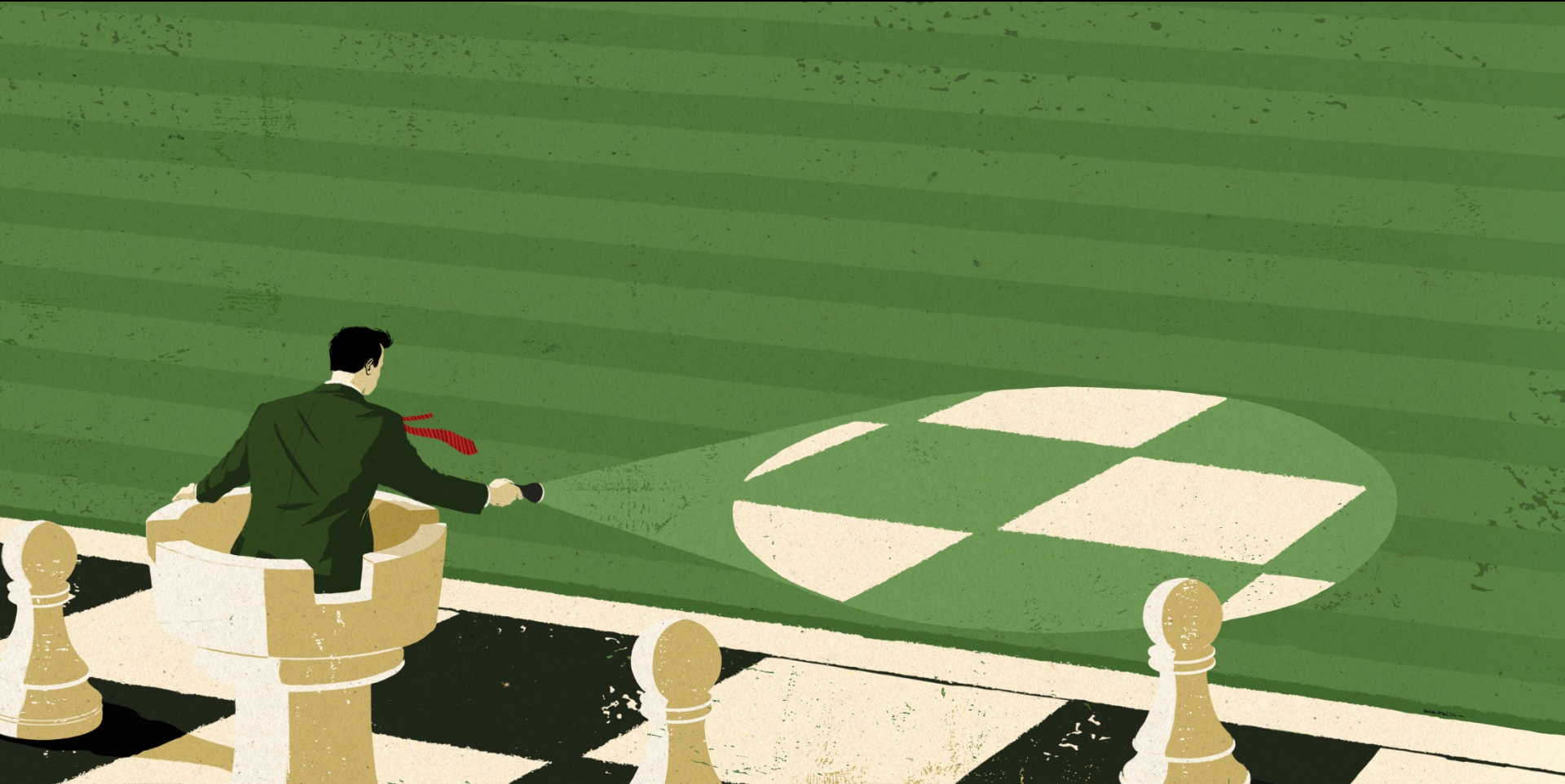


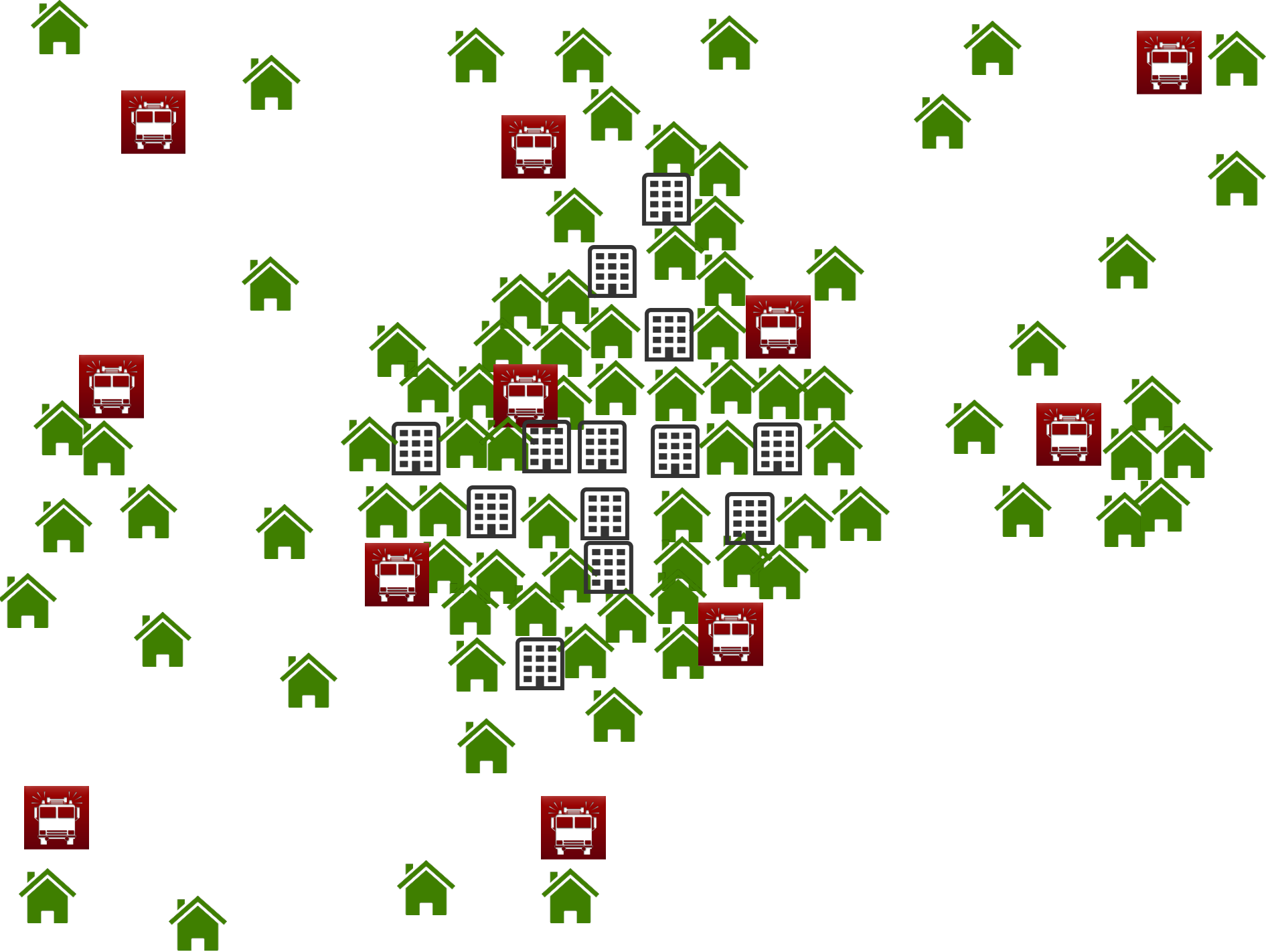
MUNICIPAL COSTS AND SERVICES, A LAND USE COMPARISON

