

Socio-Economic Data Adjustment Steps to Reflect 2030 No-Action Development Patterns

A No-Action scenario will be modeled to develop a baseline for alternatives analysis for the Ohio River Bridges Supplemental EIS. The current KIPDA¹ 10PlanA model includes the Ohio River Bridges project in its transportation network. Thus the model uses a distribution of population and employment that reflects the presence of the project. In order to model a No-Action scenario, a corresponding socio-economic dataset must be developed. The purpose of this exercise is to derive a distribution of population and employment across the Louisville region assuming a No-Action transportation network – without the Ohio River Bridges project – to be used as input for the No-Action scenario.

The general approach in developing the No-Action socio-economic forecasts was to adjust the 10PlanA socio-economic forecasts (by TAZ) to reflect a distribution across the region with a No-Action transportation network. A similar Build-to-No-Action redistribution of socio-economic data was performed in January, 2001 in support of the FEIS. The al Chalabi Group, Ltd. conducted an in-depth socio-economic development and accessibility impact analysis of the FEIS No-Action alternative. A review of 1990 to 2000 census data (leading into the al Chalabi report and 2003 FEIS) and then 2000 to 2010 census data (leading into the 2011 SFEIS) shows relatively consistent development patterns between both 10-year time periods. Likewise, the increases in population and employment in the 2025 and 2030 land use forecasts (under a two-bridge scenario) used in the FEIS and SFEIS, respectively, reflect similar expectations in regional growth trends. For these reasons it was determined that the most straightforward and acceptable procedure for developing the 2030 No-Action socio-economic data for the SFEIS was to replicate the adjustments used in the FEIS. Our approach was to apply the 2001 No-Action redistribution to the current TAZ structure while holding the 10PlanA regional totals for population and employment projections constant.

After the SFEIS No-Action socio-economic data set was developed, it was sent to KIPDA on March 22, 2011 with an accompanying memorandum explaining the process used. A conference call with KIPDA was held on March 25, 2011 to discuss the dataset and memorandum. KIPDA reviewed the information and had no comments. However, it is not within their purview to provide formal approval of the data.

A summary table comparison of the adjustments by county concludes this document. Several main obstacles existed in conducting this transfer as listed below:

1. The KIPDA model's TAZ system during the previous study (in 2001) and the current 10PlanA model's system are different. The number of internal zones has increased from 757 to 807. In addition, many of the zones boundaries have been realigned.
2. At the TAZ level, estimated growth between the model's base year and forecast year has changed. Specifically, for any TAZ, the estimated growth for one socio-

¹ The Kentuckiana Regional Planning and Development Agency (KIPDA) provides staffing services to the Louisville MPO and, therefore, the traffic model and certain planning documents are often referred to as the KIPDA model or KIPDA plans, as appropriate.

economic indicator from 1990 to 2025 (the previous study's timeframe) was often different than the estimated growth projected from 2012 to 2030. For areas originally estimated to have a negative adjustment relative to the build scenario, the magnitude of the adjustment could not exceed the growth projected from 2012 to 2030.

3. The non-retail employment data has been disaggregated into service and office employment. The transfer of the non-retail employment adjustments from the old TAZ system to the new TAZ system needed to accommodate both the service and office growth projections in the same manner as described above in 2.

Total Employment

Changes to the total employment variable were done on a zone-by-zone basis. Increases were made based on a one-to-one relationship if an equivalent zone existed in both the 757 and 807 zone systems. If a zone in the 757-zone system covered, fully or partially, several zone in the 807-zone system, the increase was distributed to each of the zones.

Decreases to the total employment variable were also made on a one-to-one basis. Similarly, if the zone from the 757-zone system covered, fully or partially, several zones from the 807-zone system, the decrease was distributed to each of the zones. Additionally, at the zone level the magnitude of the decrease was constrained by the amount of growth projected between the 2012 and 2030 socio-economic forecasts. If the amount of growth projected was less than the magnitude of the required decrease, the remaining portion of the decrease was applied to adjacent zones. Further, if adjacent zones did not have the projected growth to support the decrease, "feeder" zones were found in a radial search of nearby zones.

Retail Employment

Changes to the retail employment variable were initially based on 10 percent of the total employment adjustment. Using 10 percent of the total employment adjustment is consistent with the assumptions made in developing the No-Action scenario in 2001 for the EIS. After this initial calculation, zones with decreases were checked to insure the adjustments did not exceed the projected growth forecasted in retail employment. Individual zones were adjusted further if the initial decrease in retail employment exceeded the forecasted growth.

Non-Retail Employment (Service and Office)

Increases in the non-retail employment variable were simply calculated as the difference between the total and retail employment adjustments (total – retail = non-retail). The portion of the increase applied to the service employment was based on the existing (2012) ratio of service to office employment at the individual zone level. The increase for office employment was merely based on the total employment increase less the retail and service adjustments.

Similar to the increases, decreases in the non-retail employment variable were simply calculated as the difference between the total and retail employment adjustments (total – retail = non-retail). The portion of the decrease applied to the service employment was based on the forecasted growth (2030-2012) ratio of service to office employment at the individual zone level. The decrease for office employment was merely based on the total employment decrease less the retail and service adjustments. After these initial calculations, zones with decreases were checked to insure the adjustments for both service and office employment did not exceed the projected growth forecasted in both employment categories.

As stated previously, the decreasing adjustments for both service and office employment were constrained at the zone level by the magnitude of the forecasted growth. At the same time the increasing adjustments were not constrained. Therefore, as a final calculation the increasing adjustments for service and office employment were normalized to the regional decreasing adjustment totals.

Population

Changes to the population variable were done on a zone-by-zone basis. Increases were made based on a one-to-one relationship if an equivalent zone existed in both the 757- and 807-zone systems. If the zone in the 757-zone covered, fully or partially, several zones in the 807-zone system, the increase was distributed to each of the zones.

Decreases to the population variable were also made on a one-to-one basis. Similarly, if the zone in the 757-zone system covered, fully or partially, several zones in the 807-zone system, the decrease was distributed to each of the zones. Additionally, at the zone level, the magnitude of the decrease was constrained by the amount of growth projected between the 2012 and 2030 socio-economic forecasts. If the amount of growth projected was less than the magnitude of the required decrease the remaining portion of the decrease was applied to adjacent zones. Further, if adjacent zones did not have the projected growth to support the decrease, “feeder” zones were found in a radial search of nearby zones.

