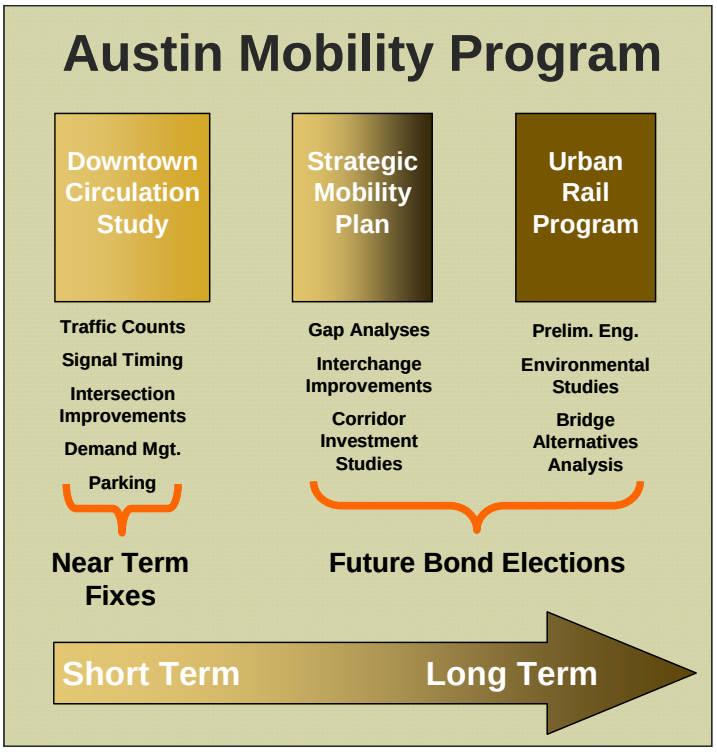
City of Austin
Central Austin Circulation Study
Executive Overview

The Central Austin Circulation Study represents the first element in the Austin Mobility Program. The Austin Mobility Program or AMP is designed to identify and address the mobility needs of the Austin region, focusing on issues affecting the economic vitality and quality of life within the central core of the region.

Austin Mobility Program: Three Interrelated Efforts:

The Austin Mobility Program consists of three interrelated efforts of which the Central Austin Circulation Study represents the first installment:

- **Central Austin Circulation Study** – identifying the existing mobility challenges for travelers accessing the central core of Austin and identifying short-term network modifications that might address those needs.
- **Strategic Mobility Plan** – identifying the transportation system gaps within the multi-modal network affecting Austin and Travis County and developing corridor level and sustainable long-range transportation plans to assure the continued economic and environmental success of Austin.
- **Urban Rail Program** – providing detailed planning, design, environmental documentation, and implementation of proposed rail and bus transit networks intended to increase the accessibility of central Austin and the region.



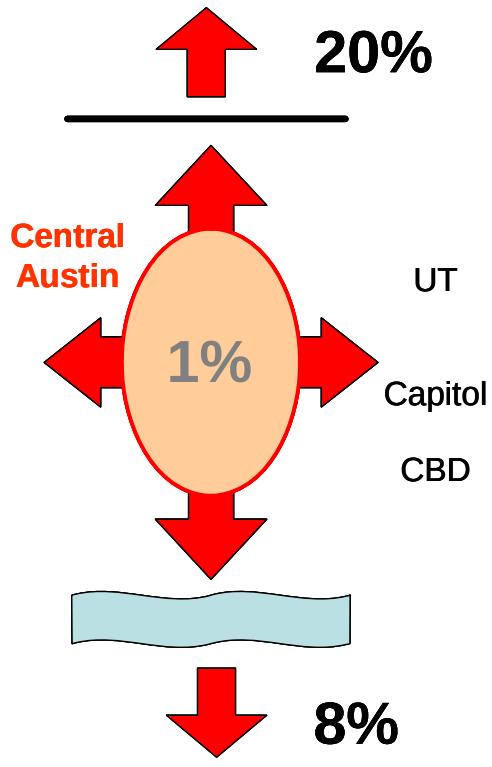
Central Austin Circulation Study (CACS)

The City of Austin partnered with the Greater Austin Chamber of Commerce to conduct a Central Austin Circulation Study in Dec. 2008. The Circulation Study is intended to evaluate the existing mobility of central Austin roadways feeding the regional core, generally defined as the central business district, Capital Complex, and University of Texas. The study area is generally bound by Lamar Blvd on the west, 38th Street on the north, IH 35 on the east, and the Colorado River on the south. Major arterials extending westward to Loop 1 (MoPac) and southward to Ben White Blvd. (US 290/71) were also studied as part of the effort to evaluate the effect of central Austin travel demand on those arteries as well.

