We establish weighted $L^2$-estimates for the wave equation with a damping term and a space-time dependent potential $a(x,t)$ in $\mathbb{R}^n$. Fourier analysis remains a powerful tool when the potential $a = a(t)$ is a function of time and has been used by many authors to derive sharp decay estimates. When $a = a(x)$ the Fourier technique becomes cumbersome. In general multiplier techniques yield weak, dimension-independent decay estimates. Recently, a strengthened multiplier method has been developed for the dissipative wave equation with $x$-dependent potential $a(x,t) = a(x)$. The method gives sharp results. Our approach is a nontrivial application of this strengthened multiplier method to the case of dissipative equation with space-time dependent potential $a(x,t)$. We derive sharp decay estimates of the energy and the $L^2$ norm of solutions. (Received September 19, 2007)