

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Property relationships of the physical infrastructure and the traffic flow networks¹ TA ZHOU, SHENG-RONG ZOU, DA-REN HE, Yangzhou University — We studied both empirically and analytically the correlation between the degrees or the clustering coefficients, respectively, of the networks in the physical infrastructure and the traffic flow layers in three Chinese transportation systems. The systems are bus transportation systems in Beijing and Hangzhou, and the railway system in the mainland. It is found that the correlation between the degrees obey a linear function; while the correlation between the clustering coefficients obey a power law. A possible dynamic explanation on the rules is presented.

¹Supported by the National Natural Science Foundation of China under grant Nos 10635040 and 70671089.

Da-Ren He
Yangzhou University

Date submitted: 02 Nov 2009

Electronic form version 1.4