The cornerstone of the Central Austin Circulation Study is the reinstitution of an annual traffic count program. The City of Austin discontinued an annual traffic count program in 1992 and instead relied upon traffic counts taken in support of specific traffic investigations. Traffic saturation counts collected by the Texas Department of Transportation (TXDOT) on a three to five year basis also provided a foundation for long-term tracking of trends. However, without annual or semiannual counts, detailed tracking of changes in travel patterns due to the rapid development in downtown Austin is difficult. An improved traffic count data base will provide for improved decision making ability by allowing problem identification, selection of the right tools to address observed needs, and improved signal analysis and problem resolution.

Long term collection of traffic counts, especially when standard count locations are used year after year, will assist in trend tracking. Counts taken in the spring of 2009 can be compared to the last counts taken by the City in 1992 to identify growth trends and long-term changes in travel patterns.

The findings from the detailed traffic analysis are detailed in the accompanying report and appendix to this executive overview. Key findings are provided below. Discussion of the implications from these findings is provided in the following sections of this executive overview.



Growth in Daily Vehicle Trips 1992 to 2009

Key Findings

1. Daily traffic volumes within central Austin are virtually unchanged from 1992 (1% change)
2. Average 8% increase in traffic along South Lamar Boulevard, South 1st Street, and South Congress Avenue – South of Colorado River
3. Average 20% increase in daily vehicle trips on major arterials north of the University of Texas
4. V/C ratios of 0.99 indicate that the arterial roadways serving the CBD are at capacity and have a limited ability to move additional vehicles into and out of the CBD.

5. The arterial roadways studied are congested during the morning and evening peak hours. The peak period has a duration of greater than a single hour and shows evidence of continued spreading.
6. Weekday traffic volumes are generally highest on Friday and lowest on Monday.
7. Lamar Boulevard Bridge (4-lane bridge) carries over 10,000 vehicles more per day than does either the South 1st Street or Congress Avenue Bridges (6-lane bridges).
8. Over 29,000 vehicles enter the CBD during the morning peak hour, and over 30,000 vehicles exit the CBD during the evening peak hour.
9. Weekday traffic data collection shows over half a million vehicles enter and exit central Austin during a 24-hour period.
10. Additional traffic data is needed to determine seasonal variations in traffic volumes.

Traffic Congestion Impacts Mobility

As indicated in the Key Findings, daily traffic volumes entering and leaving central Austin have not significantly changed in the past eighteen years. Daily vehicle trips measured at the perimeter of the arterial network feeding central Austin show only a 1% change in volumes for 2009 as compared to those volumes counted in 1992. A 1% change in daily traffic volume is less then that expected in the Austin region due to seasonal variations. During this same time frame, jobs in central Austin are estimated to have grown by more than 13% and residential units in downtown by approximately 118%. Comparing job and residential growth to that of travel demand crossing in and out of Central Austin clearly suggests other factors are at work that have allowed the center city to continue growing without significant change in the number of trips crossing its borders, factors that might have profound economic implications.

Downtown Economic Activity Jumps its Traditional Boundaries

Daily traffic volumes both north and south of central Austin indicate strong growth in daily vehicle trips over the same time period for which little growth in and out of central Austin is recorded. Daily vehicle trips north of the University area increased by nearly 20% between 1992 and 2009, and vehicle trips south of the River increased by 8%. This suggests that the economic activity once reserved to only downtown is rapidly developing on the outskirts of the central Austin business district. Anecdotally, this growth can be seen resulting in the Triangle Development between Lamar and Guadalupe, the Seton Hospital complex, as well as the rapid development of South Congress, South Lamar and the Barton Springs Corridor.

Downtown Street Grid is at Capacity

Analysis of transportation capacity begins to shed some understanding of the phenomenon occurring in central Austin. The travel capacity of the central Austin street grid can be theoretically calculated on a street by street basis. The capacity of an urban street grid is affected by the number of travel lanes available, the presence and operational characteristics of signals, and the design of the street system. When observed vehicle volumes are compared to the calculated capacity of the system, a V/C ratio is calculated that represents the amount of the system utilization. For the routes leading in and out of central Austin, a V/C ratio equal to 0.99 was calculated based on both the 1992 and 2009 counts. This indicates that the Austin street grid leading in and out of central Austin is full and has been so for nearly 20 years. If the major arterials leading south of the river are examined, the V/C ratio deteriorates to 1.26. All this suggests that the system is at its saturation point. On a daily basis, few additional trips can make it into central Austin and those that do find a system that is critical. Anytime a minor incident, construction project, or special event occurs on one of the several major arteries feeding central Austin – the entire travel network often breaks down unpredictably. There is some capacity available within specific corridors; however these streets are easily overwhelmed from traffic diverting from arterials that are already over capacity or affected by an event.

