

# **Unsupportable Demographic Forecasts Lead to Broken CAMPO 2040 Regional Transportation Plan**

Norman L. Marshall  
President

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## Summary

In my analyses of the transportation modeling and planning done by the Capital Area Metropolitan Planning Organization (CAMPO), I have found serious deficiencies. CAMPO's *Regional Transportation Plan* (RTP), adopted in 2015, starts with a single worse than worst-case demographic and travel behavior scenario for 2040. This scenario includes twice as much population growth as recommended by the State of Texas and an even more excessive and unrealistic prediction of job growth in the five county CAMPO region. The RTP also distributes most of this growth as far-flung exurban sprawl, which is contrary to the RTP goals, to current patterns of growth, and to the expressed wishes of the region's citizens in the Envision Central Texas project.

The RTP then focuses the bulk of its funding on a set of regional freeways and tollways which are intended to support this sprawl. However, the RTP traffic modeling proves only that no level of investments in freeways and tollways could support this much sprawl. The CAMPO RTP actually predicts roughly 10 times as much congestion in 2040 than today if nothing is done, and then predicts that after spending \$35 billion, congestion in 2040 will still be roughly 10 times as bad as today.

Thus, the RTP itself admits that, if pursued, it will utterly fail in helping the region preserve its quality of life or its economic competitiveness. Instead, it serves primarily as a tool for channeling limited transportation funds towards expensive road building projects that will only encourage yet more long-distance commuting and much more congestion on the metro-region's roadways.

## Introduction

The Capital Area Metropolitan Planning Organization (CAMPO) Regional Transportation Plan adopted in 2015 is intended to guide the greater Austin region's transportation investments to maintain the region's quality of life and economic competitiveness. The RTP document leads off with a beautiful set of goals:

- *Ensure that the benefits and impacts of the transportation system are equitably distributed regardless of income, age, race, or ethnicity.*
- *Support coordinated planning of land use and transportation, where applicable.*
- *Increase the safety and security of the transportation system.*
- *Maximize the affordability of the transportation system in both the near and long term.*
- *Maintain and enhance mobility and access of goods and people within the region.*
- *Improve connectivity within and between the various transportation modes for good and for people of all ages and abilities.*
- *Maximize the economic competitive of the region.*
- *Reduce project delays through project development and delivery process and in the allocation of funds.*
- *Minimize negative impacts to environmental resources, reduce adverse noise impacts, and preserve neighborhood character.*
- *Minimize air pollution and energy consumption related to the transportation system.*
- *Improve the efficiency and performance of the transportation system.*
- *Ensure that the transportation system can be maintained.*

Sadly, these upfront goals are just a hollow façade that has little to do with the details of the plan. Instead, the RTP assumes twice as much population growth as recommended by the State of Texas, and an even less defensible projection of job growth for the region. Contrary to the stated, RTP goals, the plan simply assumes that most of this unrealistic growth in population and employment will be distributed as far-reaching sprawl rather than concentrated to a significant degree in employment centers.

## CAMPO 2010-2040 Population Growth Is More than Twice the State of Texas Recommended Projections for the Region

The adopted CAMPO RTP includes the table reproduced below.

**Table 1: CAMPO Population Forecasts By County (2010-2040)**

County/ Year	2010	2020	2030	2040
Bastrop	74,164	101,908	143,212	200,583
Burnet	42,739	53,114	64,268	73,673
Caldwell	38,019	49,478	63,441	77,903
Hays	156,966	257,643	406,051	628,309
Travis	1,024,531	1,273,260	1,508,642	1,732,860
Williamson	422,605	640,699	956,459	1,406,994
Region	1,759,024	2,376,102	3,142,073	4,120,322

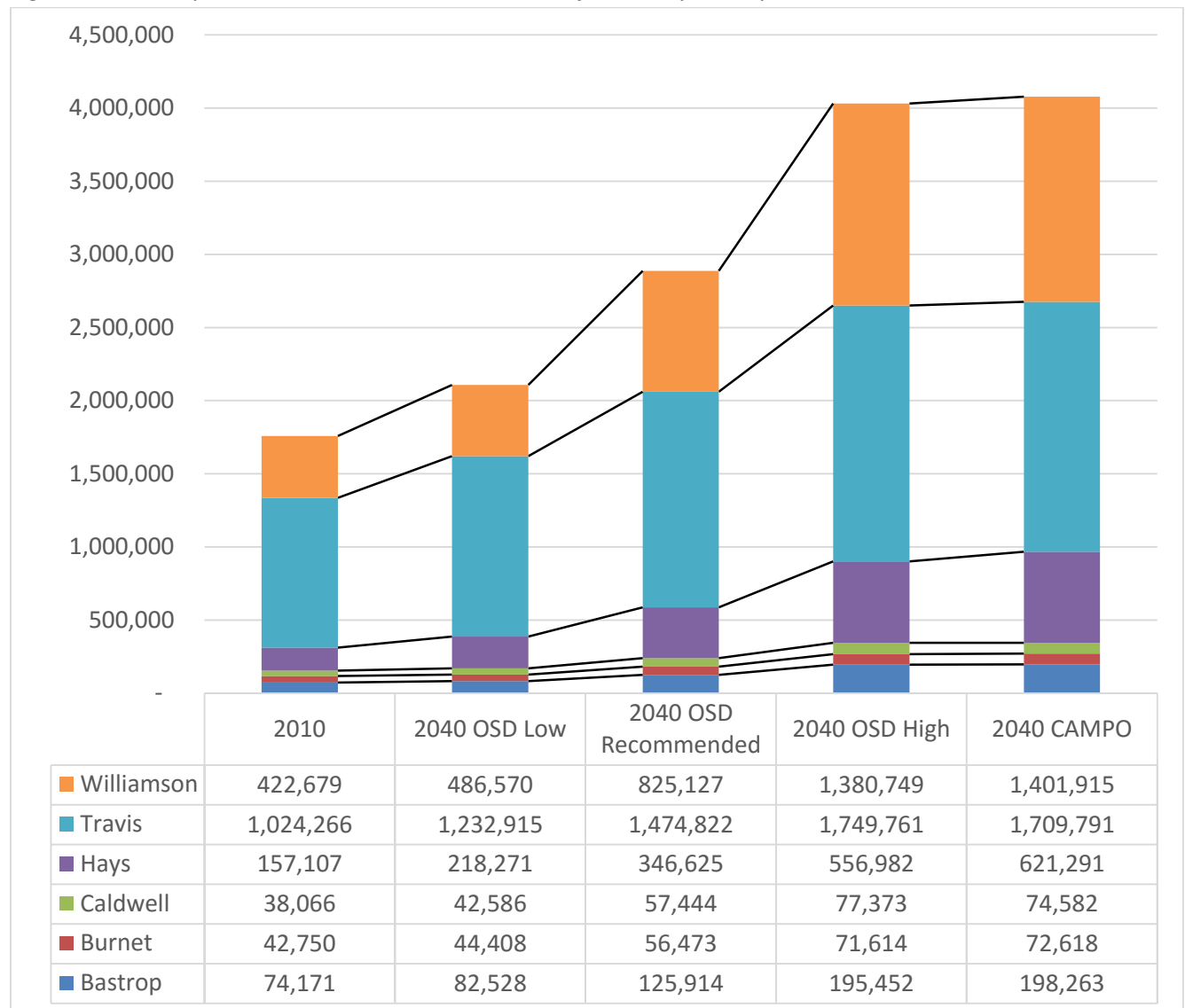
*Source: Texas State Data Center*

The CAMPO RTP gives the Texas State Data Center as the source for these forecasts. In fact, the 2010-2040 population growth shown in this table is more than twice as great as in the recommended population projection from the Texas State Data Center. The Texas Office of the State Demographer (OSD) has prepared three sets of population projections based on different migration assumptions. OSD states that the middle scenario with 0.5 percent migration “is the recommended scenario for conducting long-term planning.”<sup>1</sup> Figure 1 compares the three OSD population projections by county to forecasts assumed by CAMPO.

