§ 31. Scope of authority's jurisdiction. The territorial jurisdiction of an authority established for a city or village shall be coterminous with the territorial limits of such city or village, and the territorial jurisdiction of an authority established for a town shall include all such town, except that such territorial jurisdiction shall not include any territory that lies within the boundaries of any village, whether such village has or has not established an authority. The members of such town authority shall if they consent and when authorized by resolutions of the town board and the village board, act as the authority in and for said village, the same as if it had been created especially for said village.