

MAG Regional
Transit

Framework Study

Understanding of Related Studies & Plans
Review of Transit Policies and
Funding Strategies in Peer Regions

Draft Report

April 30, 2008



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DRAFT

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Introduction

In order to develop a useful transit framework for the region, this document has been prepared to describe the many related planning efforts in Maricopa County, whether completed, currently underway, or impending. Based on the review of these documents, and discussions with key regional agencies, a matrix is also being developed to detail issues, policies, document findings, and other relevant issues that require understanding and coordination. In addition, six peer regions have been identified to serve as a basis of comparison of transit policies and funding strategies. This document outlines this information and provides tables and graphics detailing the comparison of transit data in six peer regions.

1.0 Understanding of Related Studies and Plans

The following section summarizes information developed from previous and ongoing studies that are relevant to the Regional Transit Framework Study (RTFS). These planning efforts were intended to achieve various purposes, but collectively they will help create the working vision for regional transit in the Maricopa Association of Governments (MAG) region.

1.1 MAG Regional Transportation Plan

Valley Metro FY 2007 Transit Life Cycle Program Update and Regional Transportation Plan Evaluation (RPTA – 2007)

The Transit Life Cycle Program (TLCP) is a 20-year planning tool for implementing the transit element of the MAG RTP. The fiscal year (FY) 2007 TLCP Update and RTP transit element review were undertaken to identify and document the specifications for all planned transit services, facilities and fleet. In addition to documenting project-level specifications, the plan review includes an operational and financial feasibility analysis. The operations feasibility analysis was conducted to identify planned fixed route bus alignments, service and capital project phasing, and facility capacity. The financial analysis includes a review of the financial assumptions within the TLCP cash flow model to determine the relevance and accuracy of input variables such as service rates, fare recovery ratio, inflation and fund allocations to regional stakeholders.

Regional Transportation Plan (MAG – 2007)

The Regional Transportation Plan (RTP) is a comprehensive plan developed for Maricopa County that outlines transportation improvements with a 2028 planning horizon. The current RTP was adopted in 2007 which includes the 2003 comprehensive amendment and all subsequent annual updates.

The RTP, prepared by the MAG, is organized into three sections. The first section provides an overview of the planning process with the approach to developing the plan, a description of goals and objectives, a review of existing conditions in the region, and the role of government agencies and the public in developing the plan. The second section provides an overview of the transportation modes including a financial plan, planned capital and transportation improvements, and funding programs that address special needs. The third section identifies various measures that are in place to improve the performance of the transit system.

Regional Transportation Plan—Phase 1 Study (MAG – 2003)

During Phase 1 of Regional Transportation Plan development, completed in February 2003, MAG conducted the following tasks and activities:

- A series of public “expert panel” forums and issue papers, on the subjects of demographics and social change; the New Economy; land use and urban development; environmental and resource issues; and transportation modes and technologies.
- A series of 16 subregional focus groups involving 216 participants, as well as interviews with staff members from twenty-two cities, towns, Indian communities and resource agencies.
- A review of trends in transportation system characteristics and performance, with projections to 2025 and 2040.

- A definition of values, goals and objectives.
- A comparative evaluation of four alternative growth concepts—loosely based on the four scenarios from the Urban Form Study—that assessed the degree to which each concept supports the goals and objectives.
- An assessment of long-range transportation needs, including both roadways and transit. The transit methodology involved a comparison with current (year 2000) service levels in two metro areas (Chicago and Los Angeles) whose population the MAG region is expected to approach by 2050.

The 2003 study determines that if MAG implements only the transit service levels proposed for 2022 in the RTP Phase I Report, year 2050 bus service would need to be increased by an additional 20 percent to match the per-capita service level in Los Angeles today, or by 26 percent to match the current service level in Chicago. The same LRTP Update calls for metro Phoenix to have 500 annual vehicle revenue miles (VRM) of rail transit service per 1,000 residents in 2050—about half the service level today in Los Angeles (900 VRM per 1,000 residents), and only a fraction of the current 10,200 VRM per 1,000 Chicago-area residents.

Valley Metro Regional Transit System Study (RPTA – 2003)

The Valley Metro/ Regional Public Transportation Authority (RPTA) 2003 Regional Transit System Study (RTS) provides a fiscally constrained regional, multi-modal transit plan for Maricopa County and Northern Pinal County for implementation through the year 2030. Through coordination with existing transit-oriented regional studies, the RTS serves as an update to the 1999 RPTA Long Range Transit Plan and is a source of information for the succeeding MAG RTP. The RTS evaluates all modes of public transit, other than fixed guideway/high capacity transit, to determine how best to meet current and future transportation needs in the region.

The RTS examines cumulative operating costs in 10-year intervals and for the entire projected implementation duration (2002 to 2030). Potential federal, state, and local funding sources are also identified. The RTS provides recommendations concerning the following transit-related components by 2030:

- Local Transit Service – Increase the number of local fixed routes on existing arterials.
- Rural / Non-Fixed Route Service – Provide rural access connectivity to the urban fixed route network.
- Regional Transit Service – Where possible, use existing infrastructure to access major activity centers during peak periods.
- Paratransit (all modes of transit service intended to serve seniors and persons with disabilities exclusively) – Determine how paratransit service may connect with fixed route service at transit centers or other transit nodes.
- Transit Demand Management (TDM) – Implement low-cost projects and programs to encourage alternative travel modes for single-occupancy drivers.
- Capital Projects – Consider operating and maintenance facilities, passenger infrastructure, and passenger facilities.

1.2 MAG Area Transportation Framework Studies

Interstate 8 and Interstate 10 Hidden Valley Transportation Framework Study (MAG – Ongoing)

Encouraged by the success of the Hassayampa Framework Study, MAG initiated a similar study for the rapidly growing Hidden Valley area of Maricopa and Pinal counties in early 2007. The Hidden Valley study covers an area larger than the state of Delaware—bounded roughly by the Gila River on the north, I-8 on the south, Overfield Road (east of I-10) on the east, and 459th Avenue on the west. This area encompasses portions of three tribal communities; all or part of Buckeye, Goodyear, Maricopa (city) and Casa Grande; several wilderness areas; and the Sonoran Desert National Monument. This study is scheduled to conclude by the fall of 2008.

The study is considering not only alternative roadway (freeway and parkway) networks, but transit alternatives as well. For the long term, these alternatives envision several BRT routes connecting Hidden Valley communities to the heart of metropolitan Phoenix, as well as transit linkages to future commuter rail, local transit systems in the urbanized portions of the study area, and potential limited-stop service along designated transit corridors. The transit and roadway alternatives will be evaluated separately to generate a recommended multimodal framework that can meet mobility needs in both counties at buildout.

Interstate 10-Hassayampa Valley Roadway Framework Study (MAG – 2008)

The project area for this first MAG framework study, completed in the spring of 2008, covers a large portion of western Maricopa County, generally bounded by SR-74 (or a projection thereof) on the north, the Gila River on the south, SR-303L (Estrella Freeway alignment) on the east, and the 459th Avenue section line on the west. Most of this area lies within the cities of Buckeye and Surprise and unincorporated Maricopa County.

The Phoenix metropolitan area is one of the nation's fastest growing population centers, and a large proportion of the growth projected for the next 20 to 30 years is expected to occur within the limits of this study. The best available forecasts indicate that Buckeye and Surprise will someday be two of the four largest cities in Arizona. It is important to begin planning now for a transportation network that will be able to accommodate future travel demand. One immediate concern driving this study was the need to establish the location of future interchanges along I-10 in accordance with Federal Highway Administration spacing guidelines.