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<sup>1</sup> Potter, Lloyd B. (State Demographer) and Nazrul Hoque. Texas Population Projections 2010-2050, November 2014.

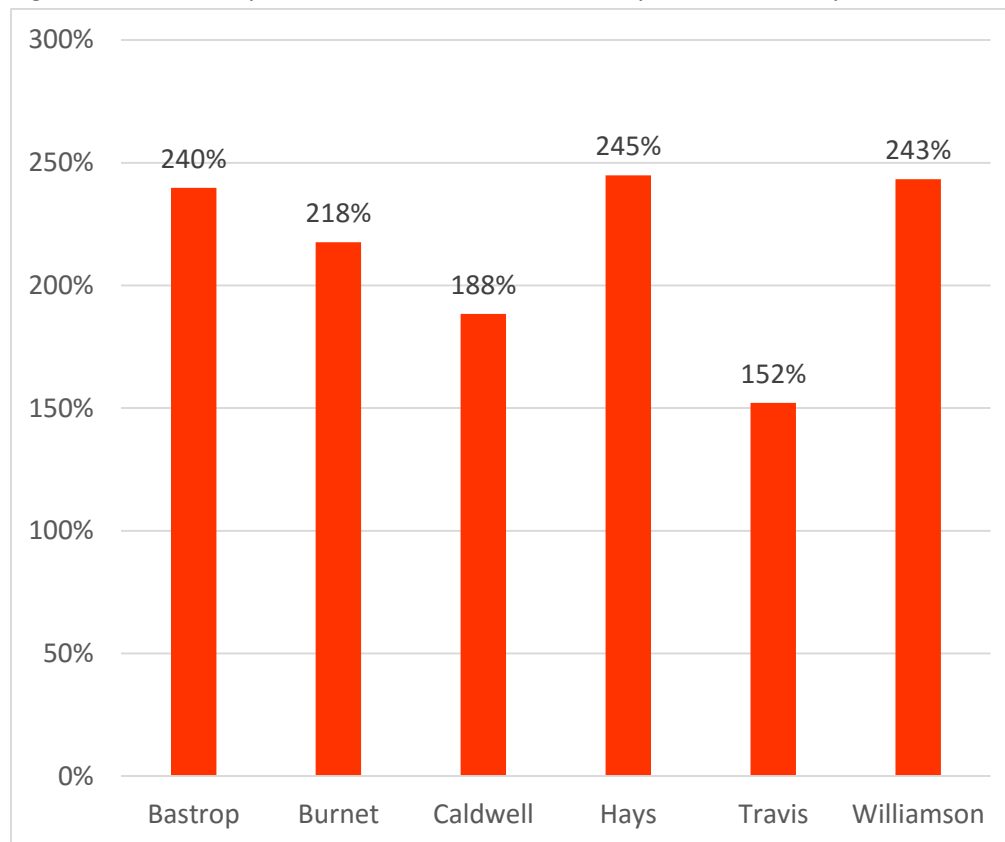
Figure 1: 2010 Population, 2040 OCD, and CAMPO Projections by County



As shown in Figure 1, the low and high OSD population projections represent extremes that should not be used as the primary basis for planning, but instead are appropriate for sensitivity tests. The CAMPO assumed growth appears to be based on the OSD high scenario except that it includes even more growth in Hays and Williamson Counties. CAMPO's assumed population growth, 2.36 million more people between 2010 and 2040, is more than twice the population growth in the recommended OSD projection, 1.13 million more people between 2010 and 2040. It is 6.7 times the population growth in the low OSD projection. Using the high population projection is only appropriate if all three population projections are modeled, and the recommended middle projection is highlighted as the most likely scenario.

CAMPO's assumed growth is especially great outside of Travis County. Figure 2 shows the percentage of OSD growth that CAMPO assumes in each of the counties.

*Figure 2: CAMPO Population Growth 2010-2040 Compared to OSD Population Growth 2010-2040*



In Bastrop, Hays, and Williamson Counties, the CAMPO projected population growth is almost 2 ½ times OSD projected growth. In Travis County, it is 1 ½ times the OSD growth. In 2040 in the OSD projection, the majority of the region's population (51%) is still in Travis County. In the CAMPO projection, only 42% of the region's 2040 population would reside in Travis County.

### **CAMPO's 2010-2040 Job Growth is Absurdly High**

CAMPO's assumed population growth between 2010 and 2040 is extremely high (139%), but its assumed 2010-2040 job growth is even less realistic (201%). Jobs require workers to fill them. Workers are drawn primarily from the population aged 18-64. In 2010, OSD data show 66% of the region's population being aged 18-64. The ratio of jobs to this subset of the population is 66%.<sup>2</sup> There always will

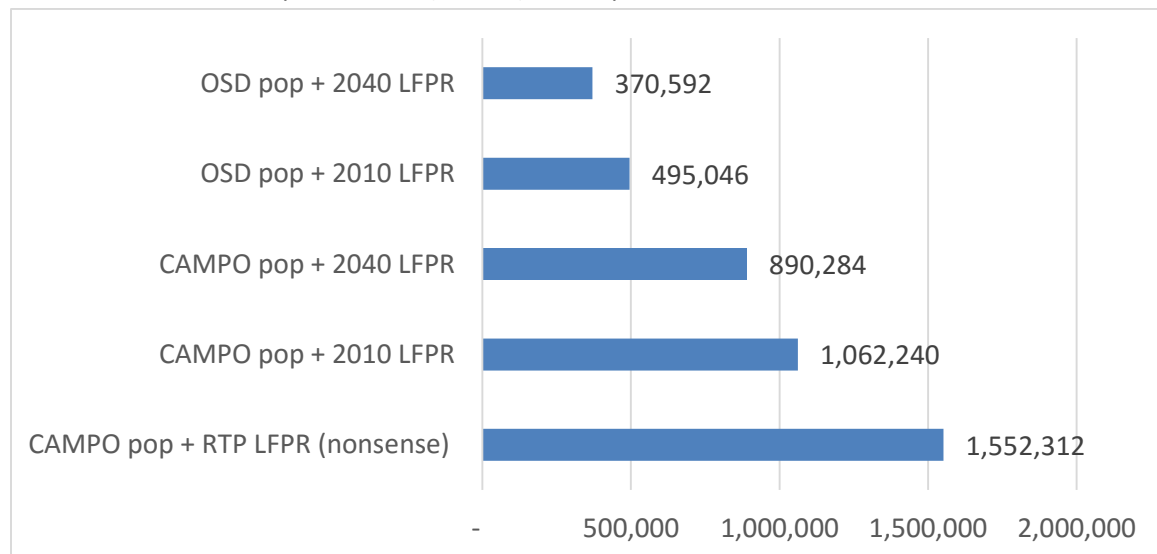
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<sup>2</sup> Regional travel demand models generally represent "Covered" employment, i.e. wage and salary jobs covered by unemployment insurance. This excludes self-employed persons, military personnel, some government workers and some employees of religious organizations.

be some people outside the work force including students, those staying home with children, and others. It is reasonable to expect that this ratio will be maintained in the future.<sup>3</sup>

OSD projects a continuing aging of the region's population so that that only 60% of the population will be between 18 and 64 in 2040. To achieve the 201% increase in jobs that CAMPO is assuming, the ratio of jobs to the 18-64 population would need to increase from 66% in 2010 to 95% in 2040. This simply cannot be supported by rational planning practices. Figure 3 shows the 2040 job forecast along with a set of more plausible 2040 job forecasts for the CAMPO region. Some of these alternative forecasts use the extremely high CAMPO population forecast, and others use the OSD recommended population forecasts. Some of the forecasts maintain the 2010 labor force participation rate, and others adjust the labor force participation rate downward to account for the continued aging of the population.