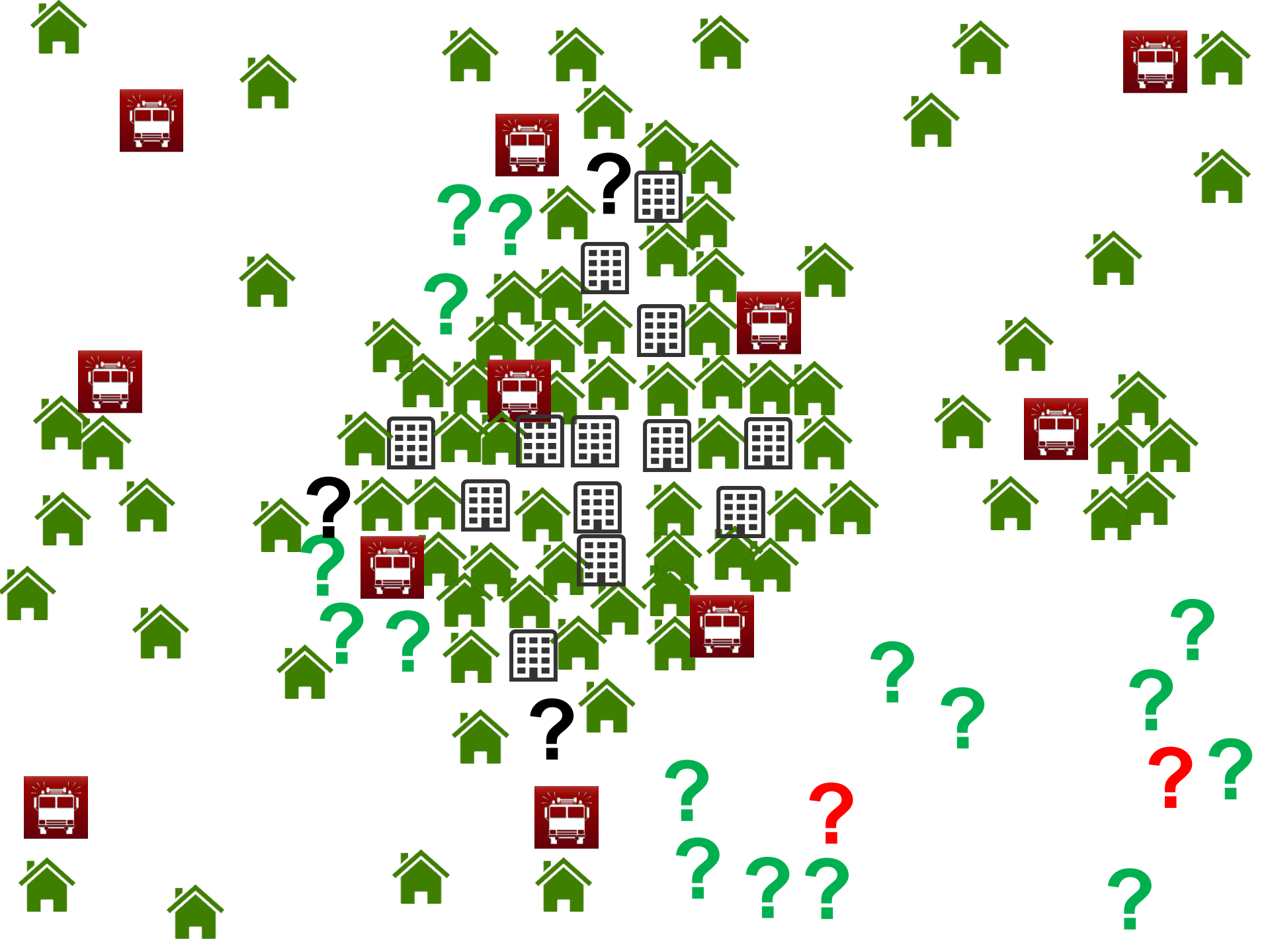


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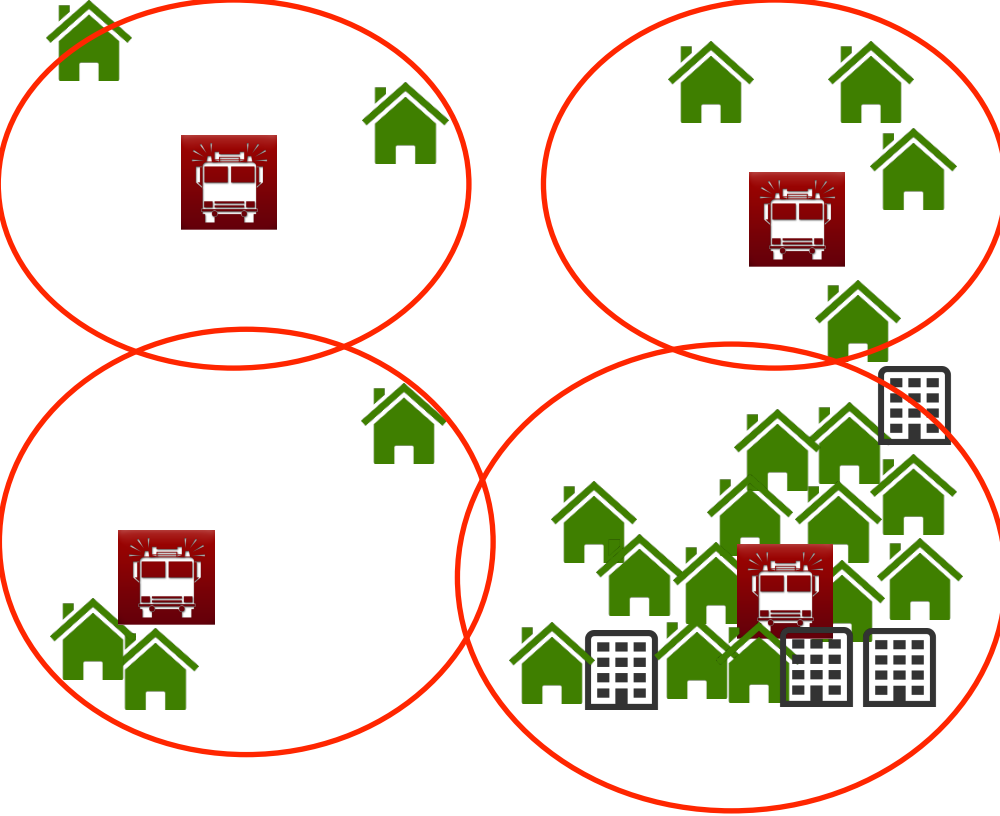