The goal of the study is to develop a planned roadway network, and to define and prioritize improvements to I-10 while forming a framework for regional connections. Key elements include:

1. Develop a network of north/south and east/west roadways, varying in functional classification, that will provide access throughout the study area and preserve I-10. The recommended network includes a new "parkway" classification, intermediate in capacity between freeways and conventional arterials.
2. Formulate a phased implementation scheme for constructing the roadway framework, regional connections and future I-10 interchanges.
3. Study opportunities to incorporate alternative transportation modes into the roadway framework.
4. Evaluate funding options and create a financing plan for the proposed roadway framework.
5. Identify and preserve right-of-way for future travel corridors.

Although this is primarily a roadway study, MAG did consider potential transit systems at a very general level. The study recommends consideration of a new north-south freight rail corridor that might also accommodate commuter rail; expanded bus rapid transit (BRT) connecting the Hassayampa Valley with the center of the MAG region, and potential high-capacity transit to expedite travel within the study area and between its communities. Due to a strong interest on the part of the funding partners [Buckeye, Goodyear, Surprise, Maricopa County and the Arizona Department of Transportation (ADOT)] and other stakeholders, MAG decided to put more emphasis on transit in future framework studies such as Hidden Valley.

1.3 Other Regional Transportation Plans and Studies

Draft Commuter Rail Strategic Plan (MAG – Adopted April 2008)

The Draft Commuter Rail Strategic Plan, completed in February 2008, provides a framework on how commuter rail could be implemented in the MAG region and northern Pinal County. The study area is further separated into five "subareas" that focused around existing rail lines and provided smaller geographic study areas to help focus stakeholder involvement to specific locations. Several key agencies contributed to the development of the strategic plan, including MAG, the Commuter Rail Stakeholders Group (CRSG), and representatives from ADOT, Metro Light Rail Inc. (METRO), and the RPTA.

Through analysis of demographic trends, the Commuter Rail Strategic Plan acknowledges that the study area is experiencing substantial population growth, with Apache Junction, Gilbert and Pinal County expected to grow fastest. A large amount of the employment growth is occurring in the Central Business District (CBD) of Phoenix, resulting in the need for commuters to reach the CBD from their areas of residence in outlying communities. Unless substantial

improvements are made to roadways expected to serve travel demand, the capacity available will not meet the demand. The Commuter Rail Strategic Plan examines how commuter rail may serve these future demographic trends by operating on existing freight railroad lines and possibly on potential future extensions.

METRO Light Rail System Configuration Study (METRO – Ongoing)

A 57-mile network of high capacity transit service is identified in the MAG RTP. The network includes the 20-mile LRT starter line scheduled to be operational in December 2008 and 37 additional miles in other interconnected corridors. The METRO Light Rail System Configuration Study, which will be complete in the spring of 2009, is being conducted to develop an operations scenario for the entire 57-mile transit network. Included as part of the study is a definition for the regional background bus system, an analysis of traffic impacts associated with operating the 57-mile network, and an analysis of alternative endpoints for each of the “branches” formed by the network.

RPTA Bus Stop Program and Standards (RPTA – 2008)

The RPTA Bus Stop Program and Standards project began in 2007 with the goal of developing a list of standards for the construction and maintenance of bus stops throughout the Valley Metro region. The findings and recommendation report is organized into six sections including an introduction, a major findings and recommendations section, a section relating to bus stop improvements, an application process section, and a follow-on work section. The report recommends a set of guidelines to maintain a consistent regionwide bus stop inventory, a list of criteria for prioritizing bus stops, guidelines for transit amenities and funding allocations based on passenger boardings, and an application process by which cities and towns can apply for local bus stop funding.

In addition to the Findings and Recommendations report, the Bus Stop Design Guidelines were also created during this study. The purpose of this report is to develop a set of guidelines for the identification, design, and implementation of bus stops throughout the Valley Metro region. This report includes guidance on site selection, accessibility requirements, bus stop amenities, and route information and signage.

RPTA Freeway Express Bus/BRT Operating Plan (RPTA – 2007)

The Freeway Express Bus/BRT Operating Plan provides a summary and technical review of the planned RTP express bus route network. The study identifies major findings and recommendations in several areas, including ridership potential on new routes, the implementation schedule, and route structure planning principles. Route adjustments including route alignment and service levels are recommended in the study. The route level recommendations have been incorporated into the RPTA Transit Life Cycle Program.

Draft Regional Paratransit Study Final Report (RPTA – 2007)

The Regional Paratransit Study is a comprehensive report that documents a review of existing studies, current services, service barriers and needs, projected service demand, and current American with Disabilities Act (ADA) eligibility policies. A recommended regional service plan with an implementation strategy is included in the study. The recommendations include consolidating reservations, scheduling and dispatch functions while administering decentralized operations. A two-phase approach is recommended, with the first phase providing centralized reservations, scheduling and dispatch functions for all ADA trip requests in the region as well as non-ADA trips in Phoenix and the East Valley. Phase II incorporates services related to non-ADA trips in the West Valley. A funding source to implement the Regional Paratransit Study recommendations has not been secured, but the recommendations from the report will be incorporated into the Regional Transit Framework Study.

MAG High-Capacity Transit Study (MAG – 2003)

The MAG High-Capacity Transit Study, completed in 2003, presents a recommendation of the network of new transit facilities to meet growing travel demand in the MAG region. The long-range study considers projected travel demand in the MAG region with a forecast horizon year of 2040, when forecasted population in the MAG region will reach over 7 million residents. The focus of the study is to identify proven transit technologies that are capable of meeting the levels of travel demand projected in the MAG region while also serving several types of trips, both long-range and shorter distance. The three most prevalent existing and emerging forms of high capacity transit in North America are examined in the study: commuter rail, light rail transit, and bus rapid transit. The study presents a Recommended High Capacity Transit Network based on an integrated system of high capacity transit corridors intended to provide efficient and

convenient travel throughout the MAG region, including the likely connection points between each corridor and corridors intersections. The findings and recommendations presented in this study were considered in the development of the 2003 RTP.

Park-and-Ride Site Selection Study (MAG – 2001)

The MAG Park-and-Ride Study was completed in January 2001 with the purpose of identifying park-and-ride lot locations that support carpooling, vanpooling, and express bus operations within the region. The park-and-ride study is composed of eight sections, including an executive summary, a literature review and documentation of existing conditions, selection and design criteria, target area evaluations, site evaluations, a management and operations plan, programming, and agency and public involvement.

The literature review and documentation of existing conditions section identifies the characteristics of park-and-ride programs in four peer cities, and documented the current and planned facility and transit improvements for the region. The selection and design criteria section outlines the basic standards for site selection, as well as basic design criteria to assist agencies and developers with park-and-ride development. The target area evaluation section describes the criteria used for identifying the target areas, provides information on all 32 target areas, and compares the target areas against each of the site selection criteria. The section on site evaluation for short- and long-term park-and-ride lots includes a description of the evaluation criteria and measures, comprehensive information for every site identified in each target area, and a summary of each target area identified in the region. Operations and maintenance cost estimates for new park-and-ride facilities are based on operations and maintenance costs from four peer cities, while the agency and public involvement section described the planning process for developing the park-and-ride lot recommendations. Finally, the programming section identifies the programming of funds for the implementation of the park-and-ride program over five years.

