CAPCOG Assessment of Growth and Development

November 12, 2010
Growth Assessment Summary

**Introduction**

The Growth Assessment project began in late 2009 as an effort to study the dimensions of past and future growth for the 10-county CAPCOG region. The Growth Assessment Subcommittee, which the CAPCOG Executive Committee appointed, was asked to oversee the assessment process providing guidance on what data needed to be gathered and how to ultimately assess the growth patterns demonstrated. With a focus on land use, transportation, water availability and economic development, the Executive Committee believed a research effort led by CAPCOG staff and a subcommittee composition that strived for an inclusive sample of regional jurisdictions would lead to an objective analysis resulting in effective regional policy recommendations.

The Growth Assessment effort began with CAPCOG staff collecting a comprehensive overview of the available data regarding recent and projected growth. Detailed information was collected on the regional trends and projections regarding water usage, land use consumption, economic growth, school enrollment and other topics. CAPCOG staff also contacted city and county governments to complete a survey designed to collect data on how many approved or proposed development project were in progress in each jurisdiction.

At the first formal meeting of the Growth Assessment Subcommittee, CAPCOG staff presented an overview of the data they had collected; however, it became clear that access to water was by far the most important variable in determining where and what level of future growth could occur. As such, the committee members requested much more detailed data regarding water system boundaries, contract amounts, current usage, and projected future needs. This led to CAPCOG staff assembling the requested data—the first such effort ever done for the 10-county Capital Area. This data was mapped both alone and in connection with other land use and transportation data assembled to create a more complete picture of the dynamics that will be affecting future growth throughout the region. Based on the data presented, the subcommittee identified regional assets and issues, and established regional policy positions as outlined below. It is understood that a city or county may be experiencing different aspects of growth challenges described and thus, should select which policy recommendations best meet that community’s needs.

**Water**

**Assets**

- Water supplies are secured to serve all of the largest cities in the region well past 2030. Many fast-growing areas outside of city limits also have water supplies secured for future use.
• The eastern half of the capital area is rich in water resources with several sources for local supply having much unused capacity.

Issues

• Many parts of the region that have experienced rapid growth and development activity or that are likely areas for future expansion do not have reliable long-term water sources to sustain the projected growth.

• Subdivisions are being approved in areas where the water infrastructure has not yet been put in place.

• Many of the water systems in rural areas that are likely locations for future growth do not have adequate capacity to handle more than moderate growth. Additional water contracts for some of these areas may be exceedingly difficult to obtain.

• Due to much of the Highland Lakes’ capacity already being reserved, there will be some areas that will be limited in growth because they do not have adequate water resources.

• Between 2005 and 2008, much land was subdivided or developed in areas that do not have water systems. This could lead to a future drain on aquifer levels.

• The entire area of Williamson County and much of Travis County are not included in groundwater management areas, hence major draws upon the groundwater in these areas do not require permits.

• While water from the region’s aquifers is an abundant resource, the possibility of outside entities acquiring rights to that water is a significant factor that could limit the region’s long-term growth capacity.

• It is not entirely certain that all water contracts can be delivered in full if called upon simultaneously.

• The CAMPO 2035 plan scenarios shows numerous locations for roadways in areas that do not currently have water service.

Challenge: Water systems and the three water planning regions affecting the Capital Area do not act in a sufficiently coordinated, strategic manner to ensure that all areas well-suited for growth have adequate water reserved in an equitable manner.
Policy Recommendations

• Counties should pay special attention to water resources when reviewing proposed subdivisions:
  -- Verify water supply with developers, including demands on supply from other developments.
  -- Use build-out analysis of proposed supply to see if adequate resources are available once permitted and planned development is complete.
  -- Establish and enforce minimum lot sizes in places where drinking water and wastewater are handled with well and septic systems.
  -- Counties should be aware of all powers related to water and subdivision development in section 232 of local government code, other environmental statutes and apply them when possible.

• Work with utility providers to contain infrastructure growth.
  -- Use assessment of growth trends and planned expansion of resources in conjunction with transportation plans.
  -- Review, coordinate and monitor the plans of Municipal Utility Districts (MUDs), Special Utility Districts (WCIDs), or any other utility districts.

• Conservation of water resources through innovative design, reuse and reclamation, landscaping and education should be encouraged and considered in making service provision decisions.

• Development of new water sources should be a priority.

Land Use

Assets

• Strong regional population growth is expected to continue at approximately 50,000 per year; half of the region’s counties are projected to have double-digit growth.