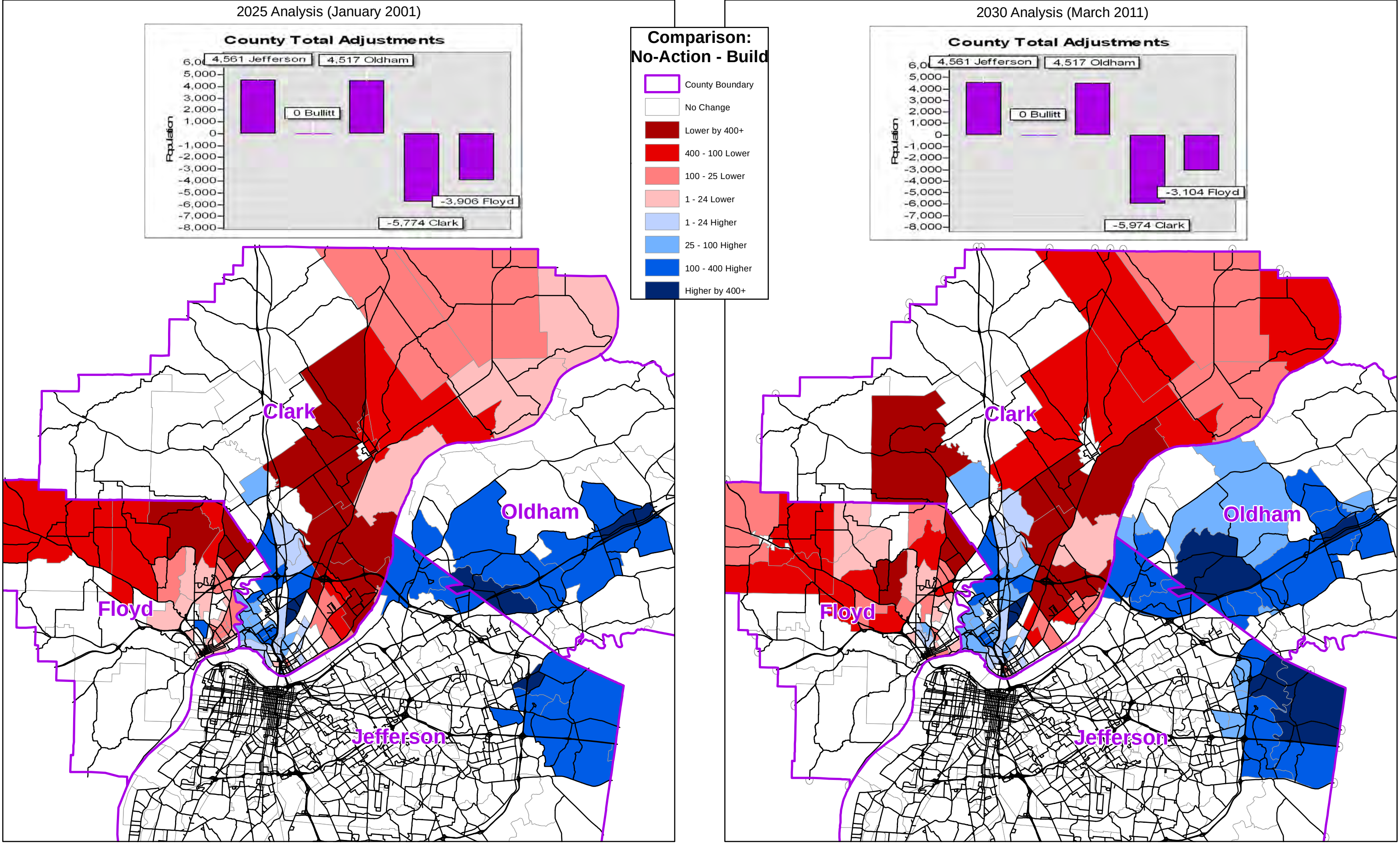
Households

The changes in the household variable were determined by simply multiplying the adjustment in population by the forecasted ratio of population growth divided by household growth. For zones with a decreasing population adjustment, the magnitude of the household decrease was constrained by the amount of growth forecasted between 2012 and 2030 for each individual zone. A final calculation normalized the increasing adjustments for households to the regional decreasing adjustment totals.

Comparison of January 2001 and March 2011 No-Action Socio-Economic Adjustments

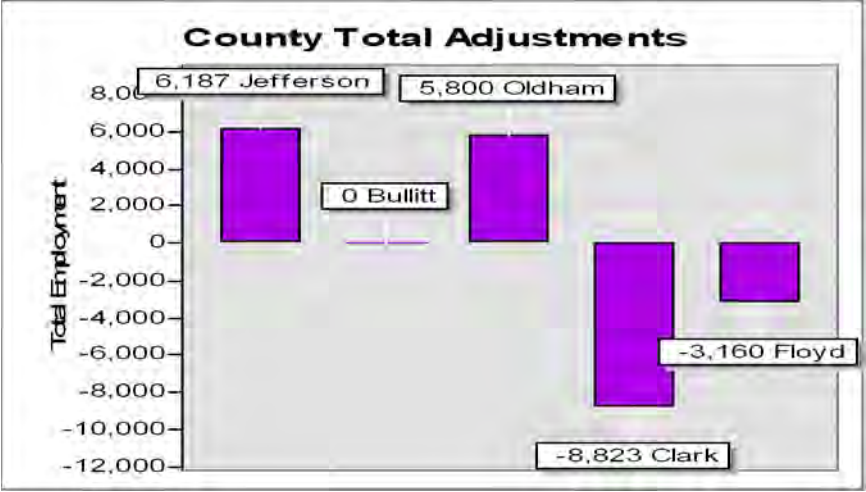
January 2001 Adjustments	Total Emp.	Retail Emp.	Non-Retail Emp.	Service Emp.	Office Emp.	Population	Household
Jefferson	6,187	619	5,568			4,561	1,633
Buillitt	0	0	0			0	0
Oldham	5,800	580	5,312			4,517	1,530
Clark	-8,823	-838	-7,984			-5,174	-1,702
Floyd	-3,160	-306	-2,855			-3,906	-1,457
Zones Adjusted	125	112	125			115	113
Zones Adjusted Up	50	44	50			57	57
Zones Adjusted Down	75	68	75			58	56
Total Increase	14,331	1,433	12,989			12,493	4,610
Total Decrease	-	-	-			-	-
	14,327	-1,378	12,948			-12,495	-4,606
March 2011 Adjustments	Total Emp.	Retail Emp.	Non-Retail Emp.	Service Emp.	Office Emp.	Population	Household
Jefferson	6,187	619		845	4,723	4,561	2,287
Buillitt	0	0		0	0	0	0
Oldham	5,800	580		610	4,610	4,517	2,265
Clark	-8,790	-791		-465	-7,534	-5,974	-3,088
Floyd	-3,197	-408		-990	-1,799	-3,104	-1,464
Zones Adjusted	161	137		139	156	129	129
Zones Adjusted Up	64	59		60	64	76	76
Zones Adjusted Down	97	78		79	92	53	53
Total Increase	14,331	1,435		1,706	11,190	12,493	6,267
Total Decrease	-	-		-	-	-	-
	14,331	-1,435		1,706	-11,190	-12,493	-6,267