With the assistance of local, regional, and state agencies, a total of 20 target areas are identified (from a total of 32 areas) for future park-and-ride development. Ten sites are identified for short-term development (within 5 years), and the remaining sites are identified for long-term development. The long-term facilities are identified along future planned roadways in order to preserve the right-of-way for future park-and-ride development.

Urban Form Study (MAG – 1995)

The MAG Urban Form Study, completed in January 1995, is an ambitious effort to evaluate how various urban forms can influence mobility, air quality, infrastructure costs and quality of life in Maricopa County. In addition, the study identifies implementation measures describing actions that could be taken to implement each urban form. The forms analyzed were:

- The Base Case option, assuming that local jurisdictions would implement their existing general plans and that MAG would implement its Long Range Transportation Plan.
- The Corridors option, concentrating a portion of projected employment and residential growth from 1990 to 2020 along a series of transportation corridors in the region.
- The Dispersed/Balanced option, dispersing a portion of employment growth between 1990 and 2020 from the central subregion to other subregions in the MAG area. This option is intended to assess the implications of providing a better jobs/housing balance.
- The Polycentric option, concentrating a portion of projected employment and residential growth in a series of centers throughout the region. These centers generally correspond to high-intensity nodes identified in general plans, such as urban village cores, suburban downtowns and regional shopping centers.

The study found that the relationship between land use patterns and transportation can indeed influence traffic congestion, air quality and mobility. For example, the Dispersed/Balanced option could decrease levels of congestion and improve air quality in the MAG region. Of special interest to the Transit Framework Study, the modeling results indicate that the Polycentric and Corridors options could worsen congestion and air pollution *in the absence of a supportive transportation system*. With such a system in place, however, these options could result in fewer trips, decreased Vehicle Miles of Travel, and increased transit ridership. In general, changing development patterns without corresponding changes to the transportation system limits the prospects for improved transportation levels of service and air quality.

The study also assesses potential impacts on infrastructure costs and quality of life. By relying more on existing infrastructure, the Dispersed/Balanced option tends to reduce these costs compared with the Polycentric and Corridors options. The type of urban form does not seem to influence the quality of life, although this criterion is obviously the hardest to measure.

1.4 Corridor Studies and Plans

METRO I-10 West Alternatives Analysis (METRO – Ongoing)

The I-10 West Alternatives Analysis (AA) is an ongoing project examining high capacity transit options in western Phoenix. The study is analyzing transit modes such as LRT and BRT along the I-10 Corridor, which extends along the I-10 freeway from the Central Phoenix/East Valley (CP/EV) LRT Starter Line in downtown Phoenix to approximately 83rd Avenue. A draft purpose and need evaluation has been completed and METRO has completed the Tier 1 preliminary analysis. METRO will then enter the Tier 2 analysis that will consist of a detailed evaluation of transit modes and alternative alignments recommended after the Tier 1 screening process. The Tier 2 analysis will define a locally preferred alternative by winter 2009.

METRO is screening the transit modes and alternative alignments separately during the AA process. I-17 forms a physical barrier that separates the study area into two distinct planning areas. The portion east of 27th Avenue is generally composed of downtown Phoenix, whereas the area west of 27th Avenue is characterized by single-family residential development and industrial land uses adjacent to I-10, described as the Mainline Section. Based on the Tier 1 evaluation, METRO's preliminary recommendation along the Mainline Section is to use the I-10 right-of-way for high capacity transit. This alignment could include the I-10 median, which was originally reserved for future transit options when the freeway was designed in the 1970s. Several downtown Phoenix alignment alternatives are still under consideration.

The following transit modes are under evaluation during the Tier 1 screening process:

- Bus Rapid Transit along an exclusive guideway
- Express Bus in high-occupancy vehicle (HOV) lanes
- Light Rail Transit

The following downtown Phoenix (east of 27th Avenue) alignment alternatives that will connect to the CP/EV LRT Starter Line are under evaluation during the Tier 1 screening process:

North-South Alignment Alternatives	East-West Alignment Alternatives
27th Avenue	I-10
I-17	Van Buren Street
19th Avenue	Adams Street
17th Avenue	Washington Street
15th Avenue	Jefferson Street
Grand Avenue	

METRO Central Mesa Alternatives Analysis (METRO – Ongoing)

The Metro Central Mesa AA is an ongoing project examining alternative transportation options between the end of line CP/EV LRT station at Sycamore and Main Street and Horne Road in central Mesa. A purpose and need evaluation as well as the Tier 1 preliminary analysis of technology and alignment alternatives have been completed. The project has entered the second tier of analysis, which includes an evaluation and review of a limited set of technology and alignment alternatives. The Tier 2 analysis will define a locally preferred alternative by spring 2009. The Tier 2 alternatives being evaluated include the following:

- No-Build Alternative
- Baseline Alternative
- Light Rail Transit on Main Street with 2 Traffic Lanes

- Light Rail Transit on Main Street with 4 Traffic Lanes
- Bus Rapid Transit on Main Street with 2 Traffic Lanes and Dedicated Guideway Between Sycamore and Country Club Drive
- Bus Rapid Transit on Main Street with 4 Traffic Lanes and Dedicated Guideway Between Sycamore and Country Club Drive
- Light Rail Transit on First Street in Downtown Mesa
- Light Rail Transit on First Avenue in Downtown Mesa

METRO South Tempe AA (Metro – Ongoing)

The South Tempe AA is an ongoing project examining alternative transportation options in the north/south corridor between McClintock Drive and Kyrene Road, from approximately Tempe Town Lake to Chandler Boulevard. The purpose and need evaluation has been completed. The project is currently in the Tier 1 preliminary analysis phase, where preliminary technology and alignment alternatives are being evaluated based upon multiple criteria. The preliminary alternatives being evaluated during Tier 1 include:

- Union Pacific Railroad Corridor Bus Rapid Transit Operating in Fixed Guideway and Mixed Traffic
- Union Pacific Railroad Corridor Light Rail Transit Operating in Fixed Guideway
- Union Pacific Railroad Corridor Commuter Rail Operating in Fixed Guideway
- Mill Avenue/Kyrene Road Bus Rapid Transit Operating in Fixed Guideway
- Mill Avenue/Kyrene Road Bus Rapid Transit Operating in Mixed Traffic
- Mill Avenue/Kyrene Road Bus Rapid Transit and Light Rail Transit Operating in Mixed Traffic
- Mill Avenue/Kyrene Road Bus Rapid Transit and Modern Streetcar Operating in Mixed Traffic
- Rural Road Bus Rapid Transit Operating in Fixed Guideway
- Rural Road Bus Rapid Transit Operating in Mixed Traffic
- Rural Road Light Rail Transit Operating in Fixed-Guideway
- McClintock Drive Light Rail Transit Operating in Fixed-Guideway

The Tier 2 analysis will commence after the completion of Tier 1 and conclude in the spring of 2009 with the identification of a locally preferred alternative.

Valley Metro Arizona Avenue Bus Rapid Transit Corridor (RPTA – Ongoing)

Funding for a limited stop bus rapid transit service in the Arizona Avenue/Country Club Drive corridor is identified in the MAG RTP. Planning for the corridor has begun to identify the route's alignment, stop locations, operating characteristics, and associated infrastructure and capital investments. Results from the study are not yet available, but service is projected to begin in July 2010.