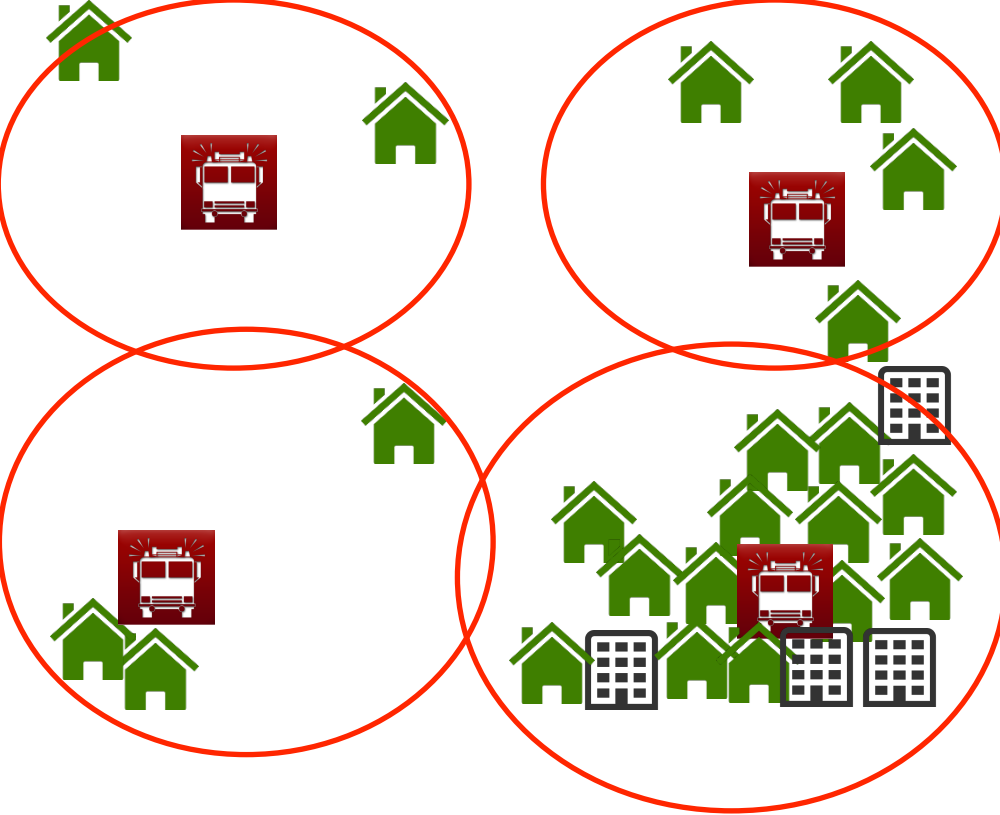
Fire Protection Costs



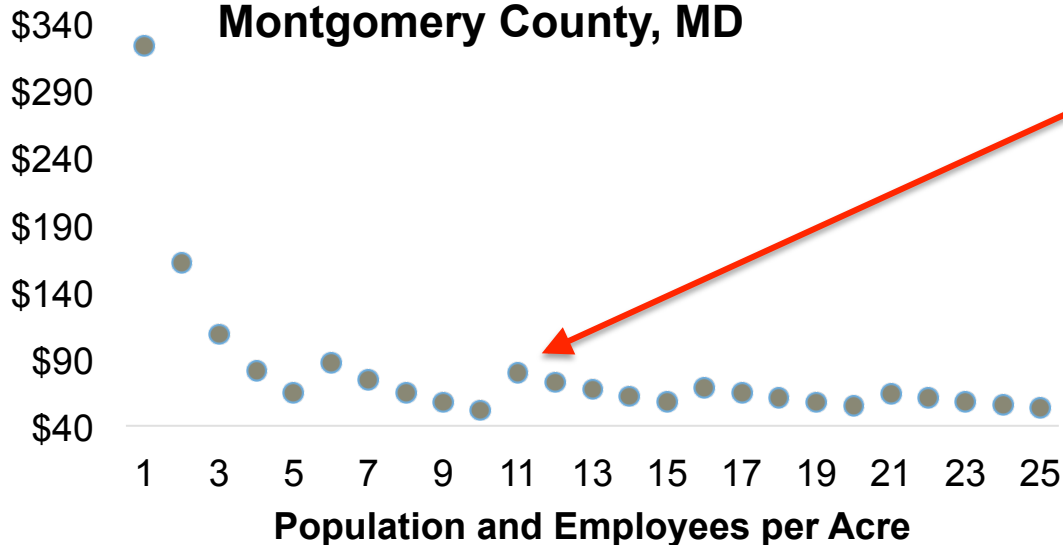
Fire Protection Costs Increase Dramatically at Very Low Densities

Determinants of Operating Efficiency

- Response Shed Size
- Population Density
- Rate of Calls per Population
- Capacity per Fire Engine

