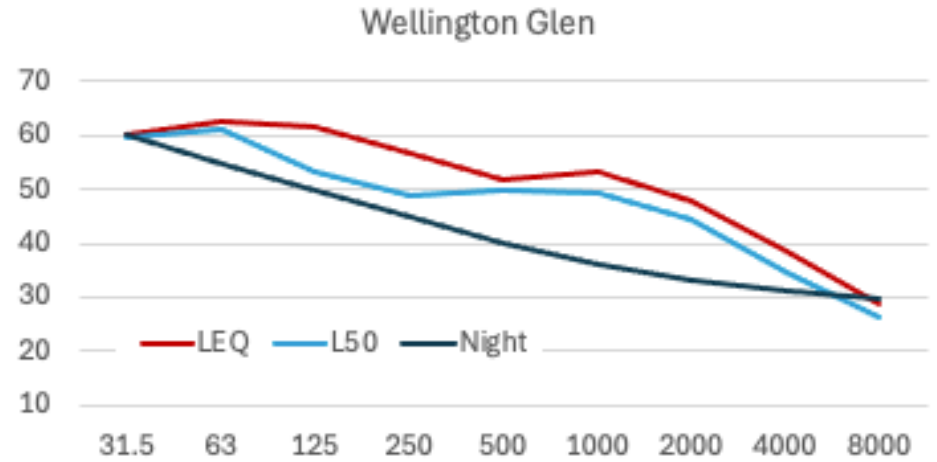
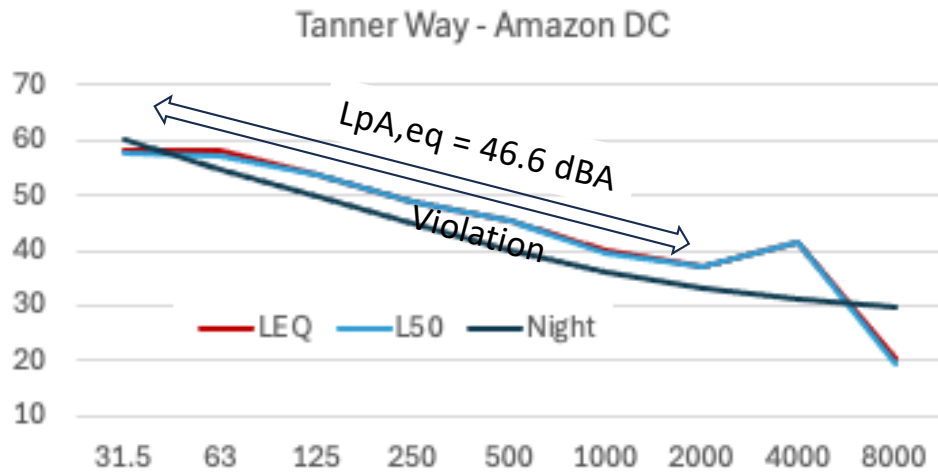
Octave-band sound levels, continuous



	31.5	63	125	250	500	1000	2000	4000	8000
Day: $L_{p,50}$	65	60	55	50	45	41	38	36	35
Night: $L_{p,50}$	60	55	50	45	40	36	33	31	30

Day: $L_{pA,50} \leq 48$	$L_{pC,50} \leq 65$
Night: $L_{pA,50} \leq 43$	$L_{pC,50} \leq 60$

$$L50 \leq Leq$$



L50 highlights the Continuous Noise
 $Leq \approx L50$ in this case
 Indicates the noise is continuous
 $LpA,eq = 46.6$ – No Violation?
 Violations in L50 Octave Bands
 @ Night Criterion

Time-Varying Noise
 $Leq > L50$