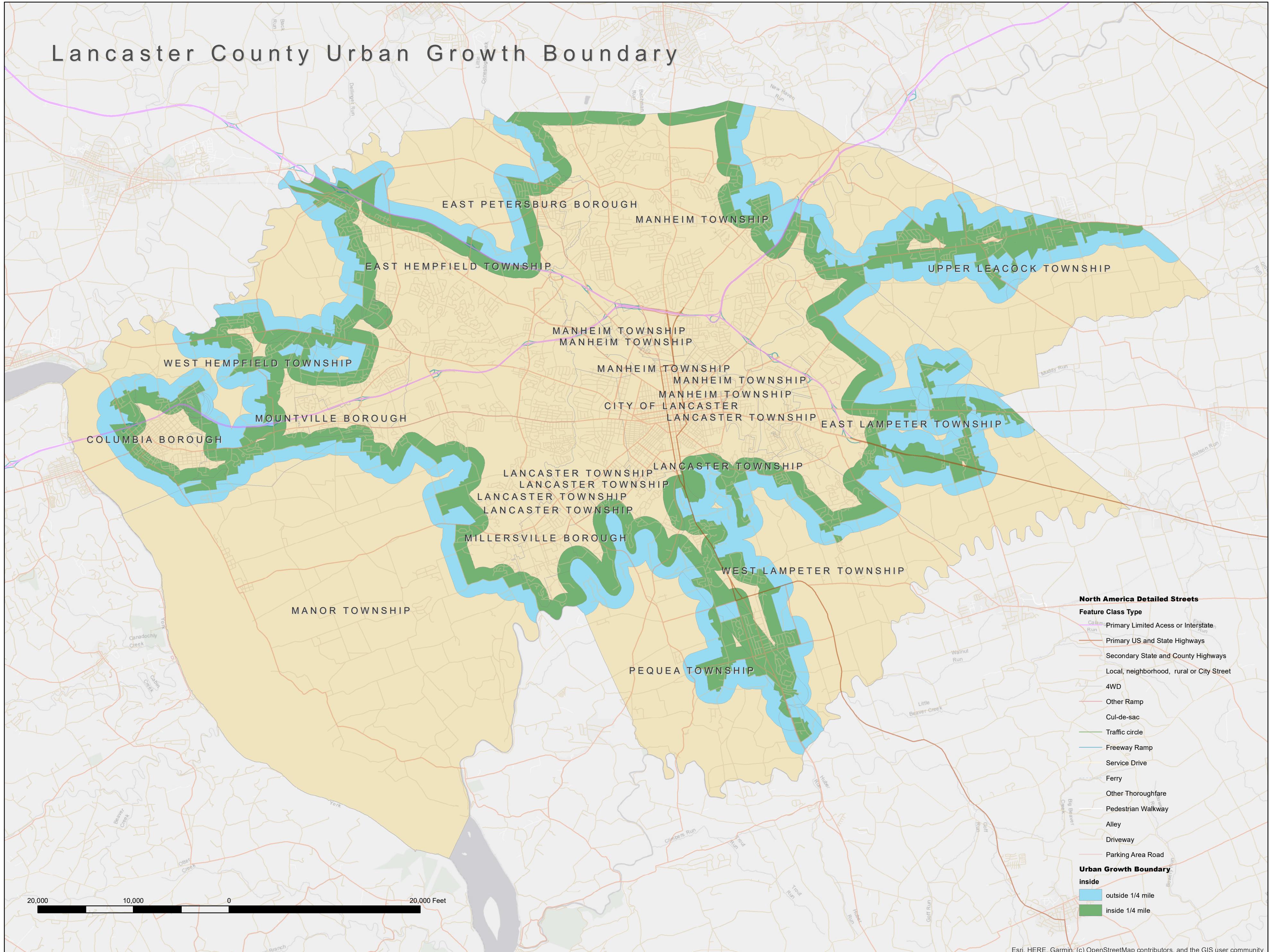


Lancaster County Urban Growth Boundary



Overview of Lancaster County's Extension of Urban Growth Boundary

Infill as a Solution

As Lancaster County seeks to extend the UGB in one town that is best suited for new, infill development just outside the UGB, we drew out spatial analysis across Lancaster County and suggest directions for future research on infill. According to the summary statistics table that contains five variables inside and outside urban growth boundary—sum of daily vehicle miles traveled, mean square foot of parking lot, building density, mean square foot of building areas, and grand shrub land in proposed UGB extension (acres), I would propose West Hempfield Township to be the best qualified municipality to receive the new development permit.

As we would like to encourage infill development near higher densities, we want to maximize difference between densities just inside and outside the UGB and therefore building density should be the most significant factor in deciding where to expand Lancaster County's UGB. After sorting the difference of buildings density inside and outside UGB, we found West Hempfield Township has the largest difference, which is desirable when we want to maximize the difference. Then we think the traffic volume is also crucial for extending UGB. This is because if we have more traffic outside than inside the UGB, extending Lancaster County's UGB would have more potential to create new opportunities to the municipality. In terms of the sum of Daily Vehicle Miles Traveled, West Hempfield Township has the largest difference, which indicated that there are more vehicles traveling outside the UGB.

Municipality	Sum of Daily Vehicle Miles Traveled			Mean Square Foot of Parking Lot			Building Density			Mean Square Foot of Building Area			Grass Shrub(acres)
	Inside	Outside	Difference	Inside	Outside	Difference	Inside	Outside	Difference	Inside	Outside	Difference	
East Hempfield Township	768993	243091	525902	23343.1249	34466.7173	-11123.5924	0.02836	0.000015	0.028345	4014.234601	1027.678729	2986.555872	1365.358298