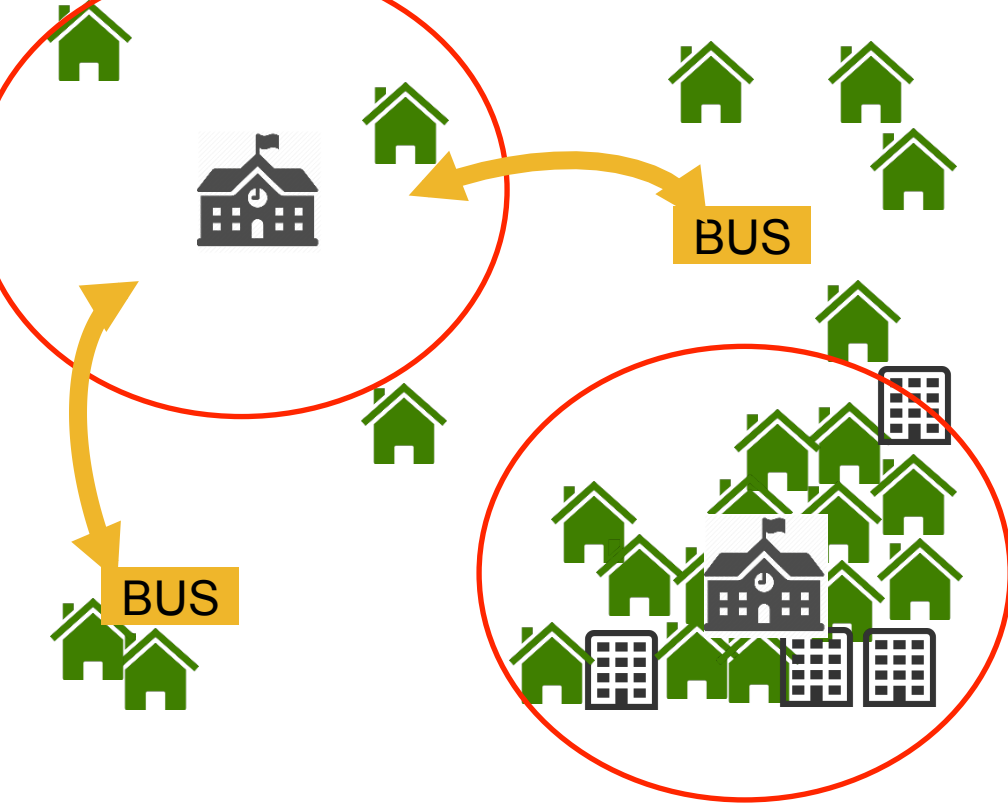


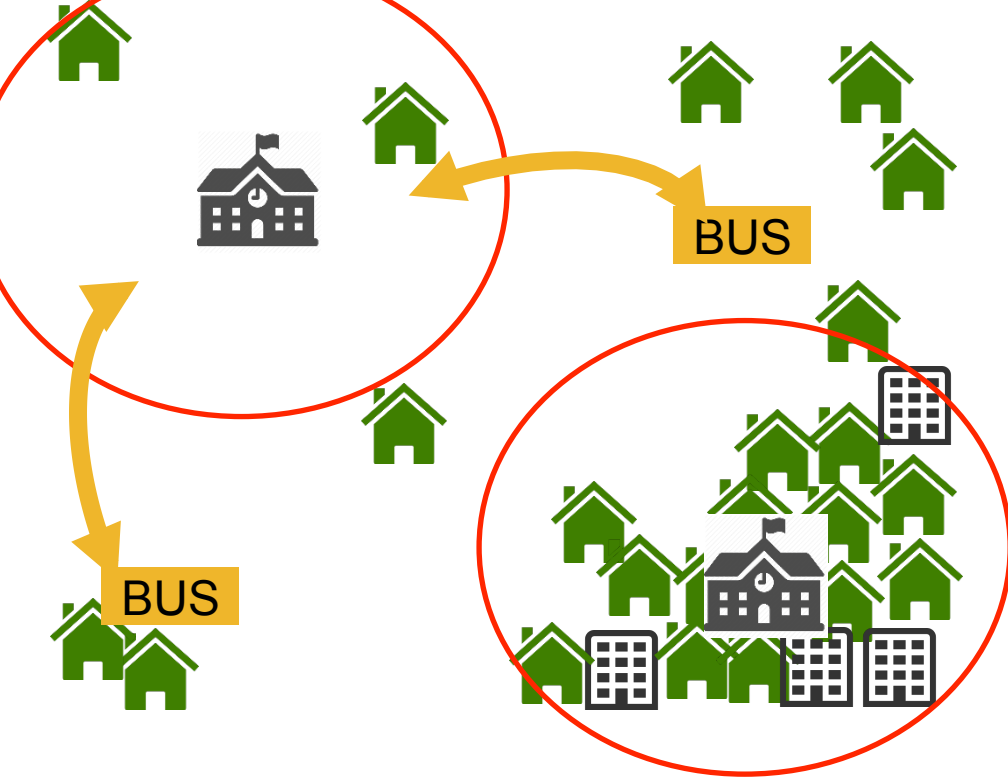
**Fire Protection Cost per Capita
Montgomery County, MD**



Costs per capita decrease until engine capacity is filled requiring the expense of a new engine

School Transportation Costs

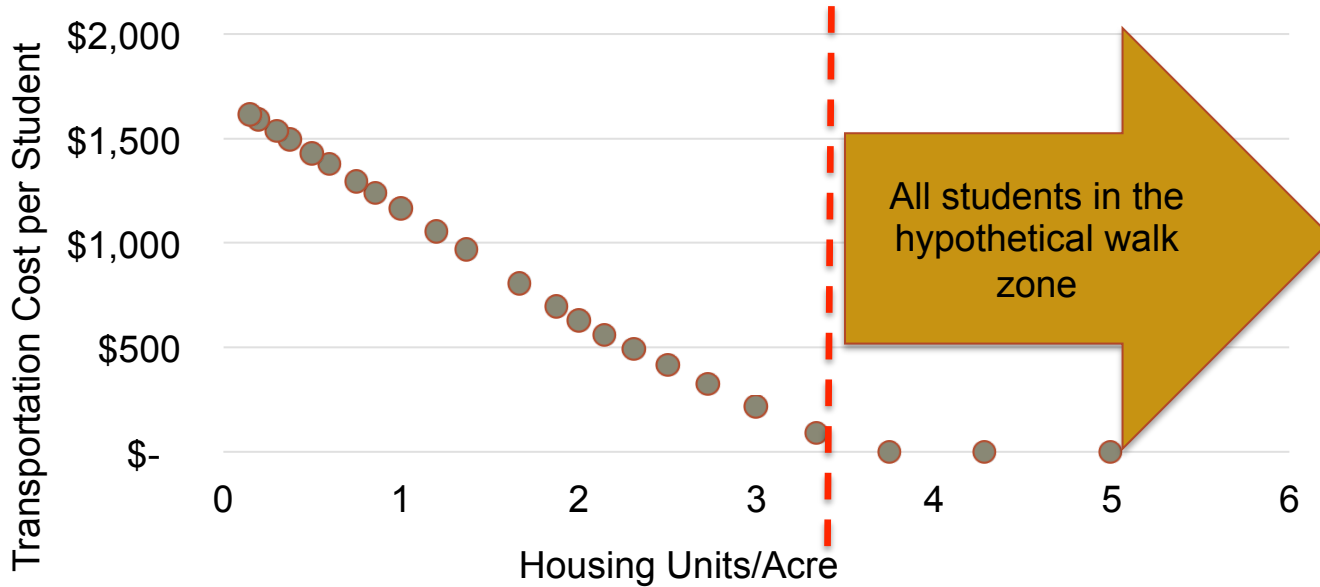




School Transportation Costs Increase Once Lower Densities Cause More Students to Live Outside The Walk Zone

