

Density Requirements for Urban Services



Service Type *Density* *Notes* *Source*

Transportation

Local Bus *Housing: 7 d.u. / acre*
Population: 5-6K people/mi²
 Every 30 mins *Commercial: 8-20 million ft²*
 As the length of the service trip increases, the speed of the bus service declines due to on-street congestion and more frequent passenger pick-up/drop-off spots. *Toolbox for Alleviating Traffic Congestion*

Frequent/Express Bus *Housing: 15 d.u. / acre*
Population: 8-10K people/mi²
 Every 10 mins *Commercial: 20-50 million ft²*
 A frequent bus or express route operates most efficiently by boarding passengers at a few designated stops while supported by park-n-ride lots to concentrate and maximize pick-up points. *Toolbox for Alleviating Traffic Congestion*

Light Rail *Housing: 20-30 d.u. / acre*
Housing: 9-12 d.u. / acre
Population: 8-10K people/mi²
Commercial: 35-50 million ft²
 Light rail service can be suitable at lower densities, though longer travel distances with higher speeds requires greater concentration of people and services to be viable. *Best Development Practices*
Toolbox for Alleviating Traffic Congestion

Commuter Rail *Housing: 1-2 d.u. / acre*
Commercial: 100 million ft²
 Commuter rail's qualities of high speed, infrequent service and greater station spacing allows this mode to serve larger regions, particularly low density suburbs. *Toolbox for Alleviating Traffic Congestion*

Retail

Local Retail *Retail: 30,000 ft²*
Housing: 12K-15K units
(within 1/2 mile)
How to calculate neighborhood retail demand
 Desired Retail (ft²) x Sales Required per ft² (\$) x (local retail expenditures / Household Income) = Households Needed (25%-35% from locals) *New Urban News*

Grocery Store *Supermarket: 30K-50K ft²*
Housing: 6K-8K units
(within 1/4 mile)
 These figures assume the full patronage of local residents within walking distance of a supermarket and without the need for shoppers outside the area. *International Council of Shopping Centers*

Source

New Urban News (2004), *How to Calculate Demand for Retail*
http://www.sanjoseca.gov/planning/gp_update/documents/NewUrbanNews_v9no2_p1.pdf

A Toolbox for Alleviating Traffic Congestion (1989), Institute for Transportation Engineers

Reid Ewing (1996), *Best Development Practices*, Planners Press