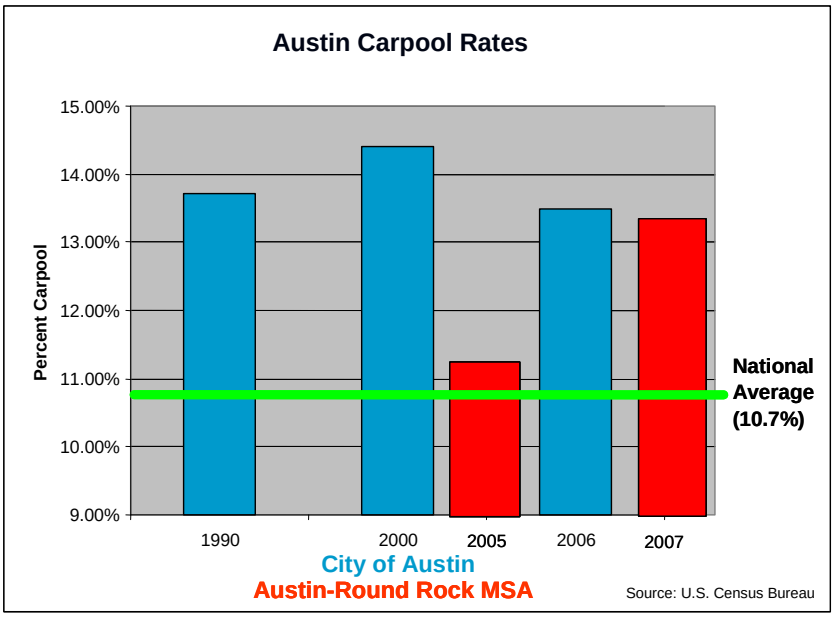
Peak Period Travel Trends Foreshadow Possible Economic Impacts

Review of Central Austin peak travel periods, those portions of the travel day represented by the morning and evening commute periods, suggest that the peak travel times are getting longer in duration and result in greater traffic congestion. This finding, along with the lack of growth in total daily vehicle trips, suggests that a greater proportion of the daily trips into and out of central Austin are devoted to peak period travel and therefore are likely work related trips. As the proportion of total trips devoted to work trips increases, other discretionary trips such as regional shopping and entertainment trips are speculated to be being squeezed out of the travel day. Anecdotal evidence of this can be found in the history of the loss of regional retail from downtown Austin. As the transportation system becomes increasingly full to capacity (as represented by a V/C ratio of 0.99) and as greater numbers of trips are devoted to non-discretionary employment based trips, fewer opportunities for retail customers to reach centrally located regional retail exist. Stores, responding to this squeeze on customer access flee to suburban shopping malls and locations outside the core as was seen in Austin throughout the decades of the ‘70s, ‘80s, and ‘90s and as evidenced by the long list of downtown Austin retail losses and suburban mall openings:

- **1970’s**: JC Penney, Levines, Western Auto leave downtown; Northcross, Highland, Hancock and Capital Plaza Shopping Centers Open
- **1980’s:** Kress, Scarbroughs Department Store, and Woolworth’s leave downtown; Barton Creek Mall Opens
- **1990’s:** Reynolds Penland, Yarings, and Congress Avenue Booksellers leave downtown

This pattern of squeezing out discretionary trips and the intensification of peak period work related trips suggests that downtown employment such as financial, government and education related jobs have continued to concentrate in central Austin. This is a phenomenon that the Greater Austin Chamber of Commerce and the City of Austin have recognized through their programmatic efforts to increase residential development within downtown and in their efforts to expand the diversity of land uses such as retail, entertainment, and other similar "around the clock" type activities in downtown. A healthy mix of activities not only adds to the economic vitality of the community, it seeks to take advantage of the remaining transportation capacity offered by the network in the "off-direction."