• Much of the growth has been occurring within the central core area that is served by existing roads as well as current and planned transit systems.
• Portions of the east side of the region have some infrastructure in place, and while experiencing limited growth, could offer development opportunities that would aid in getting housing choices closer to job centers.

• Several counties in the region have expanded their efforts to control land use in their unincorporated areas through recently adopted ordinance revisions.

Issues

• Many approved or proposed developments are facing lengthy delays due to difficulties in funding infrastructure improvements and tighter construction financing. This development may slow residential housing growth, which could lead to higher housing prices and eventually slow job growth.

• Counties do not have the authority to regulate the type, location and density of development in the manner that cities (and counties in other states) have.

• The recently-completed Growth Assessment Survey showed that while many cities are doing a good job of tracking their approved and pending development, several of the region’s counties cannot quantify how much development is approved and yet to be built.

Challenge: Counties do not have adequate land use powers to assure development is suitable for the region’s long-term needs. Cities, while having sufficient land use control, often plan their land uses in isolation.

Policy Recommendations

• Encourage infill development and redevelopment, especially on vacant or underdeveloped parcels.

• Encourage growth in areas that will not require extension of infrastructure whenever possible, likewise discourage “leapfrog” development, especially if it requires additional future infrastructure and road improvements.

• Encourage preservation of rural character and the natural environment in unincorporated areas by creating buffers between urban and rural areas using conservation easements, scenic corridors, habitat conservation plans and the dedication of greenbelts.
• Local governments should work with other governmental entities and authorities to coordinate facility location (e.g. school districts).

• Promote a mix of housing products including smaller lot sizes and higher-density housing in cities to maximize use of resources.

• Promote a pedestrian-friendly “centers” concept within cities and larger new developments that includes mixed uses such as retail, commercial/office, and housing and could be served by many transportation modes including transit.

• Establish intergovernmental agreements to tackle land use and development issues of mutual interest

• Use comprehensive and annexation plans to direct growth in a planned and controlled manner.

• Counties should use their full land use authority to control development while working with state legislature to expand their land use authority.

**Transportation**

**Assets**

• The recently-adopted CAMPO 2035 plan includes an innovative “centers” concept that hopes to encourage more concentrated growth for land uses and transportation projects.

• Several counties are developing county transportation plans that will allow them to guide growth and better control development along major thoroughfares since state statute affords more authority once such a plan is in place.

**Issues**

• More than half of the households in the Austin-Round Rock-San Marcos MSA spend more than 45% of their household incomes on housing and transportation costs.

• Transportation connections between centers are often limited to personal vehicle travel on increasingly congested roads

• Each resident of the Austin-Round Rock urbanized area generates 28.7 vehicle miles traveled per day. In 1990, this figure was 21.8.
Developments are often approved without their impacts on roadway traffic and safety being fully assessed or mitigated.

Several counties do not have current transportation plans and are unable to designate major thoroughfares and control corridors due to legislative restrictions.

Due to the lack of federal and state funding, limited new highway construction will be added to accommodate the new residents that will be migrating to the region.

The current transportation project allocation process is too weighted towards local project submissions, not overall regional problems and needs.

Challenge: The area is suffering from congestion in the urban and suburban areas that threatens the region’s growth and future economic competitiveness but there is not enough funding to expand road capacity. Continued growth patterns coupled with a singular focus on passenger vehicles to move people to home and work will only exacerbate the problem.

Policy Recommendations

• Work to manage thoroughfare access, using city and county transportation plans and subdivision regulations.

• Plan for transit connections between centers as well as connections via other modes such as bicycle and pedestrian systems.

• Make cost-benefit analysis of transportation infrastructure costs part of the economic development project review process.

• Revise transportation plans to facilitate the integration of future transportation modes.
  --Create standardized roadway cross-sections that include bike and pedestrian access.
  --Use parkland dedication in subdivisions to create trail systems.

• “Work with what you have”-- Plan to maintain and more effectively utilize existing transportation infrastructure in light of limited funding for future expansion.

• Create a true regional approach to transportation project prioritization and funding that places priority on projects by regional need and addressing specific problems.

• Work with legislature to allow counties to gain the ability to create transportation impact fees.
Economic Development

Assets

- While the region experienced some increase in its unemployment rate since 2009, it has remained below the state and national rate; the region has continues to have job growth, which is an indication of its competitiveness.