*Figure 3: 2010-2040 Job Growth Projections for the CAMPO Region with Alternative Population ("pop") and Labor Force Participation Rate ("LFPR") Assumptions*



As shown in Figure 3, with the OSD population forecast and adjusted labor force participation rate (to account for the aging population), the projected job growth is less than one quarter of that assumed in the CAMPO RTP.

The CAMPO RTP fails to provide a satisfactory explanation for its outrageous projection of job growth. . It states that: "Analysis based on data from the Bureau of Labor Statistics suggests that the economy will continue to produce new jobs and that the employment base of the six-county area will increase 200 percent to 2.32 million jobs by 2040" (p. 33). The economy will continue to "produce jobs", but the projected rate of job growth lacks any rational basis.. The "analysis" to support the prediction is not presented.

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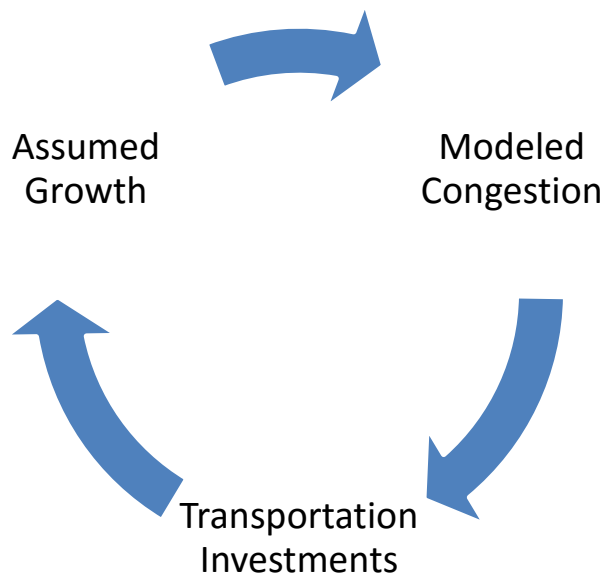
<sup>3</sup> The official Labor Force Participate Rate statistic is the ratio of those employed to the population 16 and over. This rate has been dropping with the aging of the population.

## Consequences of Extremely High Population Forecast and Absurdly High Employment Population

The CAMPO population and employment forecasts have little influence on the magnitude of actual future regional population and employment. If the Regional Transportation Plan (RTP) were more effective in mitigating the impacts of the projected growth, it could be argued that the RTP would help enable the growth. However, in this case, the projects in the RTP are woefully inadequate to support the amount of growth assumed. Rather, the predicted increase in congestion that will overwhelm both existing roadways and the proposed tens of billions in new and expanded roads will itself depress population and job growth. The CAMPO 2040 RTP is a **Plan for Failure** as is discussed in more detail below.

The CAMPO population and employment forecasts have an indirect influence on where in the region the population and employment growth will occur. Assuming growth in a particular sub-region creates a modeled “need” for transportation investments in that region, these proposed investments could encourage growth in those areas. This circular self-fulfilling prophecy is illustrated in Figure 4.

*Figure 4: How CAMPO Forecasts Can Encourage Growth in Certain Areas Within the Region*



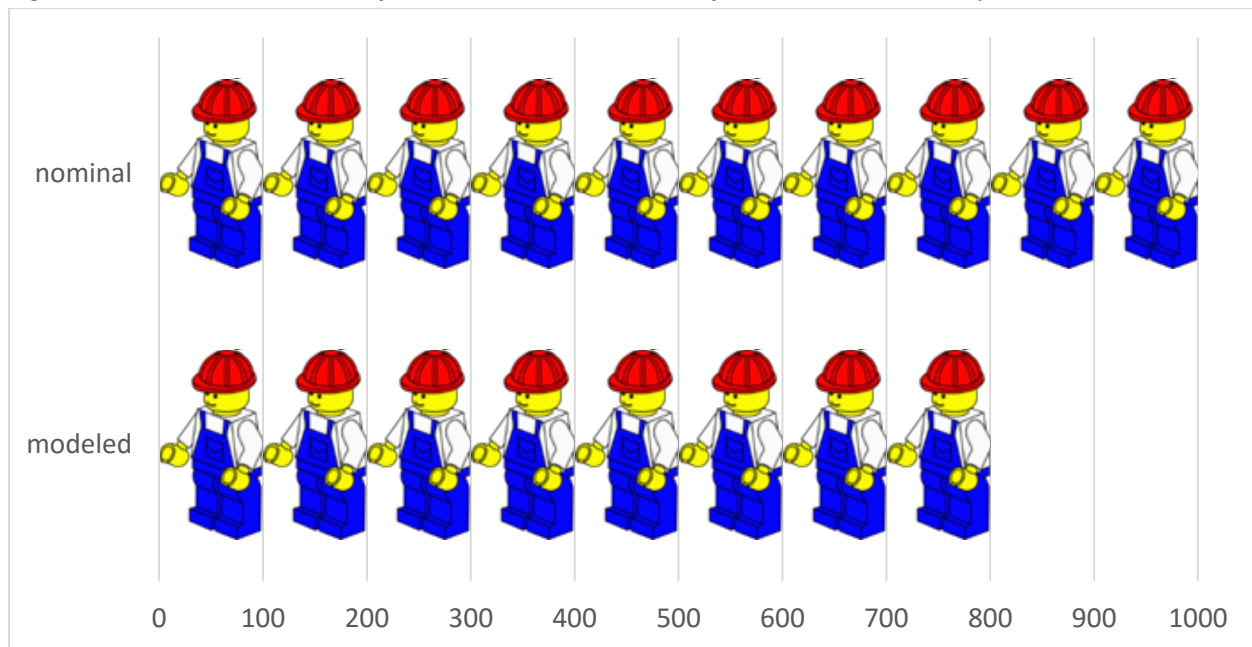
CAMPO assumes twice the population growth that is recommended by the Texas Office of State Demographer (OSD) and up to four times the job growth that is consistent with OSD population projections. Most of the assumed growth is outside Travis County, with particularly large increases assumed in Bastrop, Hays and Williamson Counties.

The effects of population in the travel demand model are straightforward. In general, more people will result in more travel, with those living farther from services traveling more miles per person than those

in the region's core. Therefore, the outward population shift assumed by CAMPO supports decentralizing transportation investments outside Travis County