2025 and 2030 Comparison of No-Action to Build Socio-economic Data:
Population

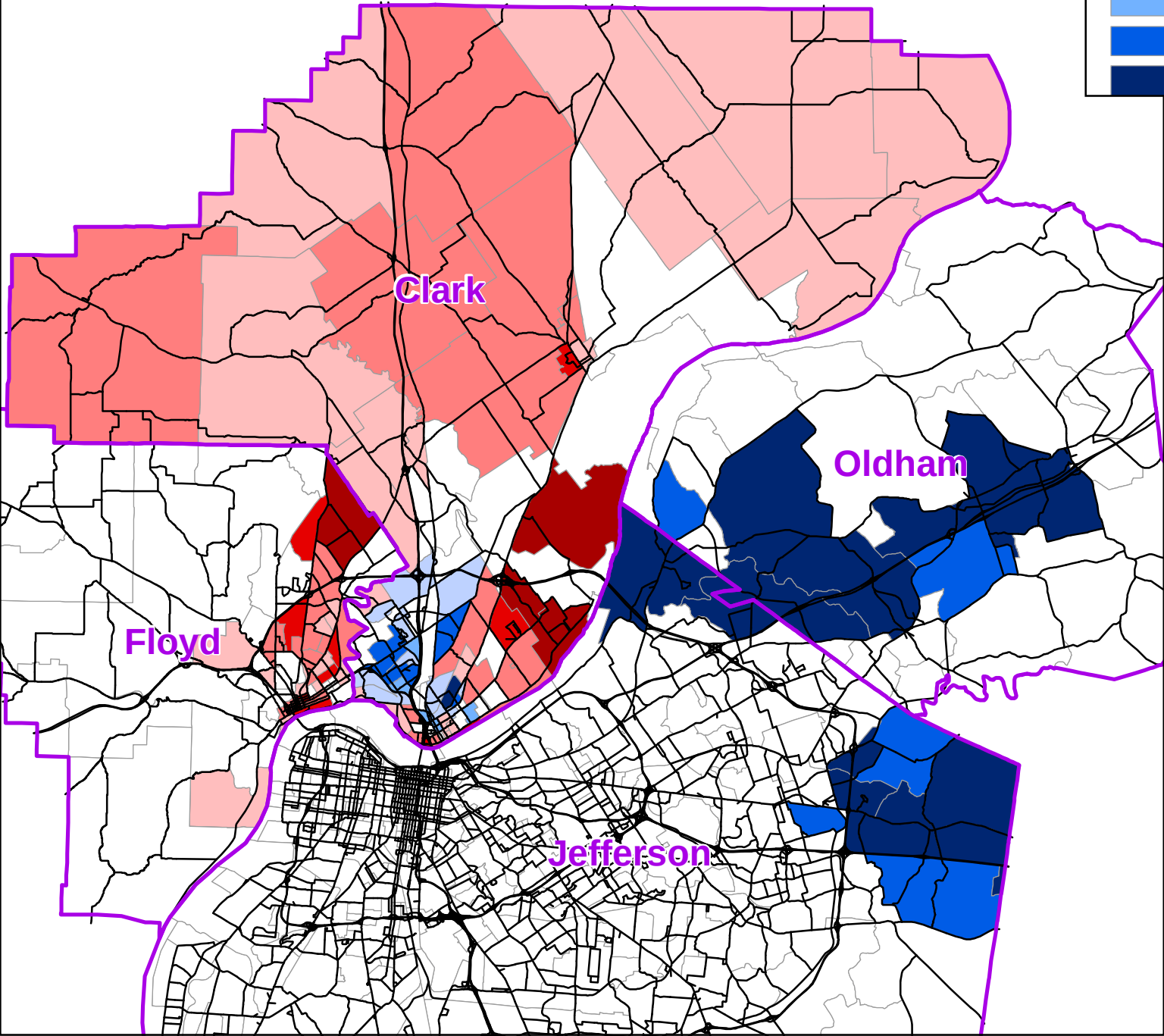
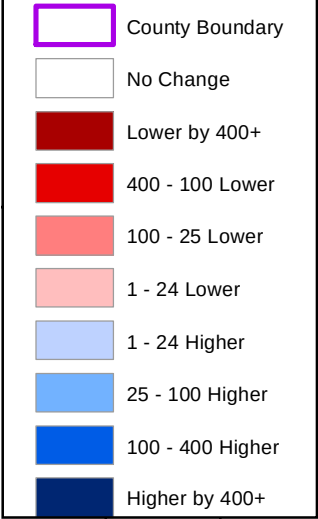


2025 and 2030 Comparison of No-Action to Build Socio-economic Data:
Total Employment

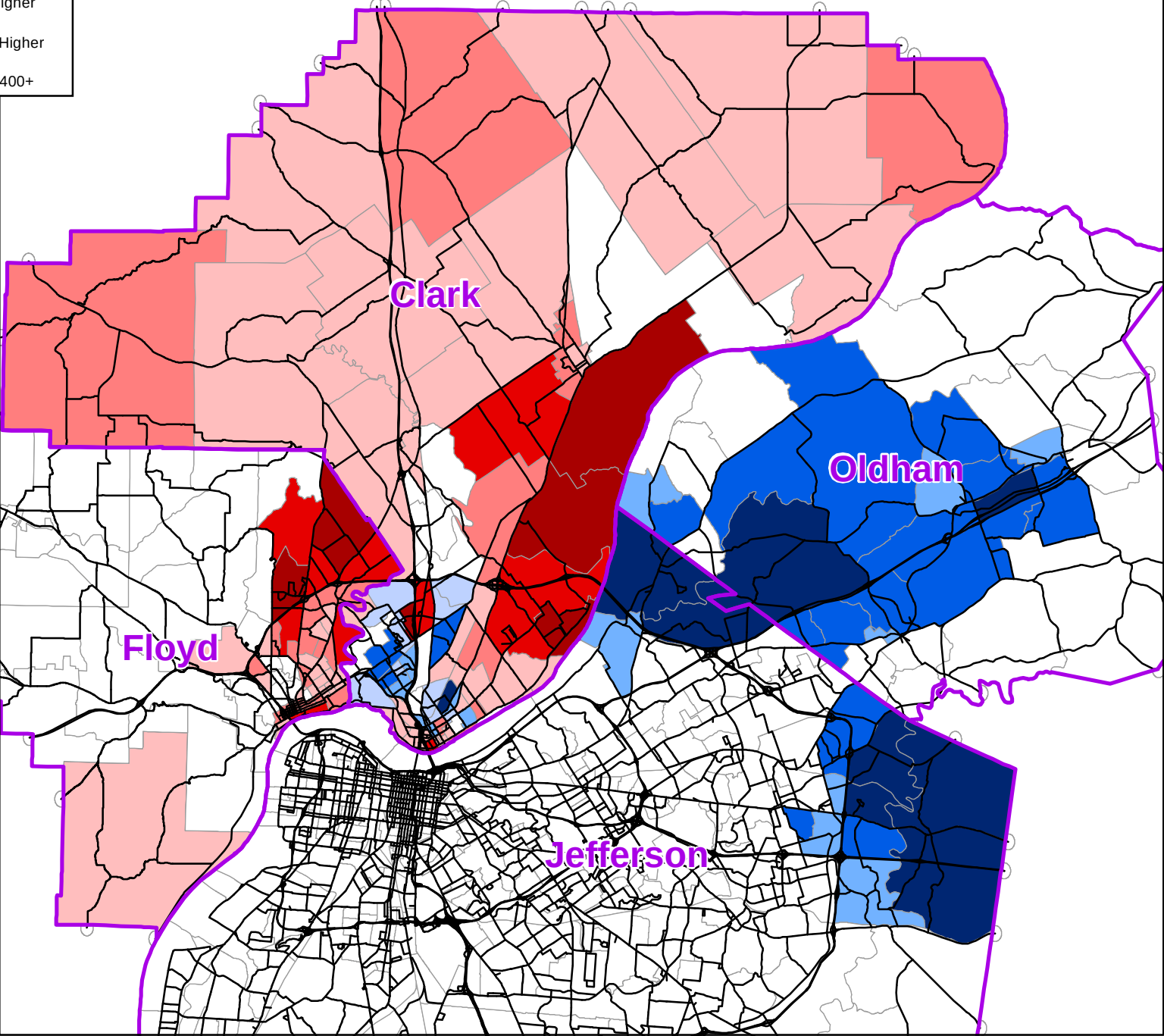
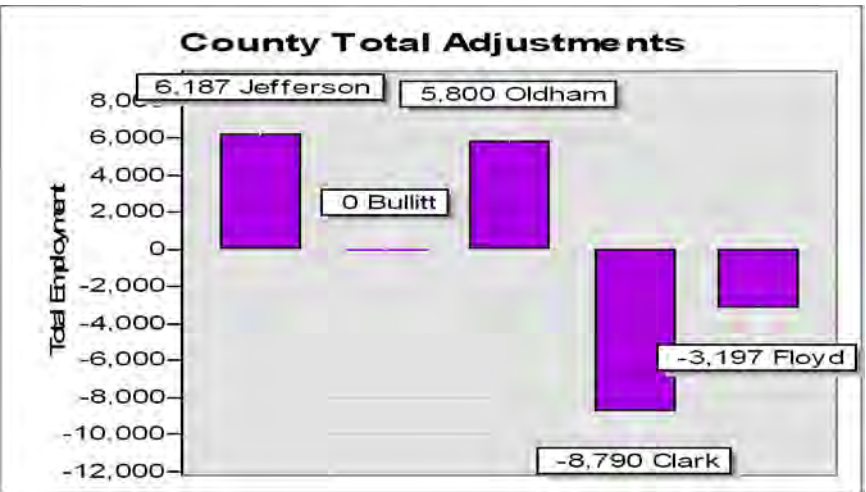
2025 Analysis (January 2001)