Mesa Main Street BRT Study, Technical Reports 1–8 (RPTA – 2007)

Eight technical reports prepared for the Mesa Main Street BRT Study were reviewed. A technical report was developed for each of the following subjects:

1. Public Involvement
2. Prior Studies
3. Existing Service
4. Peer Cities
5. Alignment & Service Options

6. Ridership
7. Recommended Project
8. Implementation

The study includes an evaluation of alignment and service options including Main Street to Power Road, Main Street to Superstitions Springs Mall, to Superstition Springs Mall via Mesa Drive and Southern Avenue, to Superstition Springs Mall via Gilbert Road and Southern Avenue, Main Street via 1st Street, and Main Street via 1st Avenue.

A recommended plan for service operations and capital improvements is provided in Technical Report 7. The recommended alignment was selected through a criterion-based decision matrix using cost, service performance, environmental impacts and community support. The Main Street alignment to Superstition Springs Mall was selected as the preferred alternative. Operations are planned to begin in December 2008, concurrently with opening of the Central Phoenix/East Valley LRT.

1.5 Local Transit Plans

GO Glendale (City of Glendale – Ongoing)

In 2001, the City of Glendale voters approved a one-half-cent sales tax to fund a wide range of transportation projects, including street and intersection improvements, bicycle and pedestrian enhancements, and airport projects. Additional funding includes state, federal, and regional sources for this program that extends to the year 2028. Known as the Glendale Onboard (GO) Program, it includes capital and operating expenditures of potential projects in five-year increments, with a total estimated cost of \$1.3 billion.

The initial five years of the program were spent on completing committed bicycle and street projects, along with adding evening and weekend transit service. The second five years will emphasize the completion of light rail transit service to downtown Glendale. Projects listed during the third and fourth five-year periods will emphasize continued expansion of transit services by extending local bus routes, adding new routes, expanding circulator bus service and initiating new express bus service via Loop 101 to downtown Phoenix. In the final five-year period, funds will be committed to continuing bus operations and completing Northern Parkway, a new 12.5-mile high capacity arterial roadway extending through Glendale and other jurisdictions.

The City of Glendale regularly monitors participation in all modes of public transit, which have experienced steady increases in use each year, with overall ridership increasing 76 percent since 2001. New transit services proposed in the GO Program include 34 miles of new and extended bus routes, new express routes on Loop 101, and neighborhood shuttle services.

Scottsdale Transportation Master Plan – Draft Transit Element (City of Scottsdale – 2008)

The transit element of the City of Scottsdale Transportation Master Plan identifies transit improvements in three phases: near-term, mid-term and long-term. Transit services and capital investments include projects programmed in the RTP as well as new locally identified investments. In addition to direct investments planned for transit, the master plan includes HOV access points at several locations along State Route 101 (Loop 101) that will benefit transit operations as well as other high occupancy vehicles.

Transit service and infrastructure improvements by implementation phase include:

Short Term – FY 2009 to FY 2016: improve level of service in Scottsdale to match that of neighboring jurisdictions.

Mid Term – FY 2017 to FY 2023: continue to improve overall level of fixed route bus service and introduce new express bus service and infrastructure investments on loop 101 freeway corridor.

Long Term – FY 2024 to FY 2030: continue improvement, with increases in service frequency on local routes and a new airpark circulator route.

Transit 2000 Transit Plan (City of Phoenix – 1999)

Transit 2000 is the City of Phoenix's 20-year transit plan, which guides local transit service and capital infrastructure investments funded through a dedicated 0.4 percent sales tax. Many of the elements identified in the Transit 2000 Transit Plan have already been implemented, including Sunday bus service, expanded hours on existing routes, route extensions, new local bus routes, new circulator bus service in Ahwatukee and other neighborhoods, expanded dial-a-ride service, and implementation of Bus Rapid Transit services (currently operating as RAPID) in four freeway corridors. Other transportation investments the plan identifies include bus stop improvements, bus pull-outs, left turn signals at a limited number of intersections, and new bicycle lanes at locations throughout the city.

1.6 Regional Transit Reporting & Surveys

Annual Transit Performance Report (Valley METRO – 2006)

The Valley Metro Annual Transit Performance Report (ATPR) was prepared in FY 2005/06. This report provides an evaluation of existing service and operating statistics in FY 2005 and identifies service and capital programs for implementation in FY 2006. The ATPR serves as input to the MAG Annual Regional Report, which tracks the implementation of transportation services outlined in the RTP. The ATPR is organized into four chapters including an introduction, an evaluation of existing transit service, a review of existing transit capital infrastructure, and a summary of transit funding in the region.

The ATPR describes the RPTA and Valley Metro and includes a summary of Proposition 400, a brief description of current transit services, and a brief description of local funding initiatives in the region. The second chapter provides an evaluation of fixed route service, shuttle and commuter service, rural connector service, and vanpool service. The evaluation summarizes service characteristics, vehicle characteristics, and system performance for each mode. Chapter 3 reviews the existing transit capital infrastructure, including passenger facilities (including park-and-rides and transit centers) and maintenance and operation facilities. The fourth chapter provides information about farebox revenue, federal assistance, state funding, RPTA funding, local funding, and the operating and capital funding budget for FY 2005 and FY 2006.

Rider Satisfaction Survey (Valley Metro – 2006)

The Valley Metro Rider Satisfaction Survey is a telephone and on-board intercept survey conducted in October and November of 2006. The purpose of the survey was to assess rider satisfaction with the bus operations and service in the Valley Metro service area. Of the 544 participants in the survey, 185 completed surveys by telephone and 359 through face-to-face interviews. The survey was organized into four parts that assessed rider characteristics, trip characteristics, system satisfaction, and route information and assistance.

The Rider Satisfaction Survey found that more than two-thirds of the people surveyed use the bus almost daily and that the majority of transit riders are from Phoenix, Tempe, and Mesa. Half indicated that they use the bus more now than in the previous year. The survey also found that the majority of transit riders identified traveling to and from work as their primary destination, followed by shopping and social/recreation. Some 88 percent of transit riders use only the local bus while 5 percent use only the express bus.

Annual Market Survey (Valley Metro – 2005)

The Annual Market Survey is a telephone survey conducted in September 2005 with the goal of measuring the awareness and thoughts of Maricopa County residents regarding the transit options offered by Valley Metro. The survey had a total of 507 participants and the information collected was compared against the previous survey conducted in 2003. Questions asked during the survey were based on four factors: system awareness, advertising and news story awareness, public transit and alternative mode usage, factors motivating people to use public transportation, and media usage.

The system awareness portion of the survey measured the familiarity, image, and awareness of Valley Metro services. The advertising and news story awareness section measured people's awareness of Valley Metro through advertising and news stories. The public transit and alternative mode usage section measured the alternative modes people used within the past year and reasons for not using public transit. The next section identified the primary factors that motivated people to use public transportation. The last section in the report focused on media usage.

The Annual Market Survey found that more people were aware of the RAPID/express bus service and light rail, compared to the 2003 survey. Convenience was a motivating factor for riding the bus and this survey found that people are more inclined to ride the bus if there is an increase in transit service, no transfers, and the stop is located close to their home or destination. People are also more likely to use public transit for special trips (i.e. airport, sporting event) when driving their personal vehicle is inconvenient. The survey found that younger Valley residents and people living in the central area of Phoenix were more likely to use transit.

Maricopa Regional Household Travel Survey (MAG – 2001)

The Maricopa Regional Household Travel Survey was conducted between February and December 2001. The purpose of the survey was to obtain origin and destination information (trip patterns) from randomly selected households over a 48-hour period to assist in the development and calibration of the regional travel forecasting and air quality models. Travel information was obtained through a telephone survey that sampled a total of 4,018 households in Maricopa County and a small part of Pinal County, namely Apache Junction. This report documents the survey method, weighting and expansion of survey data, the survey results, and a comparison of the results with national data to ensure its validity.

