

# The 1952 Roadmap of von Braun, Ley, and Bonestell

Total available payload in circum-Martian orbit

approx. 600 t

Total available payload on Mars' surface

149 t

Number of space ships

10

Number of landing boats

3

Required number of ferry vessels

approx. 46

Required number of ferry flights

950

Required time on ferrying operation

approx. 8 months

Propellant cost for ferrying operation

approx. 500 million dollars