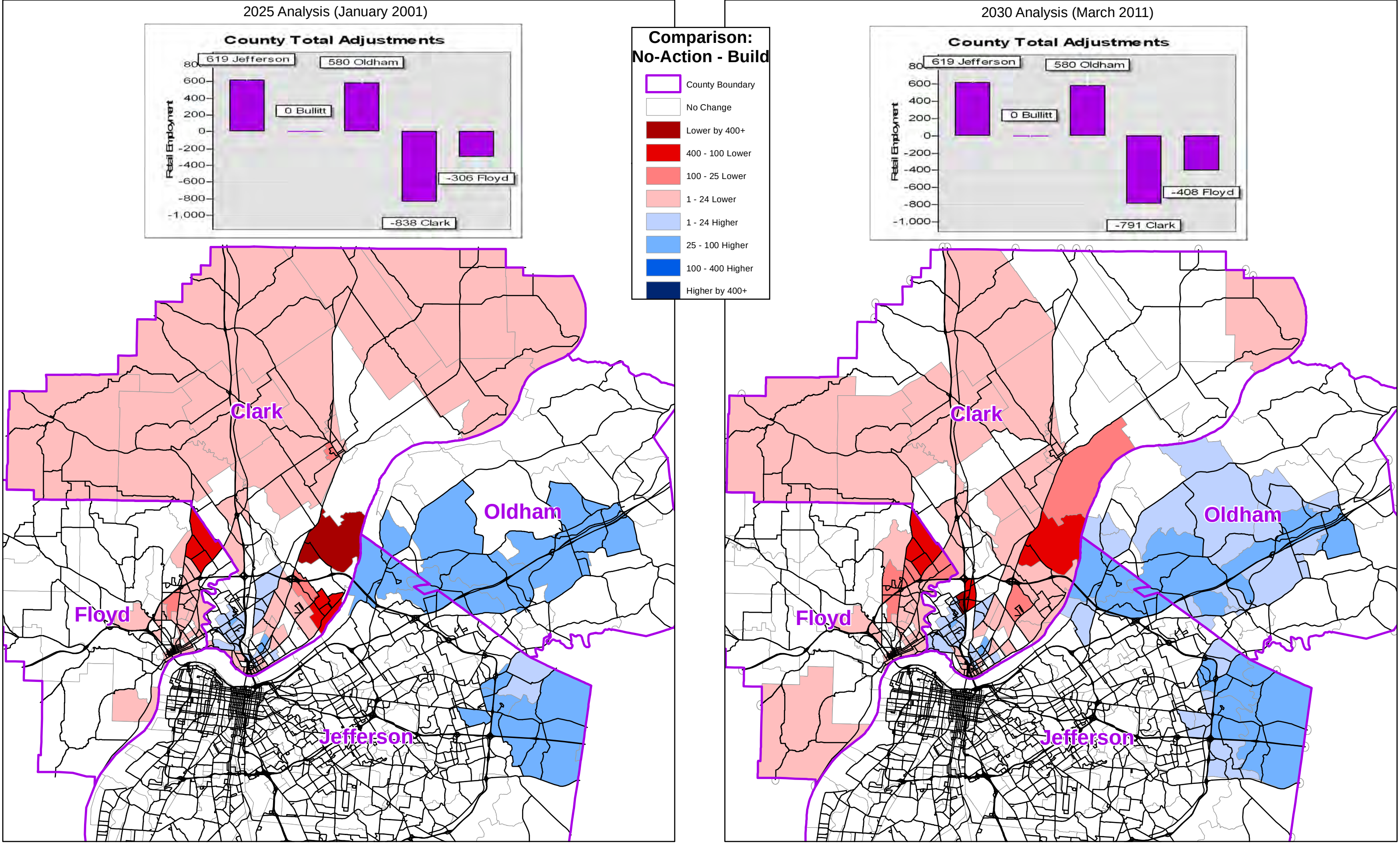
**Comparison:
No-Action - Build**



2030 Analysis (March 2011)

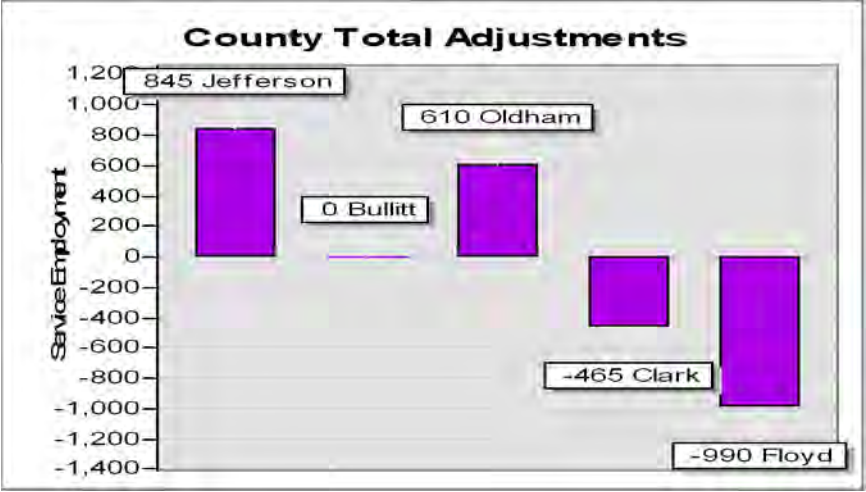


2025 and 2030 Comparison of No-Action to Build Socio-economic Data:
Retail Employment