A comparison of the 1990 and 2000 Census data with the household survey results found that the information collected from the household survey is consistent with the data available from the 1990 and 2000 Census. The information from the 2001 household survey is also consistent with previous household travel surveys in the region (1981 and 1989).

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2.0 Documentation of Key Issues, Coordination Needs, and Peer Region Contacts

A documentation of key issues matrix will be developed as the study progresses. The matrix will include key issues for consideration and peer region contacts. The peer region interviews that will be conducted are intended to provide information on existing and developing transit systems to answer the following general questions:

- What transit services (by mode) are being provided?
- Why are they doing what they are doing (in terms of existing and planned service)?
- How did they get there?

The regions and transit agencies to be interviewed include:

1. Atlanta, Georgia: Metropolitan Area Rapid Transit Authority
2. Dallas, Texas: Dallas Area Rapid Transit
3. Denver, Colorado: Regional Transportation District
4. Salt Lake City, Utah: Utah Transit Authority
5. San Diego, California: San Diego Metropolitan Transit Authority

The following list of preliminary questions has been developed to initiate discussions with each Peer Region:

1. Review the service information that is provided in the draft Peer Regions Report. Is there anything that was missed?
2. What are the plans for new service in the next 5-10 years?
3. Review the ballot initiatives and funding information provided in the draft Peer Regions Report. Is this accurate? Is there anything that was missed?
4. What makes transit successful in your region?
5. What impedes transit use in your region?
6. What are some of the lessons learned in your unsuccessful and successful ballot initiatives?
7. How does the public view the existing service provided by your agency?
8. What advice would you give a region in planning new modes (example BRT, LRT, Commuter Rail) and new service for a future horizon year?

3.0 Review Transit Policies and Funding Strategies in Peer Regions

3.1 Introduction

This section provides information on six peer regions and the current system in the MAG Region regarding transit policies and funding strategies. Regions were selected based on a number of factors that could provide comparative statistics for population and employment density, as well as their current planning and overlay for transit in their urban forms. For the regions selected, one primary transit agency is described for purposes of comparison, so all modes are not necessarily represented in detail. However, the tables presented in this review do provide information on each region as defined by a Metropolitan Statistical Area, as well as all transit modes operated and overall ridership for these areas. Peer regions were selected based on their location, size, age of current system and plans for expansion, land use development patterns, and other factors that provided good comparison data to Phoenix. Regions selected for comparison to Phoenix include:

- Atlanta, Georgia;
- Dallas, Texas;
- Denver, Colorado;
- Salt Lake City, Utah;
- San Diego, California; and
- Seattle, Washington.

3.2 Population and Density

Phoenix, Arizona: Regional Public Transportation Authority/Valley Metro

The RPTA/Valley Metro provides fixed route bus, paratransit, and vanpool transit service within the Phoenix metropolitan area. The fixed route bus element currently consists of local bus service, express bus service and circulator/shuttle services. Bus service primarily operates on arterial streets and serves a range of trip needs within the service area. The service is designed to emphasize a large coverage area, so that the maximum possible population can access the bus network. Demand for transit and available funding dictate service levels on particular routes (MAG 2007). Fixed route bus service is also provided in the region by the cities of Phoenix and Tempe. In December 2008, the local agency that operates light rail service (Valley Metro Rail or METRO) will open the CP/EV LRT Starter Line that will operate through Phoenix, Mesa and Tempe.

Atlanta, Georgia: Metropolitan Atlanta Rapid Transit Authority

The Metropolitan Atlanta Rapid Transit Authority (MARTA) is the sole provider of mass transit to the City of Atlanta, the inner suburbs, and the center of the metropolitan area. Transit service consists of heavy rail service, bus transit service (including scheduled bus shuttle service to special events, such as Atlanta Braves baseball games), and paratransit service (City of Atlanta 2003).

Dallas, Texas: Dallas Area Rapid Transit

Transit service within the Dallas area includes local bus, express bus, light rail, and commuter rail service. Dallas Area Rapid Transit (DART) operates light rail in Dallas and some suburbs. In collaboration with the Fort Worth Transportation Authority, DART operates the Trinity Railway Express, a commuter rail service between Dallas and Fort Worth. The commuter rail service uses pre-existing freight railroad tracks. DART coordinates transit planning in the region with two additional transit authorities that serve the area: Denton County Transportation Authority (DCTA) and the Fort Worth Transportation Authority (The T) (North Central Texas Council of Governments 2005).

Denver, Colorado: Regional Transportation District

The Regional Transportation District (RTD) has sole operating responsibilities for light rail, bus and paratransit service in the Denver region. FasTracks, the region's light rail and commuter rail project, is currently in the planning phase. Once FasTracks is in operation, RTD will also operate it.

Salt Lake City, Utah: Utah Transit Authority

Utah Transit Authority (UTA) operates the region's light rail transit system, known as TRAX, along with the bus transit service and paratransit service. UTA provides over 100 routes throughout the region. In addition to these services, UTA will also operate the 44-mile commuter rail system, known as FrontRunner, that will operate between the cities of Salt Lake City and Pleasant View beginning in April, 2008 (MAG 2008). In conjunction with the initiation of commuter rail in greater Salt Lake City, the existing TRAX routes and supplemental bus connections will distribute commuter rail patrons to their final destinations (Salt Lake City, et al. 2007).

San Diego, California: San Diego Metropolitan Transit System

The San Diego Metropolitan Transit System (SDMTS) provides transit service to more than 70 percent of San Diego County. SDMTS is responsible for determining the routing, stops, frequency of service, and hours of operation for its existing services (SDMTS Website 2007). The SDMTS transit service consists of express and local bus routes, trolley (light rail) routes, and paratransit, which are operated directly or by contract with public or private operators (Hill 2006). San Diego Trolley, Inc. (SDTI) operates the 53.5-mile light rail service in San Diego. The San Diego Coast Express Rail, or COASTER, is a regional commuter rail service administered by the San Diego Northern Railway, a subsidiary of the North County Transit District (NCTD).

Seattle, Washington: King County Metro

King County Metro (Metro) currently provides most of Seattle's local bus transit service and substantial express service as well. Metro also operates the George Benson Waterfront Streetcar Line in downtown Seattle. In 1997, Metro began operating the Elliot Bay Water Taxi on a seasonal basis that shuttles passengers across Elliot Bay from West Seattle to downtown. Metro also provides paratransit service to the Seattle region. Sound Transit provides regional transit service to the Puget Sound area and operates a commuter rail system along existing rail lines with links to downtown Seattle, Tacoma, and Everett. Sound Transit also provides a regional express bus service that connects major centers throughout the service area (Seattle Department of Transportation 2005). Sound Transit is currently constructing a 15.6-mile light rail line that will operate through Seattle beginning in summer 2009 (Sound Transit Website 2008).

Table 1 provides a comparison of Urbanized Area (UZA) densities for the peer regions and provides a list of the regional modes operated within each one. Of the regions reviewed, Denver had the highest density per square mile followed by Salt Lake City and Phoenix.