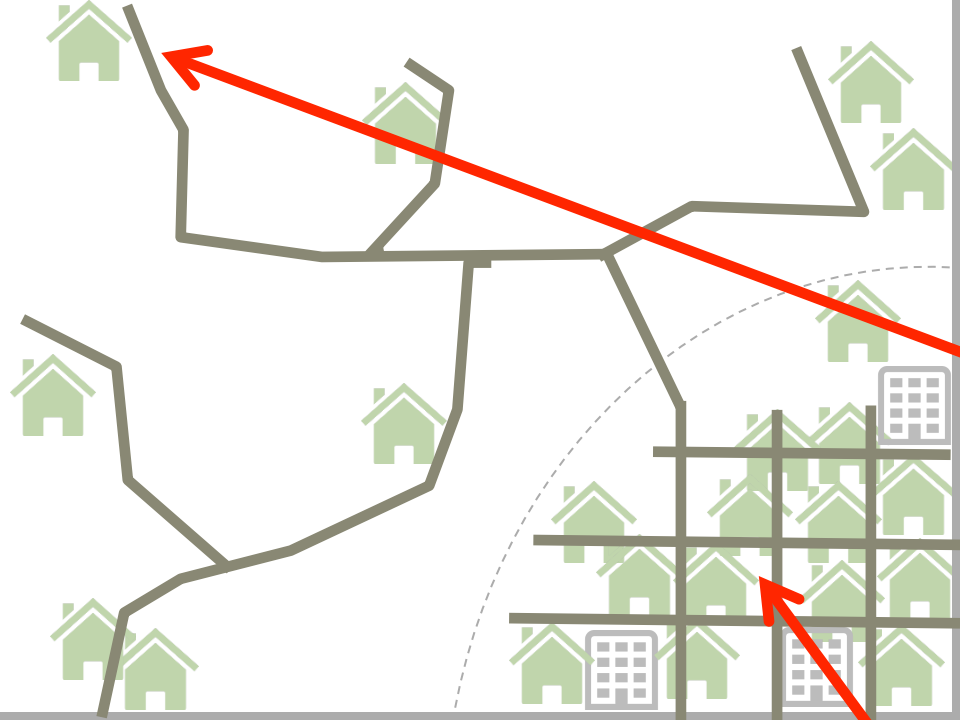
This analysis is using average walk zones and typical scenarios, and does not take into effect the “case by case” basis reality that if there is a busy road near a school a zone might decrease dramatically from the norm

School Transportation Costs by Student Density



Road Length and Area per Capita





Road Length and Area per Capita Decreases as Density Increases

Suburban Residential (ex: Potomac, Poolesville)



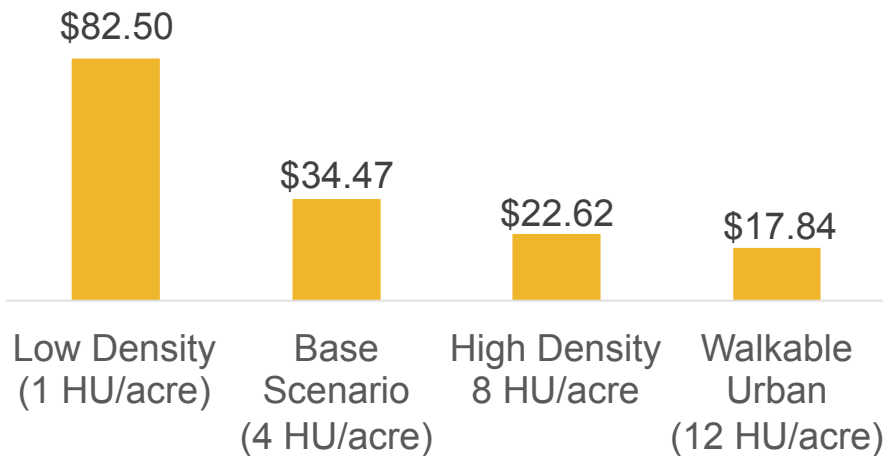
Residents: 325
 Employees: 55
 Total: 380
 Total Res. & Emp Per Acre: 2.2
 Total Road Area: 354,000 SF
 Road Area per Capita: **1,100 SF**

Downtown Urban (ex: Bethesda, Silver Spring)