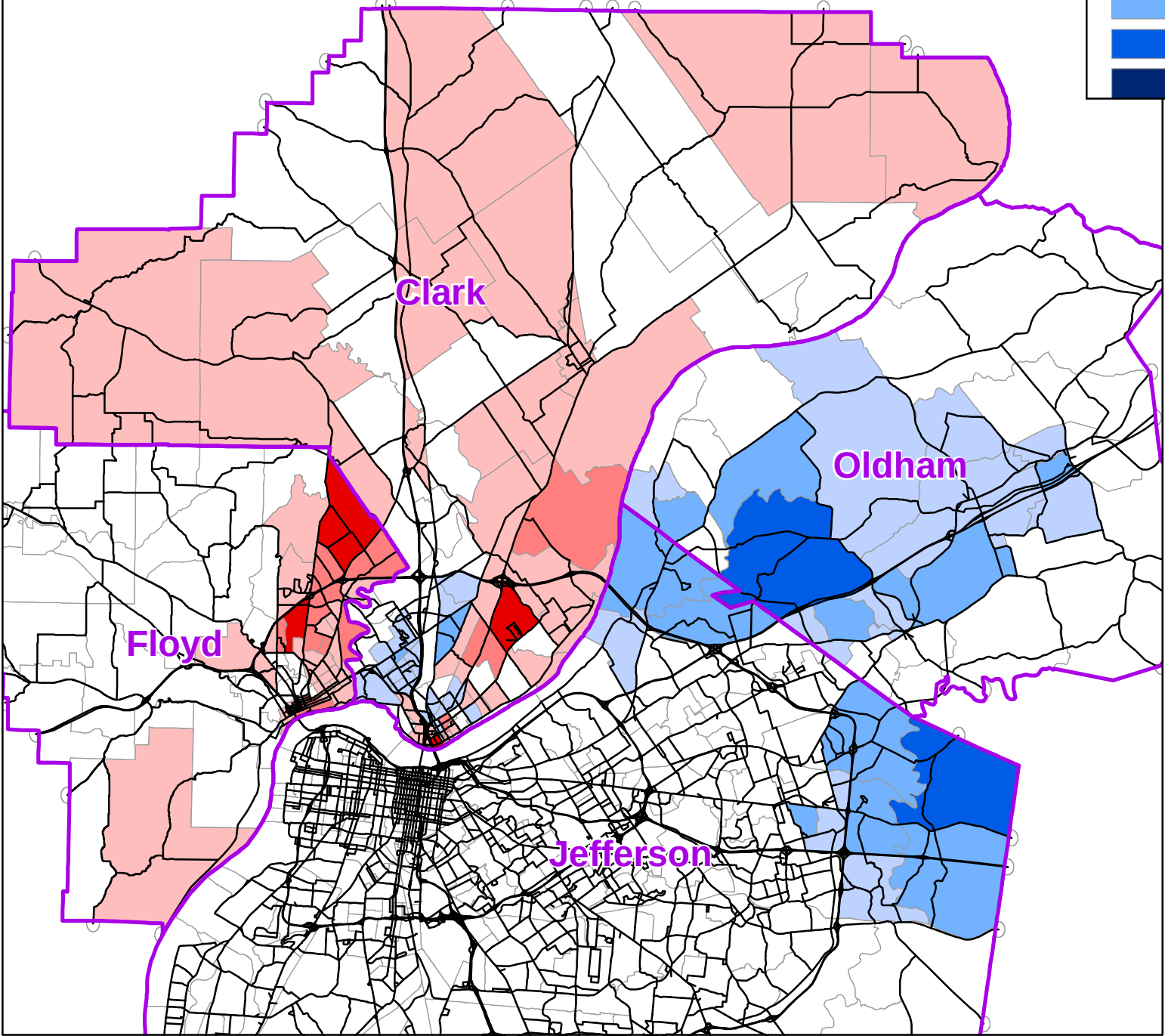
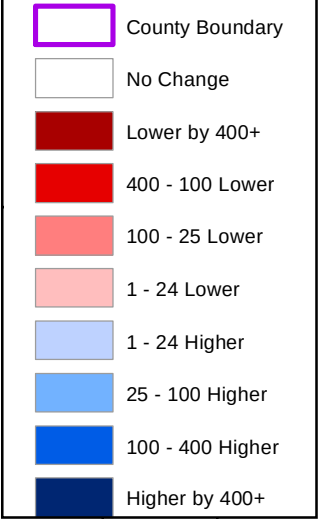