Table 1: Comparison of Urbanized Area (UZA) Densities for Peer Regions

Region	State	2006 Urbanized Area (UZA) Population ^{1,2}	2000 UZA Land Area (sq mi) ¹	Density per Square Mile of UZA	Regional Modes Operated
Phoenix	AZ	3,228,000	799	4,040	<ul style="list-style-type: none"> • Local/Express Bus • Light Rail Transit (December 2008) • Freeway Bus Rapid Transit (RAPID) • Arterial Bus Rapid Transit (December 2008) • Paratransit • Vanpool
Atlanta	GA	4,051,000	1,963	2,064	<ul style="list-style-type: none"> • Local/Express Bus • Heavy Rail Transit • Paratransit • Vanpool
Dallas	TX	4,809,000	1,529	3,146	<ul style="list-style-type: none"> • Commuter Rail • Local/Express Bus • Light Rail Transit • Streetcar • Paratransit • Vanpool
Denver	CO	2,057,000	499	4,125	<ul style="list-style-type: none"> • Local/Express Bus • Light Rail Transit • Paratransit • Vanpool

Region	State	2006 Urbanized Area (UZA) Population ^{1,2}	2000 UZA Land Area (sq mi) ¹	Density per Square Mile of UZA	Regional Modes Operated
Salt Lake City	UT	945,000	231	4,094	<ul style="list-style-type: none"> • Commuter Rail (April 2008) • Local/Express Bus • Light Rail Transit • Paratransit • Vanpool
San Diego	CA	2,722,000	782	3,479	<ul style="list-style-type: none"> • Commuter Rail • Local/Express Bus • Light Rail Transit • Streetcar/Trolley • Paratransit • Vanpool
Seattle	WA	2,875,000	954	3,015	<ul style="list-style-type: none"> • Commuter Rail • Local/Express Bus • Light Rail • Monorail • Paratransit • Vanpool • Ferryboat

¹Source: U.S. Census Bureau – “American FactFinder: 2006 Community Survey Population.” 2006. <http://factfinder.census.gov>

²Note: Data for Dallas is 2006 data, while Denton is 2000 data.

3.3 Funding and Major Ballot Initiatives

This section describes revenue sources for the peer region transit agencies, as well as their applicability and availability for funding of transit. Table 2 summarizes the revenue sources and notes on ballot initiative to provide a comparison of transit funding between the peer regions.

Phoenix, Arizona: RPTA/Valley Metro

The one-half-cent Maricopa County sales tax approved by voters through Proposition 400 represents the largest regional source of transit funding in the MAG region. Proposition 400 was enabled by House Bill 2292 and House Bill 2456. These two pieces of legislation were enacted to guide the process leading up to the Proposition 400 election and establish the features of the one-half-cent tax sales extension. In addition to establishing guidelines for the MAG Regional Transportation Plan (RTP), such as evaluating the impact of growth on transportation systems and the use of a performance-based planning approach, House Bill 2292 identifies key features required in the final Plan, including a twenty-year planning horizon, allocation of funds between highways and transit, and priorities for expenditures.

House Bill 2456 addresses the allocation of revenues from the collection of sales tax monies from January 1, 2006 to December 31, 2025, among the eligible transportation modes. In accordance with the legislation, the net revenues collected are distributed as follows:

- 56.2 percent to the regional area road fund for freeways and other routes in the State Highway System, including capital expense and maintenance.
- 10.5 percent to the regional area road fund for major arterial street and intersection improvements, including capital expense and implementation studies.
- 33.3 percent to the public transportation fund for capital construction, maintenance and operation of public transportation classifications, and capital costs and utility relocation costs associated with a light rail public transit system.

The legislation creates three “firewalls,” which prohibit the transfer of one-half-cent funding allocations from one transportation mode to another. These firewall divisions correspond to the categories established for the distribution of revenues and include:

- Freeways and highways (including sub-accounts for capital and maintenance).
- Arterial streets.
- Public transportation (with sub-accounts for capital, maintenance and operations, and light rail).
- One-half-cent revenues cannot be moved among transportation modes (freeway/highway arterial and transit).

The one-half-cent sales tax, initiated on January 1, 2006 continues the tax originally approved by voters as Proposition 300 in 1985. A portion of revenue from the tax is dedicated to fund many of the regional transit investments outlined in the RTP, while local transit improvements are the responsibility of local jurisdictions. Local dedicated funding sources for public transit improvements have been secured by the following communities: Glendale, Peoria, Phoenix, Scottsdale and Tempe. Federal formula and discretionary funds are used to support local and regional transit investments.

In addition to local, regional and federal funding sources (including fares), the Local Transportation Assistance Fund (LTAF II) established by the State of Arizona provides communities throughout the state with revenue from the Powerball lottery. Cities, towns and counties are required to annually apply for the funding which is available per capita. Jurisdictions receiving an allocation over \$2,500 must spend their revenue on public transportation. LTAF II funding is capped at \$18 million statewide and annual revenues are based on actual Powerball receipts in excess of \$31 million.

Atlanta, Georgia: Metropolitan Atlanta Rapid Transit Authority

Transit operations in the Atlanta region have stemmed exclusively from local sales tax funds (currently 1 percent). Since 1971, state legislation has continually enabled local communities to seek local sales tax initiatives to fund transit operations in the Atlanta region.

Dallas, Texas: Dallas Area Rapid Transit

A majority of the transit-related funding for the Dallas area is from a one-cent regional sales tax dedicated to fund DART. A \$2.9 billion bond and a \$700 million federal grant have been secured for future expansion of the DART rail system. Additional revenue may become available as early as 2009 to fund service north of the DART service area, but funding is dependent upon voter approval.

Denver, Colorado: Regional Transportation District

The FasTracks Ballot Initiative, passed in 2004, provided \$4.7 billion toward transit to expand light rail and commuter rail lines to reach additional urban and suburban communities and the Denver International Airport. The initiative also funded a new bus rapid transit service and provided an 80 percent increase in parking capacity at park-and-ride facilities.

Salt Lake City, Utah: Utah Transit Authority

Funding for transit operations in Salt Lake City stems from a variety of sources, including local sales tax, federal funding, motor vehicle sales tax, and rental car tax. A sales tax, approved by voters in 2000, was allocated exclusively to fund commuter rail and expanded light rail service in the Salt Lake City metropolitan area. Voters secured sources of funding for future transit service through the passage of Proposition 3, a one-quarter-cent sales tax to be applied toward commuter rail, TRAX, and road projects, and a 1 percent sales tax, approved in 2006, of which a majority will be applied toward funding and operating the new FrontRunner Commuter Rail service.

San Diego, California: San Diego Metropolitan Transit System

TransNet, a 20-year local sales tax initiative, was approved by San Diego voters and allocates one-third of the total revenue of a one-half-cent sales tax toward public transit projects. Voters also recently passed several additional propositions in support of public transit, including a gasoline tax and a local sales tax during 2006.

Seattle, Washington: King County Metro

Local sales tax provides the largest source of revenue for transit operations in the Seattle metropolitan area. In 2006, voters approved Transit Now, an initiative aimed at increasing King County's Metro transit service that increased the sales tax by one-tenth of one percent.

Regional Funding and Cost of Living Index

While all of the peer regions utilize dedicated regional or local sales tax revenues to support transit service operations, the level of committed funding varies among the regions reviewed. To compare the funding sources between the regions a cost of living index (COLI) is included in Table 2. The COLI is based on the cost of consumer goods and services in each region. Costs are surveyed quarterly for the following categories: housing, groceries, transportation, utilities, health care and miscellaneous goods. The COLI numbers represent the percent difference from the national average which is set at 100.0. When looking at the composite overall cost of living in the Phoenix region (100.6), Phoenix is slightly higher than the national average. With the exception of San Diego and Seattle, the COLI for the peer regions are relatively close to the national average. The COLI for San Diego and Seattle are considerably higher than the national average indicating that for every dollar generated to support transit in these communities, it doesn't go as far as a dollar in the other peer regions. Likewise, the value of a dollar in terms of buying power is similar in the other peer communities.

