Abstract: Parking decks enable many cars to park in a limited area. That is why they have been and still are an important part of urbanistic development. Combined with a more sensitized relation in society regarding sustainability a feasibility study as well as a research and development project on the use of timber in the construction of parking garages was conducted at the Technische Universität München, Germany. During the project, a hybrid construction for a flexible implementation in different types of parking garages was developed under consideration of requirements such as bearing capacity, serviceability, fire safety, durability and economics. The specific characteristics of this project are described in the following paper.