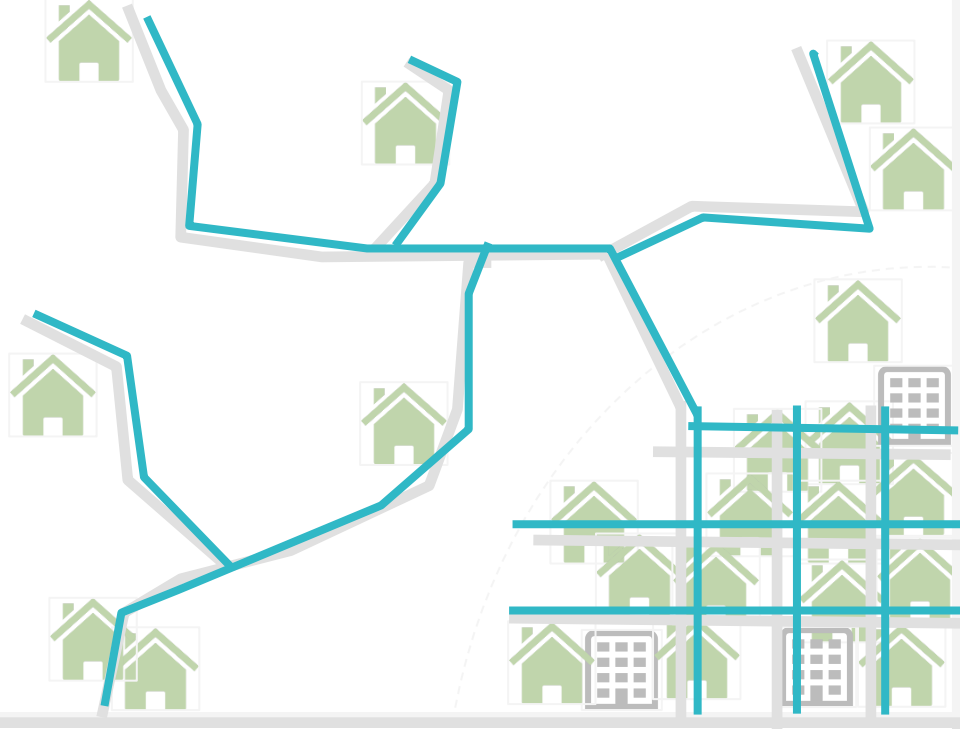


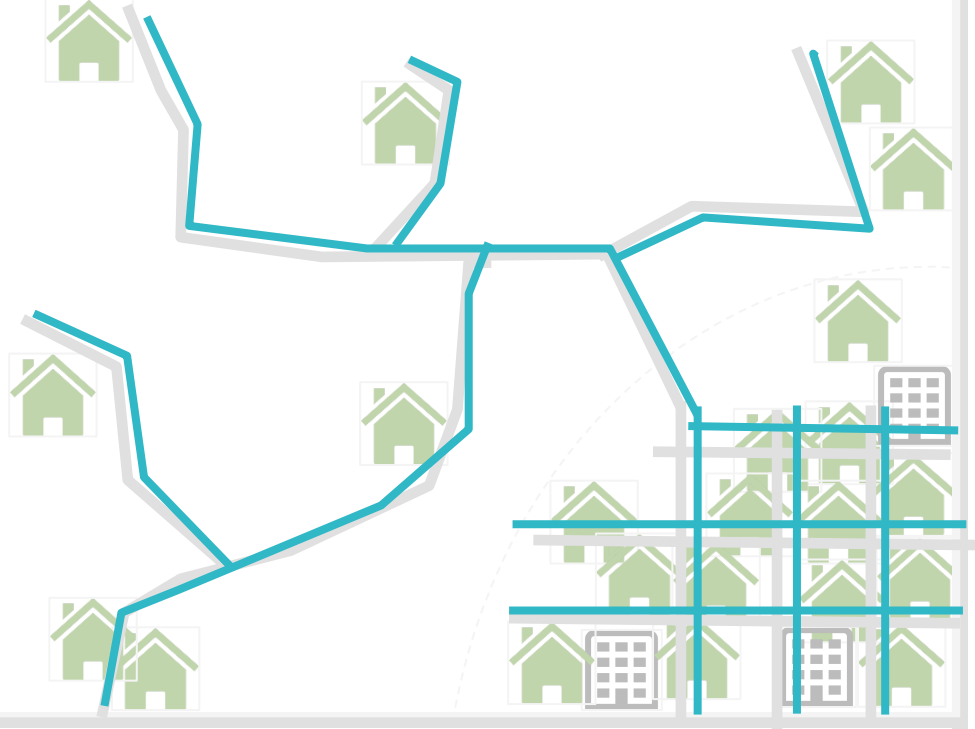
Residents: 4,000
 Employees: 11,000
 Total: = 15,000
 Total Res. & Emp Per Acre: 100