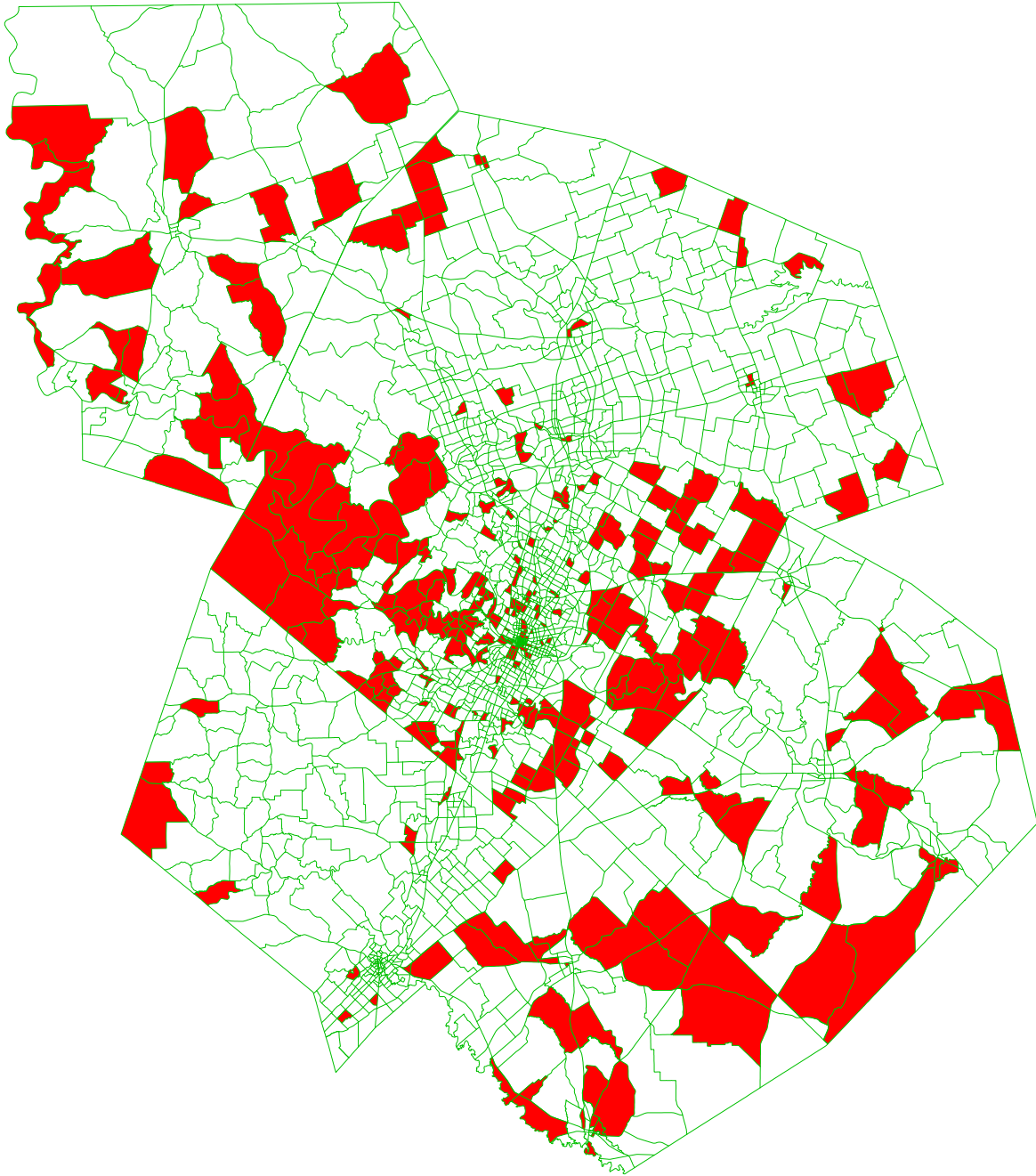
The effect of the CAMPO jobs forecast is more complex. The travel demand model assumes that people will not travel more just because there is an inflated number of jobs. In calculating travel, the model effectively adjusts the number of regional jobs to the number that is consistent with the population. Therefore, each 2040 "job" becomes only about 0.8 of a job in the model. If a Transportation Analysis Zone (TAZ) is listed as having 1000 jobs nominally, it is modeled as having only 800 jobs as illustrated in Figure 5.

*Figure 5: The CAMPO Model Adjusts the Nominal Number of Jobs to Match the Population*



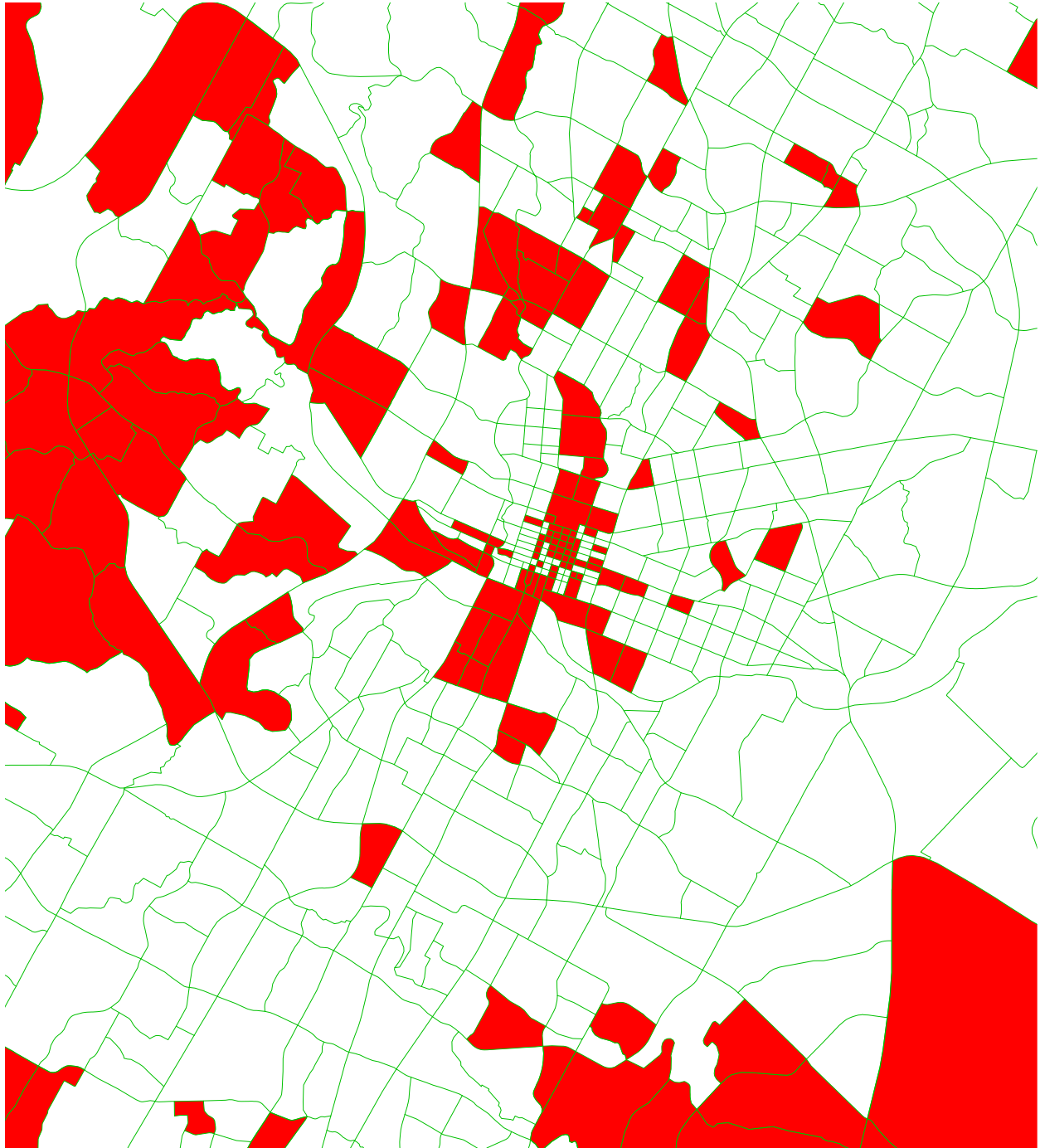
The CAMPO 2040 forecast has no nominal reductions in jobs between 2010 and 2040 in any of the (TAZs). However, after the model adjusts the jobs numbers, any TAZ with less than 25% job growth between 2010 and 2040 is modeled as losing jobs. Over 400 TAZs have effective job reductions between 2010 and 2040 (Figure 6).