Austin Commuters Find New Ways to Reach, Stay within Central City



Austinites have also found new ways to access central Austin, with many choosing to stay within this area for both their job and residential needs. Between 1992 and 2009, downtown alone gained 4,600 new residents, a 118% increase. Likewise, new residential construction in the West Campus area is noticeable on the University of Texas perimeter. However, these new found residential communities cannot compensate for the entire growth in employment and economic activity seen over the past 18 years within central Austin. Austinites are still traveling from outer neighborhoods to the central Austin regional core. Evidence from the US Census Bureau suggests another phenomenon occurring – carpooling. On average, between 11 and 14 percent of the traveling public to and from work do so in some form of carpool. This is remarkable, when the national average carpool rate is only 10.7%. Furthermore, within the Austin region almost no incentives or inducements to form a carpool are provided (i.e., the region has no high occupancy vehicle lanes – HOV lanes - as provided by both the Houston and Dallas regions). Other forms of alternative transportation are also popular. Bicycle trips to and from work account for nearly 1% of the regional travel market and transit accounts for nearly 5 percent on a regional basis. When the central city is examined separately from the region, it is most certain that these two modes account for a much larger share, given the concentration of both bicycle and transit infrastructure serving central Austin.

Getting Austin Moving

Findings from the Central Austin Circulation study point to the need for a coordinated short- and long-term approach to improving mobility for the citizens of Austin. This approach takes the form of early actions that can be implemented to relieve immediate stresses within the transportation network and longer term planning projects such as the Strategic Mobility Plan and Urban Rail Program which will identify existing and future infrastructure needs and seek implementation.

Early Actions

The Austin Transportation Department, in coordination with the Public Works Department and regional transportation providers, is working to implement early action projects that may provide short-term relief to the traveling public. Through partnership with the Greater Austin Chamber of Commerce, the City of Austin is evaluating traffic mitigation projects recommended by the Chamber's Take on Traffic subcommittee. Projects that include recommendations for signal retiming and intersection modifications are being explored as quick solutions to specific bottlenecks. An example of such an improvement is the recent linking of the Lavaca/Guadalupe downtown signal grid to the Guadalupe/University grid. This modification of the signal system allows for a smooth signal progression between Cesar Chavez and Martin Luther King Jr. Boulevard on both Lavaca and Guadalupe Streets. The City of Austin has recently modified its standard street marking process to include back-shadowing for all striping in an attempt to increase the visibility of markings. Improved visibility of traffic markings reduces confusion on the part of drivers and improves the safety of the network. Austin is seeking dedicated capital improvement budgets to fund similar type projects proposed by the Chamber and identified by our on-going analysis of the central city network. These improvements are intended to deliver incremental traffic flow improvements within the network. Along with the Public Works Department, ATD is also advancing sidewalk and bicycle improvements to close critical gaps within the network, focusing on maximizing the accessibility of these facilities.

Traffic Demand Management

Working closely with regional transportation planning and infrastructure providers, the City of Austin is striving to improve regional strategies for demand management. Transportation demand management (TDM) strategies seek to maintain economic activity within the region while at the same time reducing the use of the single occupant vehicle, reducing the need to travel on area transportation networks, and encouraging alternative modes of travel. Demand management strategies can be thought of as methods to conserve the transportation system. Not only do these strategies reduce common air pollutants, they can reduce traffic congestion on area roadways. Reducing existing demand and congestion will delay the need for new transportation facilities, buying the region time to plan and implement badly needed major infrastructure such as new or missing roadway bridges and interchange ramps, expanded transit and rail systems, and expanded bicycle and pedestrian pathways. The Austin Transportation Department will lead and support the development of a comprehensive transportation demand management program focused on central Austin.

On-Street Parking

On-street parking system is part of the overall transportation network. The City of Austin is in the process of modernizing the city's on-street parking system, converting single space meters to multi-space pay stations. The pay stations are expected to expand the availability of on-street parking spaces within the downtown system.

Driver Information Systems

The City of Austin is seeking improved driver information systems in the form of an arterial based variable message sign system. This driver information system, combined with the systems operated on the regional freeway system by TxDOT will provide drivers with advance information related to downstream accidents and special events. Improved driver information will lead to reduced circuitous routing by drivers seeking alternate routes, reduced confusion during special events, and reduced driver frustration. Comprehensive driver information systems are expensive, but can greatly impact congestion relief. Austin is seeking all available grants and transportation funding programs to assist with the cost of system acquisition.

Interchange Completion

Regionally, the City of Austin is promoting the completion of the IH 35 /US 290 Ben White Boulevard Interchange by TxDOT. We are seeking pass-through funding to complete the MoPac at Ben White interchange, and we are supporting Capital Metro in the deployment of bus rapid transit and freeway transit enhancements.

On-Going Focus on Transportation

The City of Austin is continuing with a robust transportation program that will include the entire community in identifying problems and developing solutions for the central core and the expanded region. With community involvement and commitment, Austin can direct transportation investments to meet its greatest challenges.