- The capital area has a higher level of educational attainment than most large metropolitan areas in Texas and the United States as a whole.

Issues

- While the region has continued to experience job growth, a significant portion of it has been in industries with relatively low average wages such as retail, restaurants, hotels, and other local services.

- Educational attainment rates could have a long-term negative impact on the region since post secondary degrees will be needed to work in the higher wage jobs. Hispanics have accounted for 47% of the region’s growth since 2001, but only 21% are completing post secondary degrees compared to Asians at 71%, Whites at 54%, and African Americans at 31%.

Challenge: The region’s economic growth is potentially threatened by unplanned growth, traffic congestion and issues with the availability of water; current economic development activities give insufficient consideration to integrating the physical, infrastructure and natural resource constraints that are identified elsewhere in the Growth Assessment.

Policy Recommendations

- Strive to create reasonable commutes between home and work.

- Review proposed projects, especially their locations, for regional transportation impacts.

- Create jobs near residential concentrations of likely employees and housing near major employment centers.

- Counties should take the opportunity to apply transportation and land use controls when doing economic development projects with public funds.
• Local governments should adopt strategies to integrate access to higher education facilities when possible as a part of other new developments.

• Counties and cities should establish clear economic development policies and programs to guide review of proposed projects with consideration of other growth issues related to housing, mobility, and impact on the region.
Introduction

The growth that the Capital Area has experienced over the past few decades has been sustained and consistent. While this growth has transformed the region, making Austin and the surrounding areas much more prominent nationally and internationally, it has also created negative effects such as traffic congestion, air pollution and has overburdened the region’s infrastructure. As this growth continues, the region’s leaders need to know the possibilities, limits and implications of the region’s future growth.

With an aim towards understanding the growth that the region has experienced and is forecasted to experience in the future, CAPCOG staff, with the guidance and oversight of the Growth Assessment Subcommittee, has attempted to compile relevant data that will paint a comprehensive picture for the region’s elected officials. We believe this data is useful not only for gaining an understanding of the growth dynamics of the region, but also for expanding the awareness of local elected officials to the growth dynamics taking place outside of their respective jurisdictions.

Population and Employment Projections

The regional population and employment growth projections indicate a pattern where the most populous core counties of Travis, Williamson, and Hays along with Bastrop and Burnet Counties will receive almost all of the population growth to occur in the region (see Map 1). While all the counties listed will also see significant increases in jobs, Travis County will still maintain its position as the dominant employment center of the region’s economy (see Map 2). This would continue the current situation in which most residents of counties other than Travis must leave their home county to work. For example, over 80 percent of Caldwell County’s working residents must leave the county to commute to work. The figure is 79 percent for Bastrop County. Currently, all counties other than Travis County have at least 50 percent of their working residents leaving the county to work.

However, it should be noted that the population and employment projections are based on trends. One trend that has been responsible for the rapid growth of the region is the in-migration of residents from throughout Texas and the United States as well as immigration from other countries. This trend has shown recent signs of slowing amid the economic downturn that began in 2008. As was seen in the survey of local governments described later in this paper, many jurisdictions have seen development activity either slow down or stop completely starting in early 2009. Recent trends have seen a further slowdown in residential and commercial construction activity since that time.
Map 1: Historical and Projected Population

Map 2: Historical and Projected Employment
School Enrollment Projections

School enrollment projections are only available through the 2015-2016 school year. The district-by-district projections show very strong growth projected for the western areas of the 10-county region while relatively flat enrollment is expected in the eastern areas (See Map 3). The districts with the strongest overall projected growth are generally in the I-35 or US 183 corridors. Leading the projected growth is Leander ISD, with an anticipated 17,344 new students. The largest anticipated percentage growth is the Hutto school district, which is projected to nearly double during a six year span ending in 2015. Other school districts showing large projected gains include the Hays, Manor, Round Rock, Pflugerville and Austin ISDs.

CAPCOG Survey of City and County Governments

CAPCOG sent a 10-question survey to city and county governments within the region to determine each community’s approved development that was yet to be completed as well as what projects were in the submission stages. The questions asked respondents to quantify how many acres of industrial or commercial plus units of residential were approved in their communities. The survey also asked similar questions regarding development still in the “pipeline”. Also included were questions whether or not the development was occurring in areas with infrastructure already in place and whether or not the development was within city limits, in a city’s extraterritorial jurisdiction or in unincorporated areas. The results CAPCOG received were not comprehensive, but did create a strong sampling of what development is on the horizon in the region. The results contributed to the pattern seen in other data.
of strong growth along the I-35, US 183 and other major corridors, especially towards the center of the region. Anticipated growth appeared to be much slower in the far eastern and western parts of the region, with the exception of Burnet County.