*Figure 6: Transportation Analysis Zones (TAZs) with Effective Job Losses between 2010 and 2040*



Many of the areas in the region with modeled job losses are today's core employment areas. As shown in the inset map (Figure 7), the TAZs with effective job losses include many TAZs in central Austin

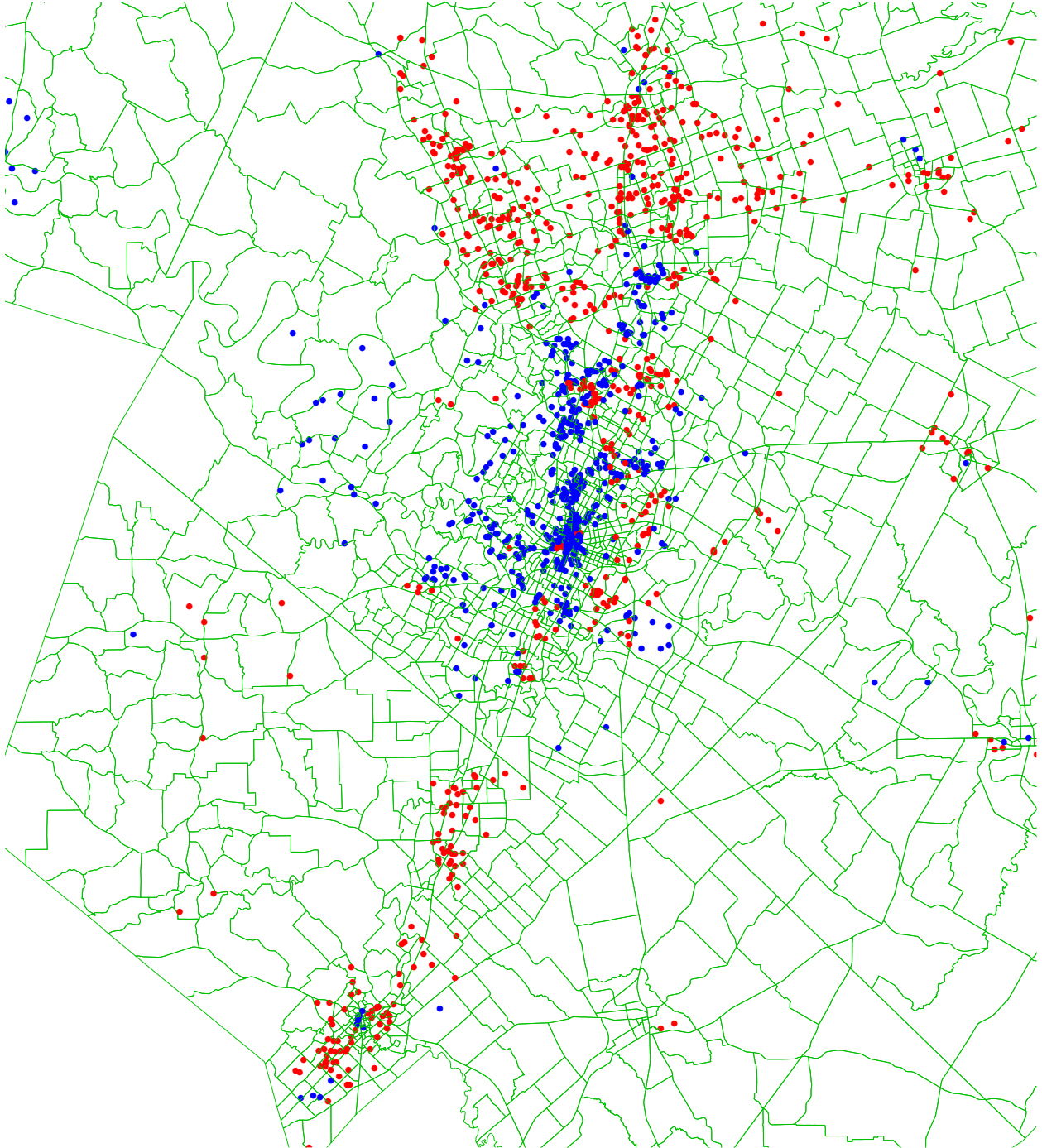
*Figure 7: Transportation Analysis Zones (TAZs) in Regional Core with Effective Job Losses between 2010 and 2040*



These effective job losses have not been disclosed. If they are unintended, it is necessary to correct the errors by increasing the jobs in the job loss areas and offset these increases with decreases in areas with

inflated job growth. Figure 8 shows the changes that are needed if the unrealistic CAMPO job growth is reduced proportionally across all TAZ.

*Figure 8: Corrections Needed to CAMPO's 2040 Job Projections to Prevent Effective Job Losses in the Transportation Model -Need to add 100 jobs for each BLUE dot and subtract 100 jobs for each RED dot*



As shown in Figure 8, correcting the unrealistic jobs problem would require moving many nominal jobs from the region's periphery into the core. The job location errors in the 2040 CAMPO modeling have a

significant effect on modeled travel. In addition, to focusing travel in the wrong areas, shifting employment from the region's core undermines the potential for transit in the model.

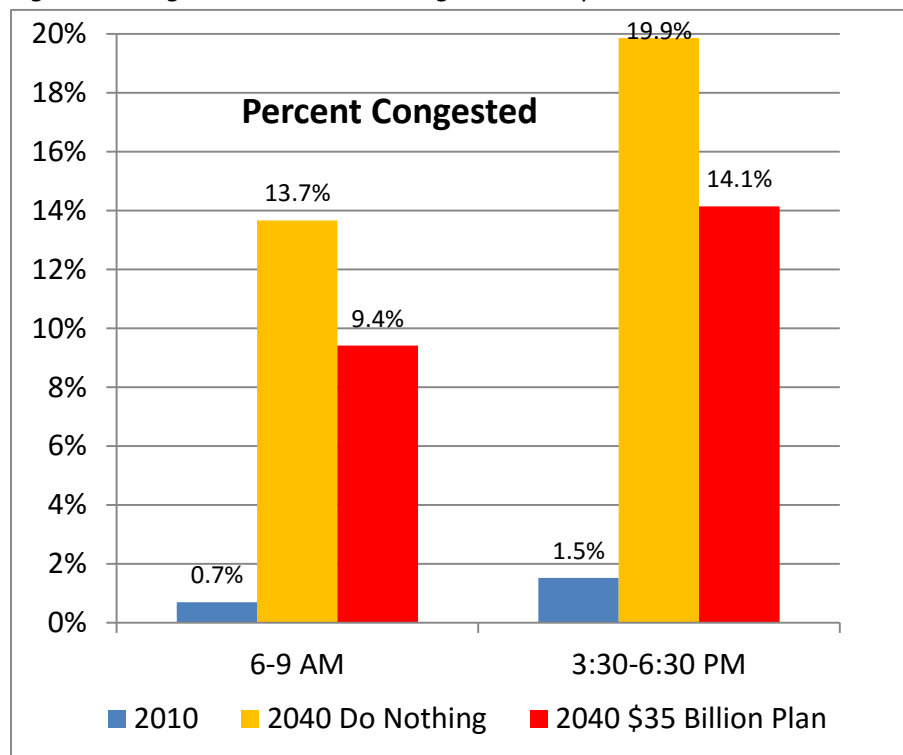
## The CAMPO 2040 Population and Job Forecasts Are Deceptive

"Deceptive" – tending or having power to deceive: misleading (*Merriam-Webster*)

As discussed above, the CAMPO population and employment forecasts have only an indirect effect on future population and employment, but they can have a more direct effect on where transportation investments are made. The exaggerated forecasts, especially for jobs, are so extreme that it appears likely that these assumptions have been made to steer transportation investments away from the region's core. Following this plan would accelerate loss of quality of life in the region, and endanger the region's economic competitiveness.

## The CAMPO 2040 RTP is a Plan for Failure

Figure 9: Congestion in CAMPO's Regional Transportation Plan<sup>4</sup>



The improper demographic forecast makes the CAMPO RTP useless for planning. Instead, it demonstrates that transportation solutions would be impossible if the exaggerated population and jobs forecasts were accurate.

The adopted CAMPO 2040 Regional Transportation Plan says that if no new roads are built, congestion will be more than 10 times as bad in 2040 as in 2010. It also says that **if all of**

**the roads in the \$35 billion Plan are constructed, congestion will still be about 10 times as bad in 2040 as in 2010.** CAMPO's data show that the 2040 RTP is a **Plan for Failure** (Figure 9).