East Lampeter Township	468281	377524	90757	34266.80218	60141.10245	-25874.30027	0.009277	0.005079	0.004198	3579.376661	8721.131083	-5141.754422	3497.149281
Manheim Township	314456	409475	-95019	23207.79376	78875.93418	-55668.14042	0.000033	0.000076	-0.000043	2706.523906	2804.822104	-98.298198	1120.811379
Manor Township	67169	80963	-13794	8157.451386	42705.99224	-34548.54085	0.000041	0.000033	0.000008	2726.543414	2438.254681	288.288733	1797.521115
Pequea Township	371672	368620	3052	21868.22322	19910.78944	1957.433777	0.000719	0.002154	-0.001435	1992.530192	1488.807904	503.722288	1425.698117
Upper Leacock Township	190785	136644	54141	55498.30227	48428.41124	7069.891025	0.000051	0.001078	-0.001027	4039.133547	2150.335918	1888.797629	2952.942120
West Hempfield Township	1948470	3033982	-1085512	33015.48406	26433.60999	6581.874077	0.059429	0.006136	0.053293	6399.214302	1136.888354	5262.325948	2412.020948
West Lampeter Township	319712	231397	88315	8445.013941	19928.66344	-11483.6495	0.000516	0.000454	0.000062	2104.235089	2093.405289	10.8298	2166.098154

Our next concern is the area in acres of grand shrub land in proposed UGB extension, as we would like to find the municipality with larger field of developable land. West Hempfield Township has the second largest grass shrub land, which also make the municipality ideal for infill development. As the construction of parking lots and allocation of residential areas requires more research of land conditions and traffic volumes, the Mean Square Foot of Parking Lot and Mean Square Foot of Building Area has less significant impacts on the extension of Lancaster County's UGB comparing to previous factors.

To conclude, as shown in the table above, West Hempfield Township is the most suitable municipality to extend Lancaster County's Urban Growth Boundary as it has larger building density and daily vehicle miles traveled difference and larger area of developable land. There are also several primary and secondary highways run across the municipality, as shown in the map, which would bring more future opportunities to West Hempfield Township.