 Total Road Length: 1,150,000 SF
 Road Length per Capita: **77 SF**

Road Cost per Capita by Density

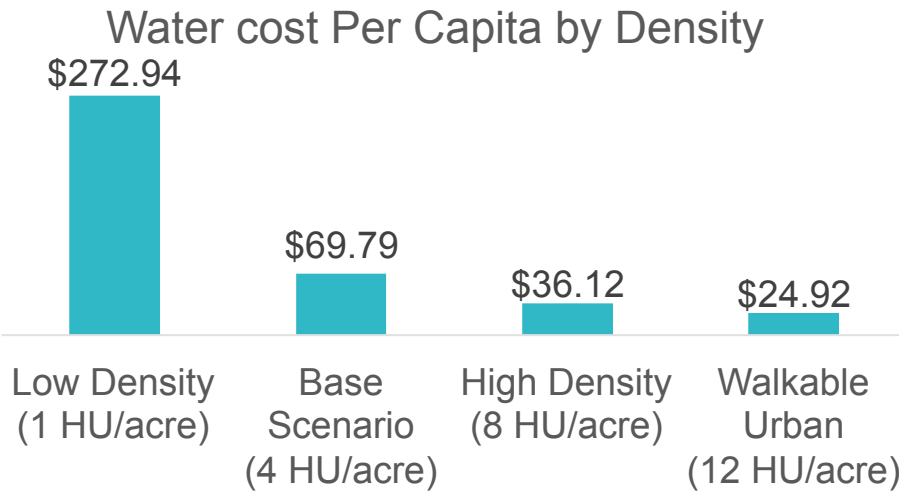
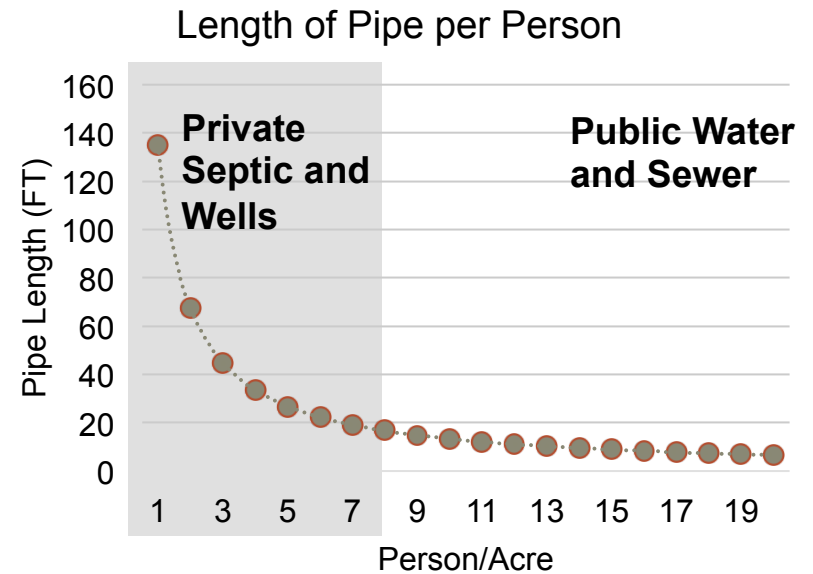