<sup>4</sup> Capital Area Metropolitan Planning Organization CAMPO 2040 Regional Transportation Plan Appendix G (Adopted May 11, 2015, Administrative Amendments September 21, 2015)

## The Region Needs to Relearn the Lessons from Envision Central Texas (ECT)

In the 2003 survey distributed in the Envision Central Texas (ECT) project, 12,000 responses overwhelmingly voted against sprawl. When surveyed about four scenarios (labeled A – D), respondents rated the most compact and dense scenario (D) best for:

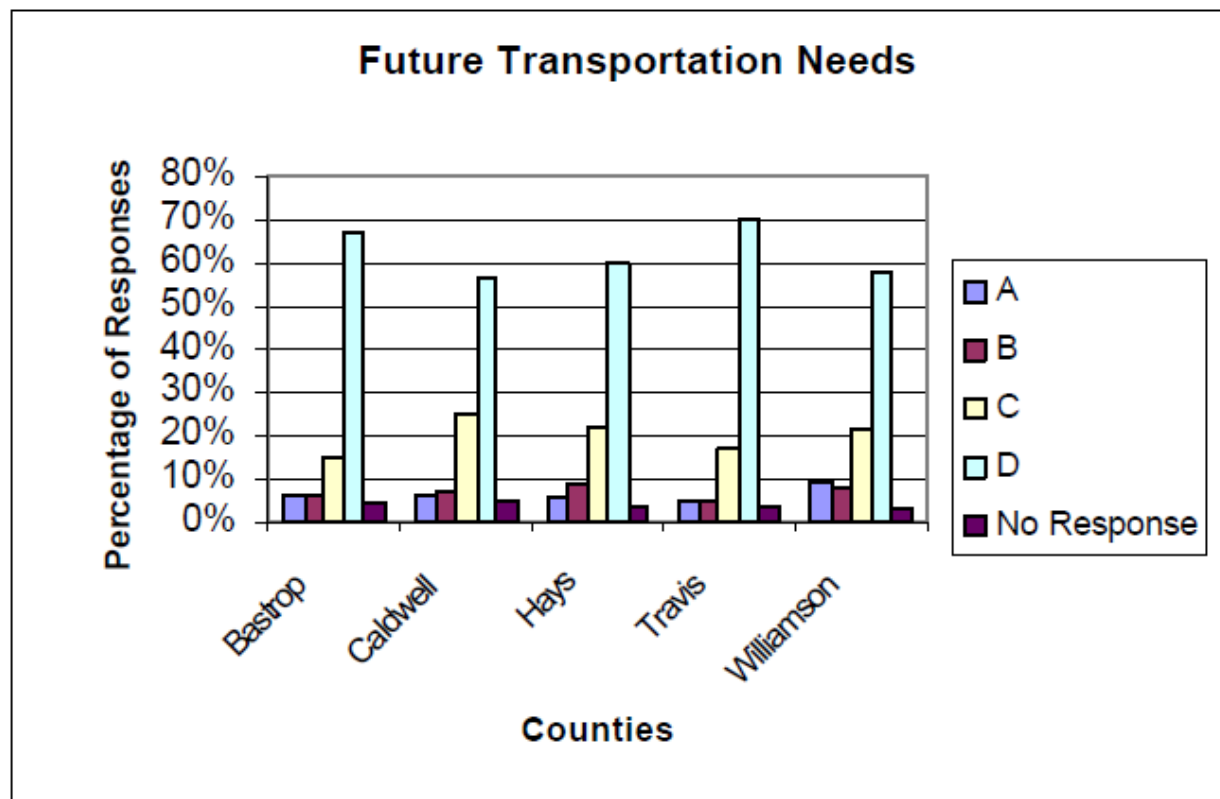
- Land use
- Use of agricultural land
- Future transportation needs
- Investment in development
- Growth pattern
- Quality of life

The second most compact and dense scenario (C) was rated best for:

- Development over Edwards Aquifer
- Future housing options

The two least compact and dense scenarios (A and B) received few votes for any of the criteria. Observers at the time were surprised that this voting pattern was not just in the City of Austin, but instead represented a regional consensus. This is illustrated in Figure 10 below for the Transportation category, the category that was rated by respondents as the most important issue for “the Future of Central Texas.”

Figure 10: Envision Central Texas Responses about Which Scenario Best Addresses Transportation



The most compact and dense scenario (D) received more than half of the votes in each of the five counties. The two most compact and dense scenarios (C and D) received 80% or more of the votes. Those living in Travis County and those living in the outer counties voted very similarly.

### **The CAMPO Scenario is the Opposite of What the People Preferred in the ECT Process**

In sharp contrast, the single CAMPO scenario appears to be even more sprawl-oriented than the least compact and dense ECT scenario. Figure 11 compares the CAMPO housing scenario with ECT Scenario A (the “business-as-usual” sprawl scenario). In Figure 11, there are many more red dots than blue dots because the CAMPO scenarios is for 2040 and the ECT scenario is for 2030, and because the CAMPO 2040 scenario has exaggerated growth. The majority of the red dots sprawl across Hays County and Williamson County. The blue dots are mostly in the SH 130 corridor. Ten years ago, SH 130 was promoted, in part, to support growth in the eastern part of the region. Now, with a greatly underutilized SH 130 in operation, CAMPO is not allocating growth there. The CAMPO scenario is not only a sprawl plan; it is a bad sprawl plan.

The sprawl scenario is not an accident but is a conscious decision by the CAMPO Technical Advisory Committee. A central theme in the CAMPO RTP is “Centers”:

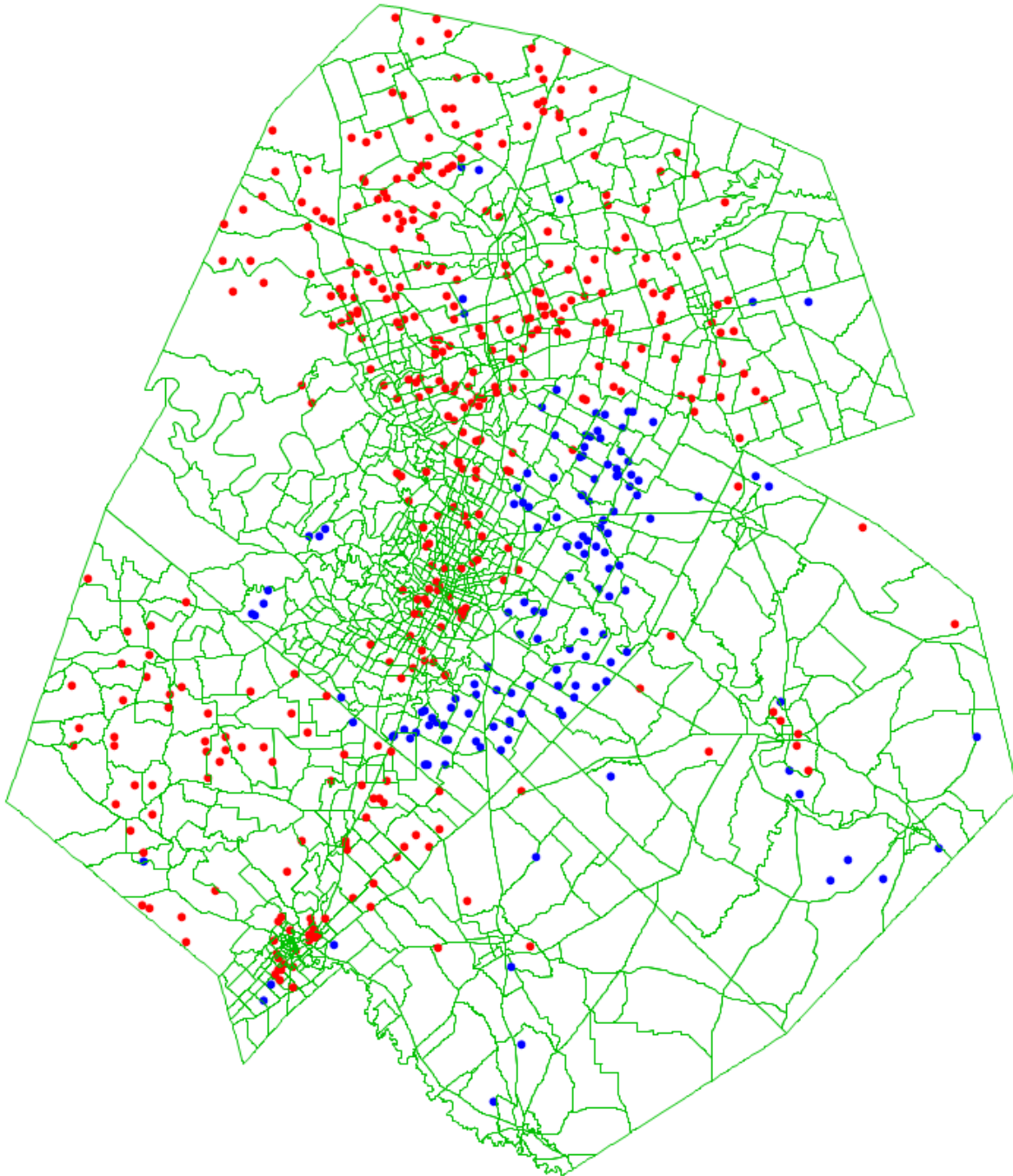
There are 59 Centers in the CAMPO region. Centers generally feature a mix of land uses that support transit, bicycling, and walking. This optimizes peoples’ ability to take fewer and shorter vehicle trips, reducing vehicle miles traveled (VMT) (CAMPO RTP, p. 35).

