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As has been noticed recently (work by K. Kirsten, P. Loya and J. Park),  $\zeta$ -functions associated with general self-adjoint extensions of Laplace-type operators over conical manifolds have, in general, countably many logarithmic branch cuts on the non-positive real axis and unusual locations of poles with arbitrarily large multiplicity. For example, at  $s = 0$  the  $\zeta$ -function might have a pole of order one as well as logarithmic singularities. As a consequence, the standard  $\zeta$ -regularized determinant will in general not be well-defined. However, a natural prescription is to subtract the singularities and consider the determinant related to the resulting 'regularized'  $\zeta$ -function. This is the procedure employed and closed answers are found showing explicitly the dependence of the determinants on the self-adjoint extensions considered. For cases when the  $\zeta$ -function is analytic at  $s = 0$ , standard results are recovered. (Received January 26, 2006)