Pipe Length and Area per Capita





Pipe Length and Area per Capita Decreases as Density Increases (No water files provided so roads Used as a proxy)

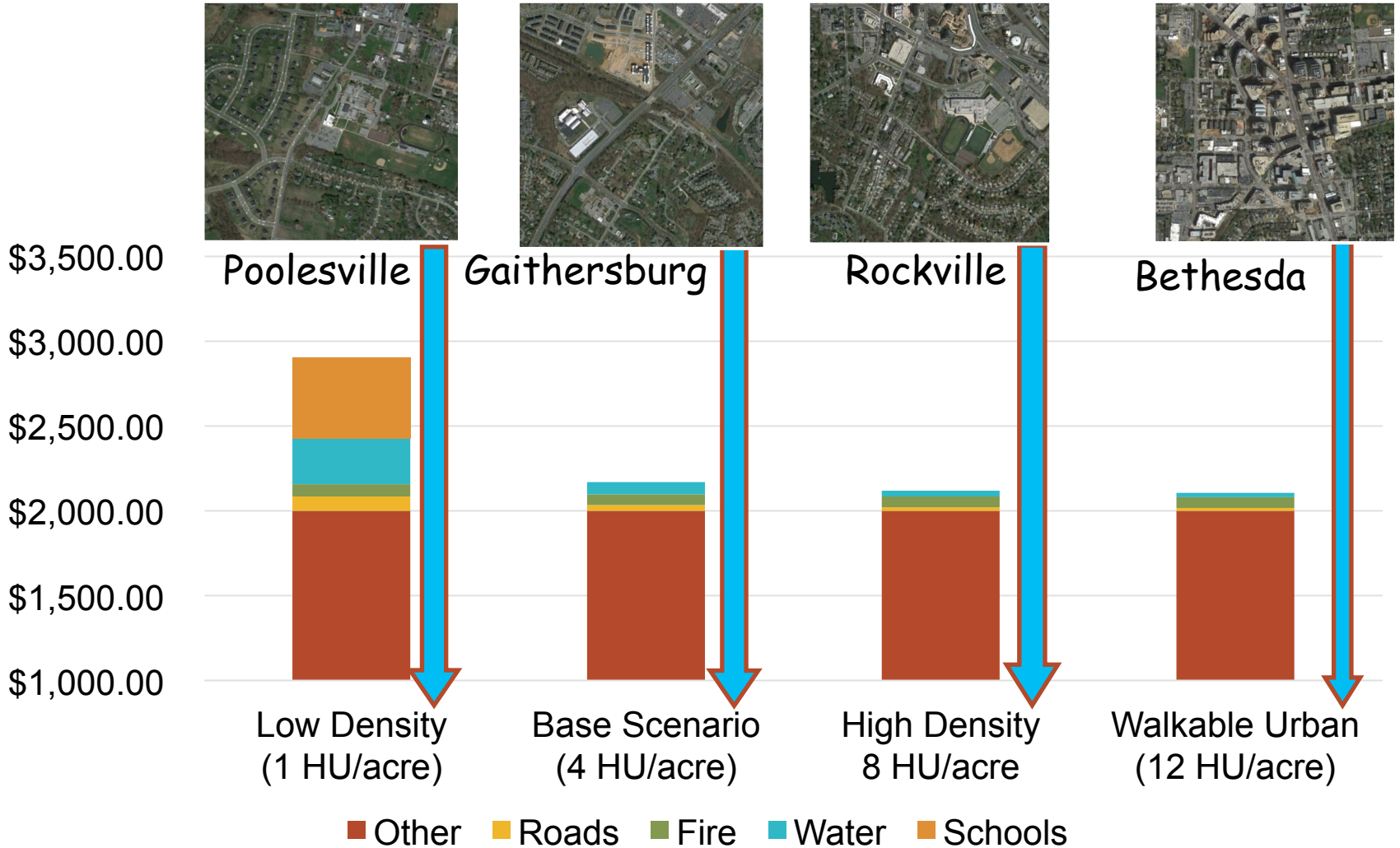


At lower densities of development, Montgomery County does not provide public water or sewer (approx. 8 people per acre or less). For the purposes of this model we have assumed water was provided throughout, although this is one situation in which very low density development may save the city money as no water or sewer is provided.

FISCAL PLANNING FOR FUTURE GROWTH AND DEVELOPMENT

Unit Type	Low Density	Base Density	Higher Density	Walkable Urban
Single-Family Detached	1,500	1,500	1,500	1,500
Townhouses	500	500	500	500
Multifamily Units	1,000	1,000	1,000	1,000
Total Units	3,000	3,000	3,000	3,000
Commercial SF	2,600,000	2,600,000	2,600,000	2,600,000
Net Residential Density	1.0	4.0	8.0	12.0
Total Gross Area	3,636	936	486	336

MONTGOMERY COUNTY PER CAPITA COUNTY COSTS BY DENSITY



NOTE: Does not include potential density-related savings associated with solid waste or use of existing infrastructure

THANK YOU



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