In the previous CAMPO RTP (2011), the horizon year 2035 land use scenario was weighted towards Centers, following the ECT guidance. I understand that in the 2015 RTP work, the CAMPO Technical Advisory Committee directed CAMPO staff to ignore the “Centers” in allocating the land use scenario. Figure 12 compares the 2040 CAMPO RTP housing forecast to the 2035 CAMPO RTP housing forecast published in 2011. As shown in Figure 12, there are huge shifts between the two scenarios. Compared to the 2035 scenario, the 2040 scenario includes:

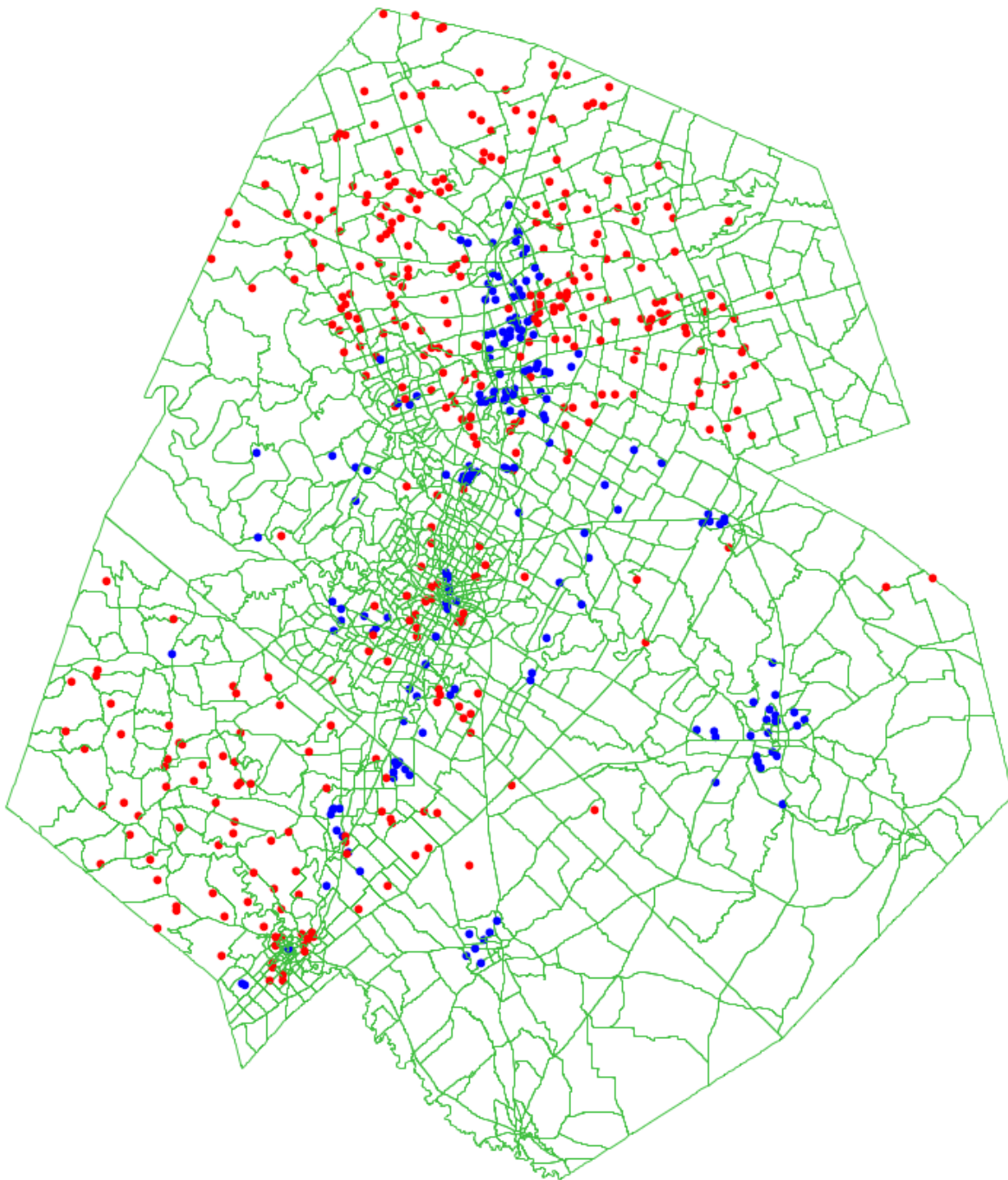
- Much less housing in Bastrop, Lockhart, Elgin and Georgetown, and
- Much more housing in rural areas of Williamson and Hays Counties.

Up through the 2011 CAMPO RTP, the lessons of the Envision Central Texas project had a strong influence on the region’s planning efforts. In contrast, the 2015 CAMPO RTP is a complete rejection of ECT principles and the will of the participating public. As far as is known, there is no updated public polling or other information suggesting that residents of the CAMPO region no longer support planned, well-managed growth. Yet somehow, the new RTP approved last year charts a course that will both accelerate loss of quality of life and endanger the region’s economic competitiveness.