In the case of this survey the non-responses were nearly as illuminating as the answers to the survey questions. One thing that emerged from the responses is that county governments, who often have been experiencing rapid growth in the unincorporated areas under their jurisdiction, are often unable to accurately determine how many housing units are approved but not yet built. This is especially problematic because it makes build-out analysis difficult and makes related projections such as school enrollment and water demand hard to determine. Despite these difficulties, participants identified over 120,000 approved residential units in their jurisdictions, along with 2,300 acres of approved commercial projects and 156 acres of industrial projects. Additionally, 5,461 acres of mixed-used projects were identified. About 6,000 units of residential development were also seen as being “In the pipeline”, that is proposed but not approved. Despite the impressive number of approved and proposed projects, there is no guarantee that these projects will be completed. In fact, due to the current economic climate, many of these projects may be either partially completed or simply never constructed.

**Land Development 2005-2008**

This map was created by comparing parcel geometry in 2005 and 2008 while also looking at the aerial photographs to determine where subdivision or development of existing parcels had occurred. The blue polygons show where parcels had either been changed (generally subdivided into smaller parcels) or where construction activity other than residential additions had occurred (See Map 4). The parcels analyzed were limited to lots that were vacant or agricultural and had been at least 5 acres in area during 2005. The resulting geographic data is useful for determining where the current “hotspots” in the region for development activity can be found. These maps show an easily observable ring of land development with strong clusters around the outside the city limits of the largest cities in the region. As will be seen in later maps, this data set combined with the water availability data is useful in indicating the nature of recent development occurring in the area.
Water Maps

As water availability emerged as the most prominent issue in discussions at Growth Assessment Subcommittee meetings, CAPCOG staff made an effort to provide the subcommittee members with comprehensive data regarding water availability and use in the region. The result of an effort that spanned several months, CAPCOG staff assembled a data base that showed the amount of water contracted in each water district from which data could be obtained. This data was assembled through contacting river authorities, regional water plans, aquifer authorities and many direct contacts with smaller water systems. While several smaller systems were unwilling to participate in the study, the effort captured complete data for all large and mid-sized systems in the region while also covering the vast majority of smaller water systems. The data collected was then merged with the Texas Water Development Board’s GIS file of water system boundaries. The resulting maps provide perhaps the most complete picture of water availability within the region to date. As will be seen in the descriptions of the individual maps below, the maps show a profound regional difference in water availability and water system coverage.
Percent of Contract Amount Used in 2007-2008

This map shows how much of the respective existing contract amounts of the existing water systems in the region are currently in use as of the 2007 and 2008 years (see Map 5). For the most part, the water systems serving high-population communities are using less than 60 percent of their contract amounts. On the other hand, several water systems along the border between Caldwell and Hays counties used more than their contracted amount in 2008, meaning they needed to buy additional water to meet their customers’ needs during the year. This map can be seen as one metric for determining where growth could occur, but does not specify the amount of growth that is possible.

Percent of 2030 need met with existing contracts

This map shows what percentage of projected water needs for 2030 that are currently under contract in each of the region’s water systems for which data was available. The map (Map 6) shows that the region’s major cities are well situated to meet their needs in 2030. Despite the overall positive nature of the map’s findings, there are a few points for caution. First, several areas outside of big cities have water systems whose current contracts fall short of their projected needs. These areas with inadequate
Map 6: Percentage of 2030 Water Need Met with Existing Water Contracts

Long-term contracts are generally located in areas where growth is likely to spread from nearby cities. Secondly, as with every map in this project, it should be noted that there are white spaces on the maps that indicate areas where there is no water infrastructure available. In some cases, this may mean that major development may not be possible in these areas due to both the inability to obtain water contracts and the high cost of building infrastructure to transport water to these areas.