2030 Comparison of No-Action to Build Socio-economic Data:
Service Employment and Office Employment

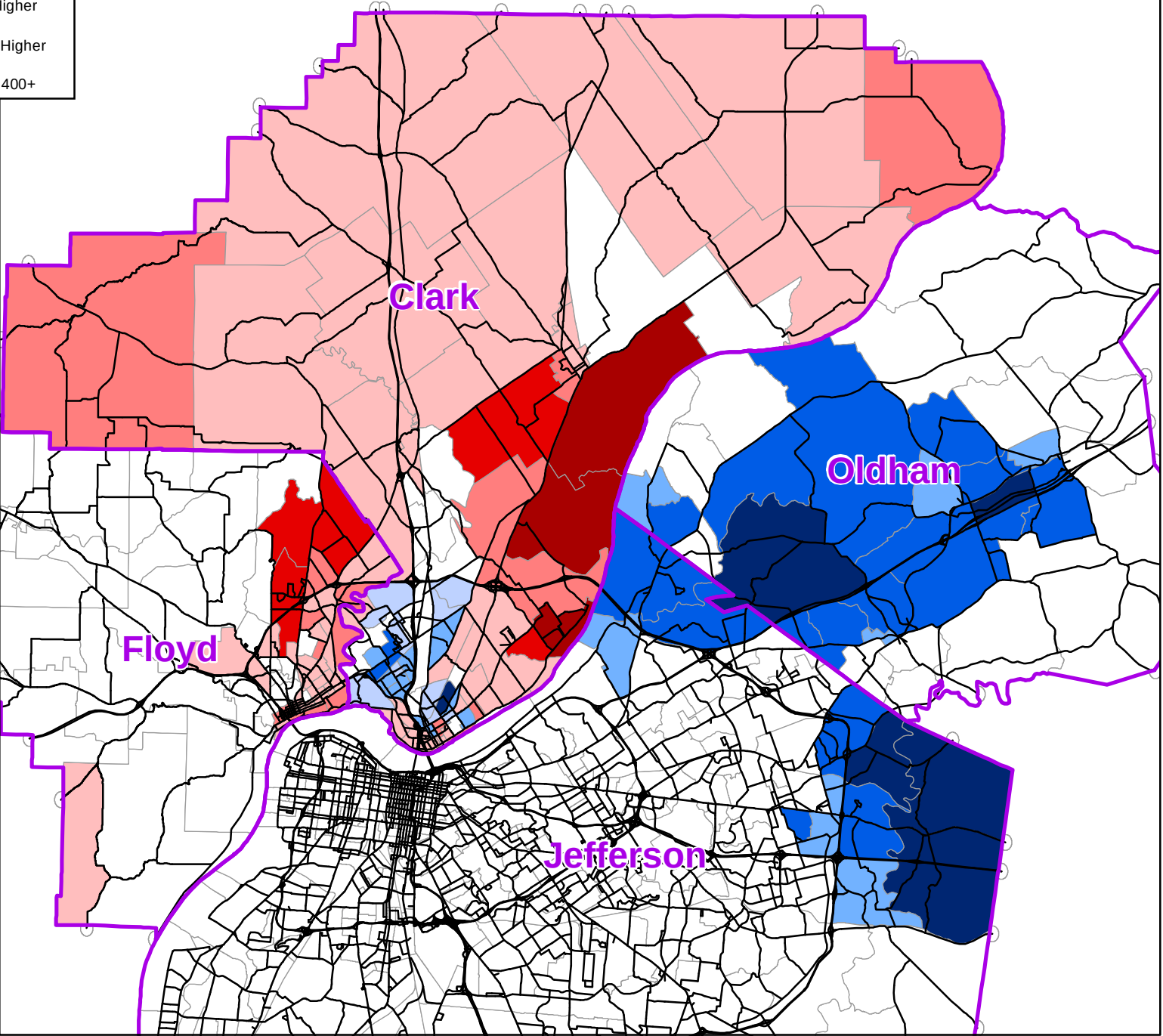
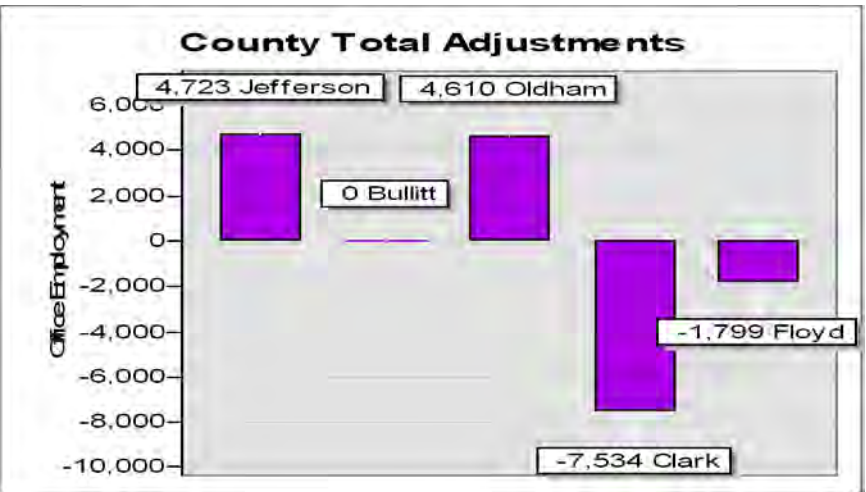
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**Comparison:
No-Action - Build**

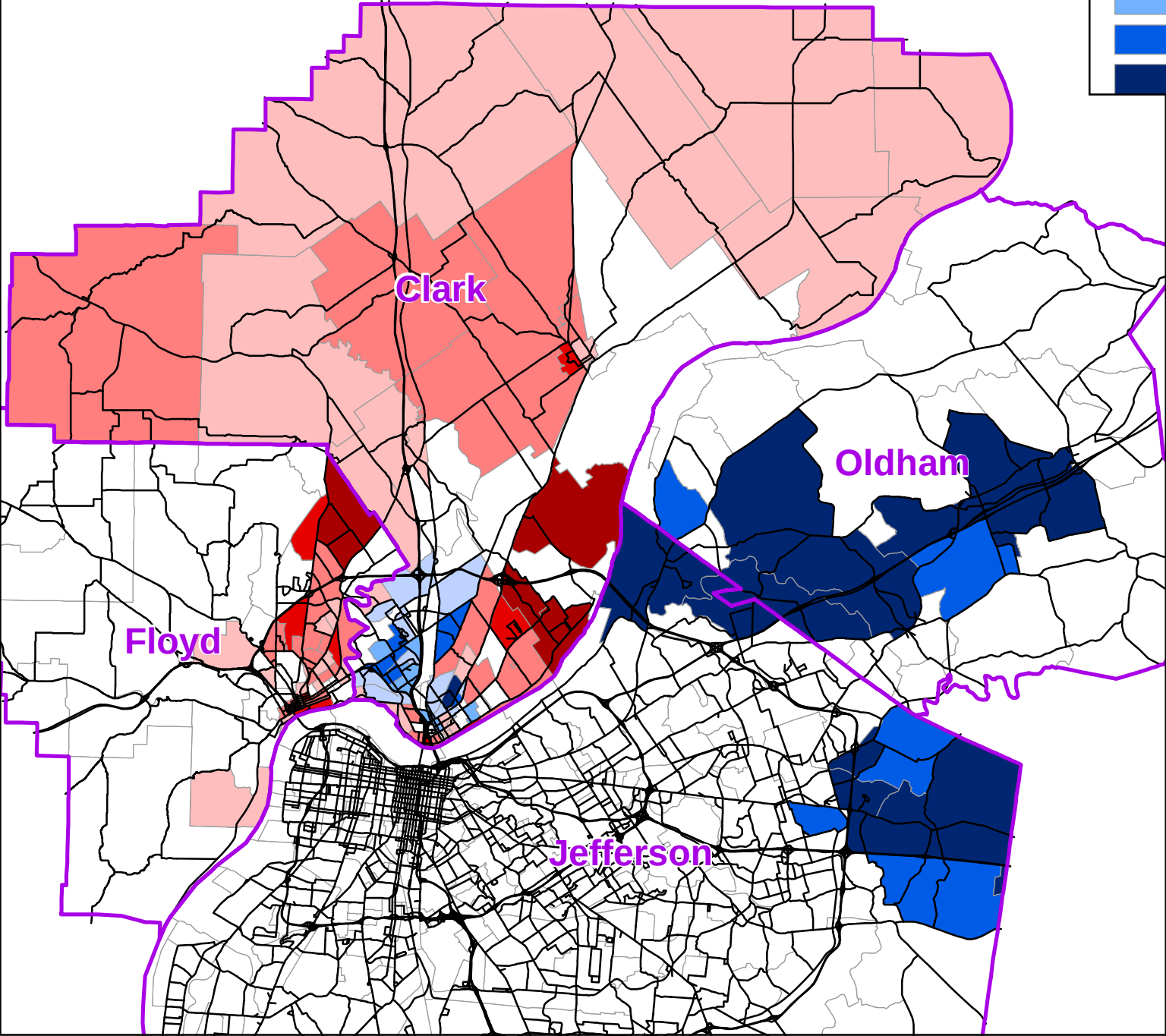
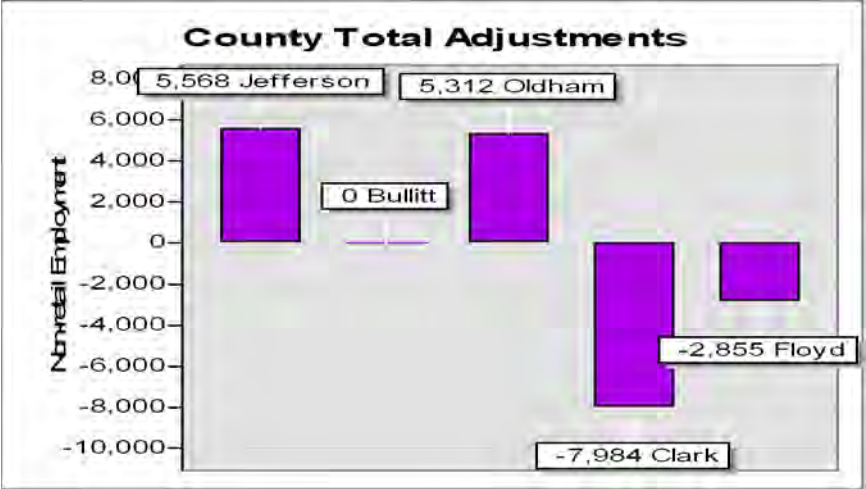