*Figure 11: Red Dots = 1000 CAMPO 2040 Households Not in 2030 ECT Scenario A; Blue Dots = 1000 Households in 2030 ECT Scenario A and Not in CAMPO 2040 Scenario*



*Figure 12 Red Dots = 1000 CAMPO 2040 Households Not in 2035 CAMPO RTP Scenario; Blue Dots = 1000 Households in 2035 RTP Scenario and Not in CAMPO 2040 Scenario*



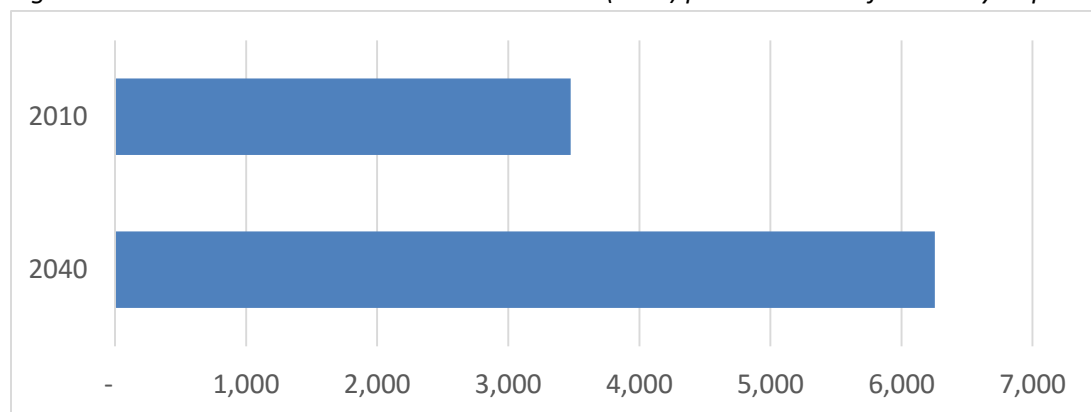
## The Region Cannot Build Enough Roadway Capacity to Support Sprawl Future

A very useful performance indicator in long-range transportation plans is vehicle miles traveled (VMT). Congestion is a direct effect of too much VMT relative to the amount of roadway capacity. The adopted 2040 CAMPO Regional Transportation Plan states:

Reducing VMT is one of the cornerstones of efficient transportation system use and can alleviate some demand for infrastructure investment. (p. 35)

The CAMPO 2040 Regional Transportation Plan<sup>5</sup> forecasts 118% growth in regional VMT between 2010 and 2040. After spending the planned \$35 billion, the RTP forecasts only a 21% increase in roadway capacity between 2010 and 2040 (as measured in lane miles). As shown in Figure 13, this would result in an 80% increase in VMT per lane mile of capacity. This causes the great increases in congestion that are forecast in the RTP.

*Figure 13 CAMPO Forecast Vehicle Miles Traveled (VMT) per Lane Mile of Roadway Capacity*

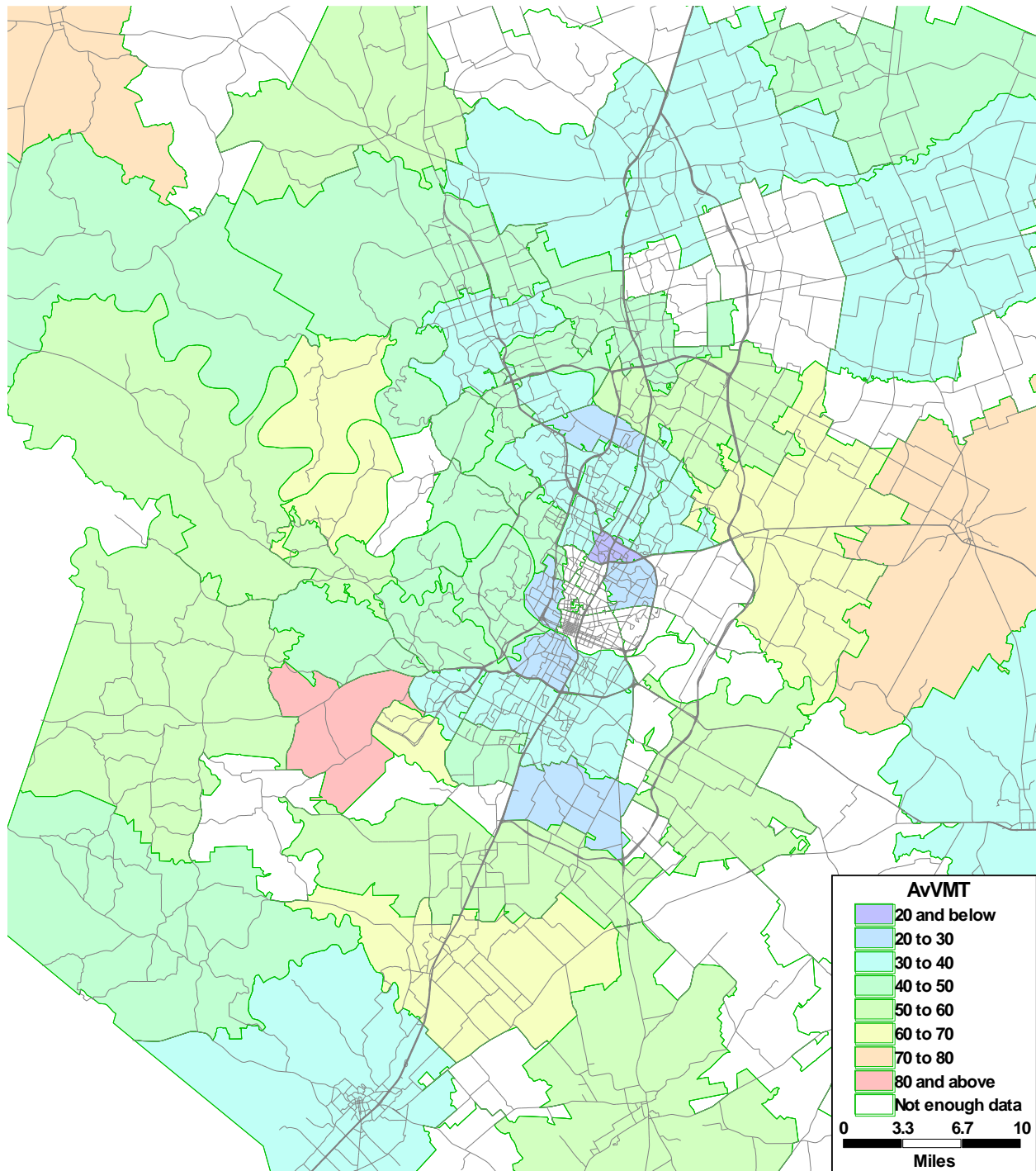


The region cannot build enough roadway capacity to accommodate the forecast growth in VMT. The exaggerated population and employment forecasts greatly increases forecast VMT in the CAMPO model, but the exurban sprawl assumed also increases forecast VMT. As shown in Figure 14, household survey data show that households generate less VMT in more dense areas with services – especially in central Austin, but also in smaller centers including San Marcos and Georgetown. To minimize future congestion, it is critical that the region grows in centers as residents supported in the Envision Central Texas process, rather than in the sprawl future that CAMPO is assuming.

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<sup>5</sup> Table 7, p. 50.

*Figure 14 Average Vehicle Miles Traveled per Household per Weekday for Zip Codes with 10 or More Surveyed Households in the 2009 National Household Travel Survey (NHTS)*



The data are somewhat “noisy” due to limited data so the general pattern shown is correct but the values for individual Zip code areas are less accurate.

## Conclusions

This report has documented serious flaws in demographic forecasts underlying the CAMPO Regional Transportation Plan. Correcting these deficiencies will require:

- 1) Revamping the population forecast to the levels recommended by the OSD and making the jobs forecast consistent with the population forecast.
- 2) Begin immediately a frank and open regional dialogue on whether previous policies to encourage growth in "centers" concentrated in areas east of I-35 should be restored as a goal for the CAMPO metro region.

In the previous 2030 and 2035 RTPs a proportionately greater share of projected future growth was located east of I-35, along the SH 130 corridor and in accordance with long-standing growth management policies of the City of Austin and others. Areas east of I-35 also have access to groundwater sources in Bastrop, Caldwell, and adjacent counties. Yet the 2040 RTP shifts projected future growth and road building to the west, especially to western Hays County, where water supplies are limited and long-standing community policies have sought to limit growth and preserve Hill Country watersheds.

While the 2040 RTP is being revised, limited transportation funding should be focused on high-return investments in Transportation Demand Management (TDM) and Transportation Systems Management (TSM) and other projects that enjoy a broad degree of consensus in their contribution to community goals of protecting quality of life and improving economic competitiveness.