Gross unused water in 2007-2008

This map (Map 7) is useful in that it shows not the percent of contracted water of 2030 need available, but the gross amount for future use available in each water system. These amounts are measured in acre-feet. This map can be seen as the best in our collection of water-related maps in terms of its ability to show the capacity for future growth. A rough rule of thumb for municipal water consumption is one acre-foot per seven residents. Not surprisingly, Austin with its large current size and predicted future growth has the greatest current surplus. Other areas with large reserves include Cedar Park, Round Rock, Leander and Bastrop-based Aqua Water. As these areas are all slated for strong growth, this shows that these areas have committed to having water available to meet the growth. One of the other takeaways is that many of the systems outside the major cities in the western part of the region have very small systems without much water available.
This lack of water infrastructure may limit growth in the western parts of the region, defined as areas more than 5-10 miles west of the escarpment. On the other hand, areas in the eastern parts of the Capital Area have great reserves of water, but little projected growth and very limited transmission systems to bring the water to potential new users.

Water Availability and 2010 and 2035 Road Networks

These maps are a “before and after” (maps 8 and 9) of the CAMPO road networks and their relation to the current water systems and the amount of water the systems have to accommodate growth. The notable takeaway from these maps is that there are new roads that show up on the 2035 map that are outside of the current service areas of water systems. This is especially the case in western Hays and Travis Counties.
Map 8: Gross Unused Water and Existing Road network

Map 9: Gross Unused water and CAMPO 2035 trend road network
Water Availability and Land Fragmentation

This map (Map 10) shows where land has been fragmented, meaning developed or subdivided (pink polygons) superimposed over the gross water availability map. The period over which these lands were fragmented was 2005-2008. While much of the land that has been fragmented is within the territory of a water system, there is a significant number of newly fragmented parcels that are outside of the limits of the water systems identified on the map. This means that these parcels are likely using groundwater and septic systems rather than being served by an existing water system. This low density development approach may be feasible in its current extent. However, if done on a mass scale, this may result in the depletion of aquifer levels.
Greenprint Lands, New Roads and Water Supply

This map (Map 11) shows the relationship between lands prioritized in the Central Texas Greenprint, the regional water system and the future road network from the CAMPO 2035 plan. This process involved county stakeholders prioritizing the natural features they felt were most important to be preserved in their counties and the project team delivering a mapping showing which properties have the qualities deemed most valuable for conservation. In the resulting Greenprint layer, red is highest priority, orange is high priority, and yellow is medium priority. No color or white means no conservation priority has been placed on the land. In cases in which lands are not prioritized but are within a water system, this map will show the blue shaded color relaying the percentage of the 2030 water need that is met by the existing water system. The overall map and its county close-ups reveal that in Hays, Caldwell and western Travis counties many of the highest priority lands are outside current water systems. The high conservation value of the lands combined with the difficulty of bringing water to areas without water systems may result in these areas largely retaining their rural character.
Water Availability and CAMPO Household Growth

This map (map 12) superimposes household growth by traffic analysis zone (TAZ) as projected in the CAMPO 2035 plan with the current water availability (unused contract amount) in each water system. The individual county maps show the largest predicted residential growth TAZ areas in each county. The shading of the water systems colors reflects the relative number of new households to be added in each TAZ. For the most part, the largest projected growth areas are in water systems with sufficient additional capacity. There are, however, some parts of eastern Hays and southern Travis counties that have growth projected in areas where the water system does not even meet current demand. Perhaps even more notable are the areas of Burnet County where thousands of households are projected to be
added despite the areas of projected growth not currently being within existing water systems. These areas are indicated where there are shaded gray TAZ areas on the map, which shows there is no water supply in the area to provide a color indicating gross water supply to be shaded. In both cases, decision makers should decide whether this projected growth would be feasible or whether it is likely to occur in areas with resources that can more readily handle growth.

Groundwater Districts in Central Texas

This map (Map 13) shows the groundwater districts in the CAPCOG region. While the whole state is divided into groundwater management areas, the jurisdictions that actually can control permitting of pumpage of groundwater are priority groundwater management areas (PGMAs) and groundwater conservation districts (GCDs). The most important takeaway from this map is that all of Williamson County and much of Travis County are not located in a PGMA or GCD. That means these fast-growing areas do not have the power to regulate groundwater extraction the way other counties in the region can.
Concluding Remarks

Since the initial collection and presentation of the data, especially the water-related elements, CAPCOG staff presented its findings to a panel of officials from local and state agencies working to forge policies to address regional water issues. Additionally, staff shared the findings with several individuals from the development community. Both groups agreed that while some data was missing, the overall picture of water availability that the data presents is indeed correct. The viewers from the development community also were quick to add that in many cases the cost of bringing water to areas that were shown as currently not being part of a water system could inhibit future development.