2030 Analysis (March 2011)

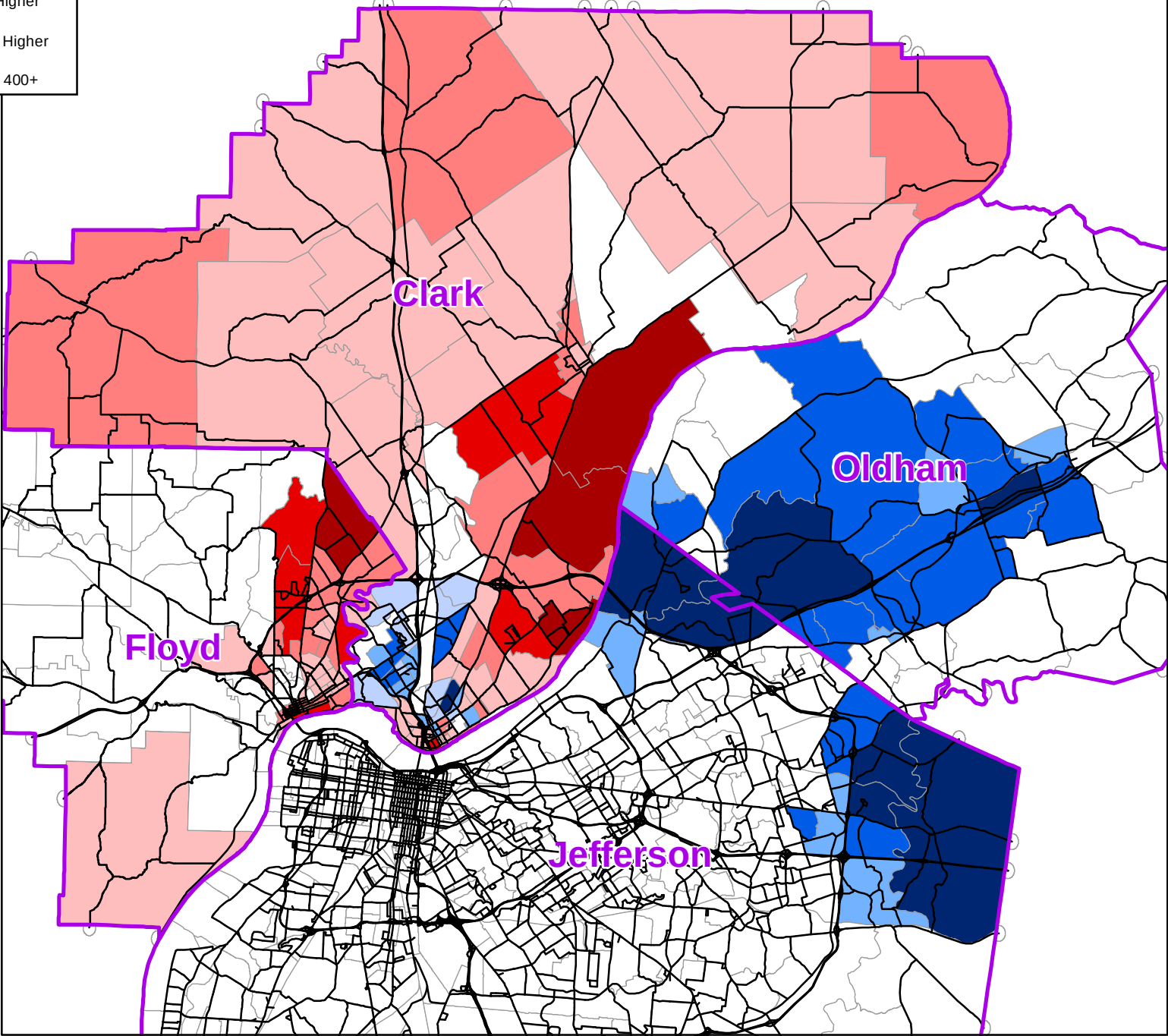
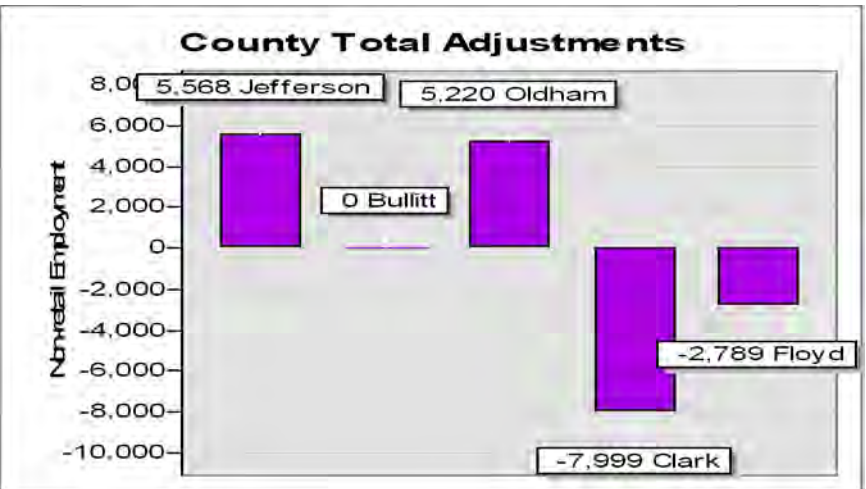