Table 2: Peer Region Regional Funding Sources, Major Ballot Initiatives and Other Policies, and Cost of Living Comparison

Region	State	Major Source of Regional Funding	Major Regional Funding Sources and Other Notable Policies	2007 Annual Cost of Living Index ¹		
				Composite Value ²	Housing Value ³	Transportation Value ⁴
Phoenix	AZ	County Sales Tax (one-half-cent shared with highways) Federal Funds-Section 5307 and Section 5309	<p>Proposition 300 & Proposition 400- Proposition 400 authorizes a 20-year one-half-cent sales tax for transportation projects in Maricopa County. The breakdown for use of these funds includes 56.2% for freeways and other routes in the State Highway System; 10.5% for major arterial streets and intersections; and 33.3% for the public transportation fund. The tax was initiated on January 1, 2006 and continues the one-half-cent sales tax that was approved by voters in 1985 through Proposition 300.</p> <ul style="list-style-type: none"> • 1988 – Scottsdale approves sales tax for transportation improvements. • 1996 – Tempe voters approve a one-half-cent sales tax for transportation improvements. • 1998 – HB 2565 established the LTAF II program proving lottery revenues for transportation projects. LTAF II legislation was updated in 2000. • 2000 – Phoenix voters approved a 2/5 cent transportation sales tax. • 2001 - Glendale approved a one-half-cent transportation sales tax. • 2005 - Peoria approved a 3/10 cent transportation sales tax. • Proposition 104 in 2006, sponsored by the Arizona Legislature. Measure amended the Arizona Constitution to allow incorporated cities and towns to include debt for the acquisition and development of public safety, law enforcement, fire and emergency facilities and streets and transportation facilities in the 20 percent debt limit. 	100.6	100.9	100.7

Region	State	Major Source of Regional Funding	Major Regional Funding Sources and Other Notable Policies	2007 Annual Cost of Living Index ¹		
				Composite Value ²	Housing Value ³	Transportation Value ⁴
Atlanta	GA	Local Sales Tax (1 percent)	<p>1971-Governor signed three transit bills passed by the General Assembly; HB 219 amended the Georgia Sales Tax Law to permit a local sales and use tax in metropolitan Atlanta for rapid transit purposes; and HB 223 modified and clarified certain provisions in the original MARTA Act of 1965</p> <p>1972-Local 1 percent Rapid Transit Tax became effective.</p> <ul style="list-style-type: none"> • 1965-Metropolitan Atlanta Rapid Transit Authority Act (S.E. 102) became a law having passed the Georgia General Assembly 205 to 12. It set up the agency to bring rapid transit to reality but required local referendum in the five counties and the City of Atlanta before the agency could begin operation. The local referendum failed in one metropolitan county getting 43 percent of the vote and succeeded in the other four counties and the City of Atlanta getting 70 percent of the vote. • 1983-Sales tax extended by 15 years 2012. • 2005-SB 114 extends the time that MARTA can use 55 percent of the sales tax it collects for operating expenses (instead of previous 50percent) for a period of 5 more years to 2011. • 2005-SB 115 extends the time MARTA is allowed to use interest in its bank accounts for its operating expenses from 2006-2016. 	96.1	91.8	103.5
Dallas ⁵	TX	<p>Regional Sales Tax (1 percent)</p> <p>Federal Funds CMAQ Funds</p>	<p>The Regional Transit Initiative was conceived in 2004 to identify a feasible regional institutional structure for seamless public transportation in North Central Texas. It includes the counties of Tarrant, Ellis, Johnson and parts of Collin and Dallas, which are not included in DART. The plan calls for local-option elections to allow cities to decide if they want to add the sales tax and connect with the new system. Not yet approved by legislation but may come up in 2009 session.</p> <ul style="list-style-type: none"> • In 2000 a \$2.9 billion bond election allows transit system to expand light rail to 94 miles. • In 2006 the Federal Transit Administration approves a \$700-million Full Funding Grant Agreement (FFGA) to kick start a \$2.5 billion expansion that will lead to the doubling of the DART Rail System to 90 miles by 2013. • Prop 15 (2001) – Create Texas Mobility Fund to support state highway, public transportation and light rail projects. 	91.2	71.5	103.4

Region	State	Major Source of Regional Funding	Major Regional Funding Sources and Other Notable Policies	2007 Annual Cost of Living Index ¹		
				Composite Value ²	Housing Value ³	Transportation Value ⁴
Denver	CO	Local Sales Tax (1 percent) Federal Funds	FasTracks Ballot Initiative (2004) - The \$4.7 billion proposed transit improvement package to expand light rail/commuter rail lines to reach additional inner city and suburban communities and the Denver International Airport. It will also fund a new rapid bus service and an 80 percent increase in parking capacity at park-and-ride facilities. The initiative was funded with a local sales tax increase from 0.6 percent to 1 percent (4 cents/per \$10). <ul style="list-style-type: none"> • Question 1B-Redirect 1999 state tax surplus of \$5.9 million to mass transit and affordable housing. • 1999 Transit Referendum-RTD plan to borrow \$457 million of \$779 million, to exclusively finance a Southeast corridor light rail project. • 2002 Legislative Action-SB167 legislation that allow RTD to go directly to voters regarding transit issues/funding, as long as plan is compatible with state and local transportation plans and does not attempt to obligate existing state funds. 	103.4	109.3	95.4
Salt Lake City	UT	Sales Tax (1/4 cent) Federal Funds-Provided through Section 5309 New Starts Program MVST- (0.3 percent) Rental Car Tax (0.8 percent)	During the 2000 elections, voters in Salt lake City, approved a one-quarter-cent sales tax. Transit tax for commuter rail and expanded light rail. <ul style="list-style-type: none"> • 1974 ballot voters of Salt Lake and Weber Counties in Utah adopted the optional 1/4 of 1 percent sales tax to fund UTA. • Proposition 3-A one-quarter-cent sales tax increase was approved in 2005. The tax increase would pump tens of millions of new dollars every year into commuter rail, TRAX and road projects to complete them by 2015 rather than 2030. • 2006 elections approved a one quarter of 1 percent sales tax increase. 87 percent of the money generated by the increase will go toward funding and operating the new FrontRunner Commuter Rail service to Salt Lake County. 	100.7	98	103.5
San Diego	CA	State Sales Tax (0.25 percent) Local Sales Tax (0.167 percent)	San Diego Voters approved a 20 year local sales tax increase called TransNet. The bill authorized a 1/2 cent addition to the local sales tax that would be split as follows: 1/3 for highways, 1/3 for local roads, and 1/3 for public transit projects. <ul style="list-style-type: none"> • In 2002 Voters passed a measure (prop 42) to dedicate gas tax funds to transportation. Proposition 91 was designed to close the loop holes that the state was using to apply the funds to other purposes. • In 2006 voters passed proposition 1A and 1B, which closed the loop hole that allowed State legislators to divert gasoline sales tax revenue from transportation to other state uses and created new 	139.5	218.1	111.2

Region	State	Major Source of Regional Funding	Major Regional Funding Sources and Other Notable Policies	2007 Annual Cost of Living Index ¹		
				Composite Value ²	Housing Value ³	Transportation Value ⁴
			transportation infrastructure funding. Prop 1B: \$37.3 billion infrastructure bond package. Almost \$20 billion for transportation project including public transport. <ul style="list-style-type: none"> Prop 1C (2006) would approve a bond to fund development near transit and affordable housing projects (\$2.8 billion). San Diego TransNet-A \$14 billion initiative to extend an existing one-half-cent sales tax to 2028 to fund regional transportation improvements was passed in 2004. The funding would be split equally between highway, transit and local road projects with \$1 million annually earmarked for bike paths and facilities. 			
Seattle	WA	Local Sales Tax (0.80 percent)	In 1999, after passage of initiative 695, the State eliminated a dedicated source of funding for transit. King County voters responded by raising King County's transit sales tax from 0.6 percent to 0.8 percent. Transit Now is a four point initiative that will increase King County's Metro transit service and was approved by voters in 2006. The initiative will be funded by a one-tenth of a 1 percent increase in sales tax.	121	153.2	106.1

Notes* CMAQ=Congestion Mitigation and Air Quality Improvement program.

