

?????, ?????, ??????, ?????????????? ???????? (???????, 14. I 1935). ?????????? ?? ?? ?????????????? ?????? ?????????? ?????????? ? ?????????? 1960, ?????????????? 1965. ? ?????????????? 1966. ?? ?????????????????? ?????????????? ? ??????????. ?? 1960. ?? 1961. ????? ?? ??? ??????? ?? ?????????? ? *Hamburger Hochbahn* ?G ? ?????????, ?????? ?? ??????? ?????????? ?????? ????????? ??????? ? ??????????. ?????????????? ?? ??? ?????? ??????, ??? ?? ?????????? ?? ?????????? ?????????? ?????? ??? ?????? ?????????????, ?????????? ???????, ?????????????? ?? ?????????????? ??????? ?? ?????????????? ? ???. ?????? ? ???, ??? ?? ?????? (1961–1963) ?? ?????? ?????????? ?????? *Wilbur Smith Associates* (?? ??????, ?????????????), ?? ?????????? ?????????? ??????????????. ?? ?????????? ?? ?????????????????? ?????????????????, ??? ?? ?????????? ?????????? ?????????????? ?????????, ?????????? ?? 1967, ? ?????????? ?????????? ?? ?? 1975. ?????????????? ?????????????? ?????????? ?? ??????? ?? ?????????????????? ??????????????????. ?????? ?? ?????????????????? ?????????????? ? ?? ?????????????????? ?????????????? ?????????????? ?????? ??, ??????? ?????????????????? ? ?????? ??????????????????. ?????????? ?? ?????????? ?????? ? ?????????? ??????????. ?????????????? ?????? ?? ?????? *Urban Public Transportation; Systems and Technology* (Prentice-Hall 1981). ?????????? ?? ?? ?????? ??????, ?????????????? ??????? (????? ?????????? ?????????: ????????? ? ?????????, ?? 1987). ?? ?????????????? ?????? ?????? ?????????? ?? 1994. ????? ? ???.

?????: ?????????, *Public Transportation: Planning, Operations and ?anagement*, New ?ersey 1979; *Transportation for Livable Cities*, New ?ersey 1999; *UrbanTransit Operations: Planning and ?conomics*, Hoboken – New ?ersey 2005; *UrbanTransit Systems and Technology*, Hoboken – New ?ersey 2007.

?????????????: ?????????????? ?????????? ?????? ? ?????? – ?? ?? ?? 1996/99?, ?? – ??? ?????????? 1999; ?. ???????, ?????????? ?????????? ?????????????, ?? 2010.

?????????? ???????

*????? ?? ?????????? ? ?????? II ?????? ?????????? ?????????????????? (2013)