2025 and 2030 Comparison of No-Action to Build Socio-economic Data:
Non-retail Employment

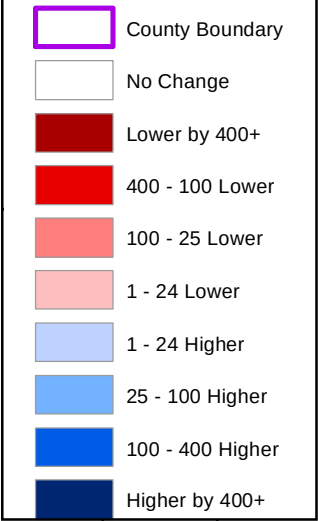
2025 Analysis (January 2001)



2030 Analysis (March 2011)

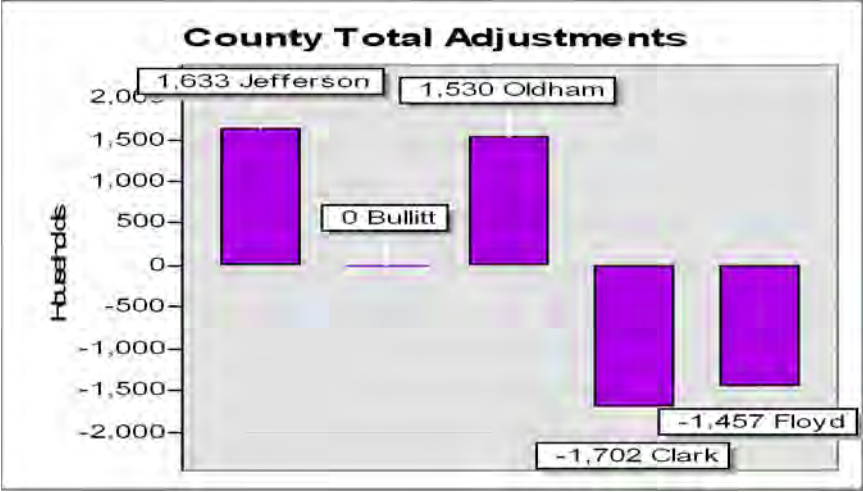


**Comparison:
No-Action - Build**

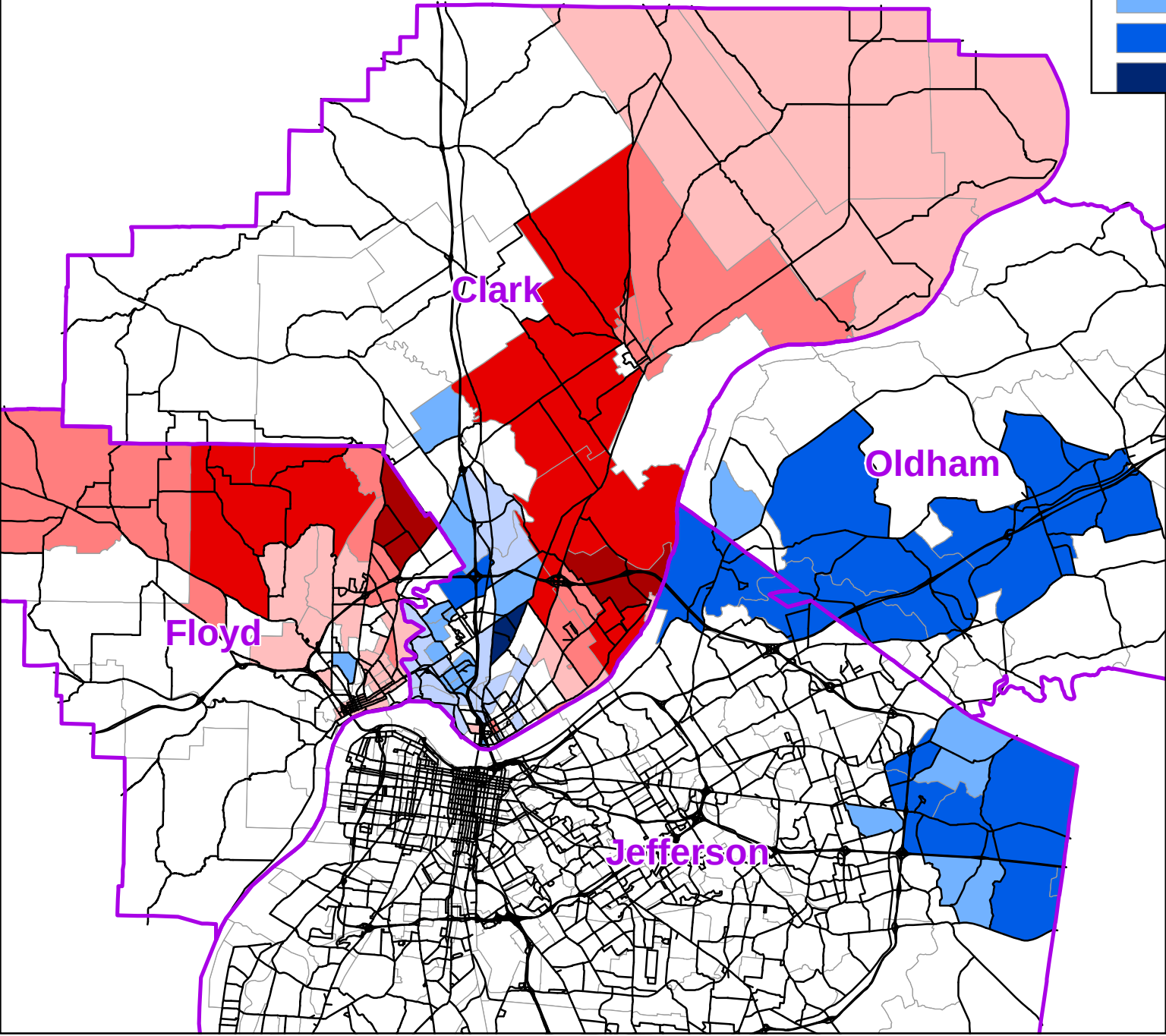
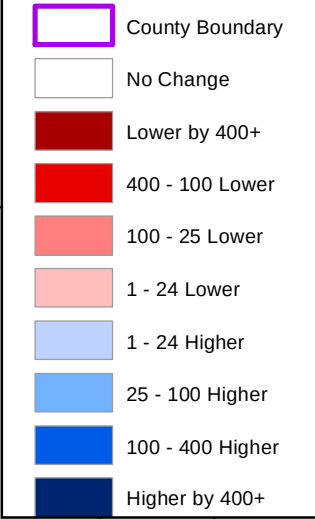


2025 and 2030 Comparison of No-Action to Build Socio-economic Data:
Households

2025 Analysis (January 2001)



**Comparison:
No-Action - Build**



2030 Analysis (March 2011)