MVST=Motor Vehicle Sales Tax

¹ ACCRA Cost of living index prepared by Council for Community and Economic Research.

National average serves as the baseline for all costs. Baseline = 100.0

² Includes all cost categories: groceries, housing, transportation, utilities, health care and miscellaneous goods.

³ Based on rental cost and purchase cost for standard home/apartment size and amenities, and mortgage rates

⁴ Based on cost for one gallon of fuel and one front tire balance

⁵ Excludes Ft Worth

3.4 Fares and Policies

The following section provides detailed information concerning the peer region transit operations in terms of revenue and fare requirements. Table 3 identifies the modes operated, annual ridership, fare box recovery, and regional fares for each peer region. Mode, annual ridership, and fare box recovery were acquired from the National Transit Database: 2006 Transit Profiles. Several transit agencies currently operate within each peer region, therefore, annual ridership was the summed by mode for all transit agencies within each region. Farebox recovery was calculated by dividing the total fare revenues by mode within the region by the total operating expenses by mode within the region. Regional fares were acquired from transit operators within the peer region region.

Table 3 shows that revenue recovered through fares for bus is similar across all peer regions, with the exception of Dallas that recovers only 6 percent of revenue through fares for a region that has more than 64 million boardings. The table also shows that revenue recovered through fares for light rail is similar with a range between 27 percent and 51 percent. Seattle is the only peer region where light rail is free and therefore has 0 percent farebox recovery. Farebox recovery for demand response among the peer regions is in a range between 2 percent and 16 percent. For vanpool, most peer regions have a farebox recovery above 35 percent with the exception of Phoenix, which recovers only 8 percent.

Table 3: 2006 Peer Region Ridership & Fare Structure/Policies

Region	State	Mode	Annual Ridership (NTD 2006 Reporting-Annual Unlinked Trips)	Fare Box Recovery	Typical Regional Fare ¹		
					Type	One-Way	
Phoenix	AZ	Bus	62,270,000	21%	Regular Reduced Exp/RAPID	\$1.25 \$0.60 \$1.75	
		Demand Response	1,032,000	4%	1st Zone Add. Zone	\$1.20 \$0.60	
		Vanpool	1,029,000	8%	Fare varies with a max of \$2.50		
Atlanta	GA	Bus	77,919,000	30%	Regular	\$1.75	
		Heavy Rail	69,209,000	35%	Reduced	\$0.85	
		Demand Response	458,000	4%	\$3.50		
		Vanpool	957,000	57%	Unknown		
Dallas	TX	Bus	64,274,000	6%	Local	\$1.50	
		Light Rail	18,581,000	35%	Premium	\$2.50	
		Commuter Rail	2,410,000	7%	Reduced	\$0.75	
		Demand Response	1,322,000	8%	\$2.75		
		Vanpool	920,000	50%	\$215/van/month		
Denver	CO	Bus	74,023,000	22%	Local	Regular	Reduced
					Express	\$1.75	\$0.85
					Regional	\$3.00	\$1.50
		Light Rail	11,278,000	27%	1 Zone	\$4.00	\$2.00
					2 Zones	\$1.75	\$0.85
					3 Zones	\$1.75	\$0.85
Demand Response	989,000	4%	4 Zones	\$3.00	\$1.50		
			Local	\$4.00	\$2.00		
Express	\$3.50	N/A					
Regional	\$6.00	N/A					
Vanpool	282,000	51%	\$55 - \$140/month/person				
Salt Lake City	UT	Bus	21,598,000	14%	Regular	\$1.75	
		Light Rail	15,204,000	32%	Premium	\$4.00	
		Demand Response	476,000	13%	Reduced	\$0.85	
		Vanpool	1,317,000	36%	\$2.25		
San Diego	CA	Bus	58,337,000	30%	Shuttle	\$1.00	
					Local	\$2.00	
					Urban	\$2.25	
					Express	\$2.50	
					Premium	\$5.00	
					Rural	\$5.00 - \$10.00	
		Reduced	\$1.00				
Light Rail	33,830,000	51%	In Downtown	Regular	Reduced		
1 Station	\$1.25	\$1.00					
2 Stations	\$1.50						
3 Stations	\$1.75						
4-10 Stations	\$2.00						
11-19 Stations	\$2.25						
20+ Stations	\$2.50						
Commuter Rail	1,554,000	38%	1 Zone	Regular	Reduced		
2 Zones	\$4.00	\$2.00					
3 Zones	\$4.50	\$2.25					
4 Zones	\$5.00	\$2.50					
Demand Response	781,000	16%	Zone 1	\$4.50			
Vanpool	1,594,000	76%	Zones 2-4	\$3.50			
						\$55 - \$107/month/person	

Region	State	Mode	Annual Ridership (NTD 2006 Reporting-Annual Unlinked Trips)	Fare Box Recovery	Typical Regional Fare ¹		
					Type	One-Way	
Seattle	WA	Bus	135,721,000	20%	Youth	Off-Peak \$0.50	Peak \$0.50
					1 Zone	\$1.50	\$1.75
					2 Zones	\$1.50	\$2.25
					Reduced	\$0.25	\$0.50
		Demand Response	2,605,000	2%	\$0.75		
		Vanpool	3,495,000	74%	\$53 - \$92/month/person		
		Monorail	240,000	100%	Youth	\$1.50	
			Adult	\$4.00			
			Reduced	\$2.00			
		Ferryboat	24,000,000	18%	Youth	\$2.60 - \$16.00	
					Adult	\$1.30 - \$8.00	
					Reduced	\$2.10 - \$12.80	
		Commuter Rail	1,693,000	23%	Youth	\$2.00 - \$3.50	
					Adult	\$2.75 - \$4.75	
					Reduced	\$1.25 - \$2.25	
		Light Rail	886,000	0%	Free		

Sources: National Transit Database – 2006 Transit Profiles, Valley Metro, Phoenix Public Transit, Dallas Area Rapid Transit, King County Metro Transit, Washington State Department of Transportation, Sound Transit, Utah Transit Authority, San Diego Metropolitan Transit System, North County Transit District, San Diego Association of Governments, Regional Transportation District-Denver, and Metropolitan Atlanta Rapid Transit Authority.
¹Fare varies depending on operator.

3.5 Transit Patronage and Operating Expenses

Table 4 identifies the 2006 annual ridership (unlinked trips) for major transit agencies within each peer region. Annual ridership was acquired by mode from each of the transit agencies that operate within the UZA and organized into one of two categories: Bus/Rail and Other. Bus/Rail includes the sum of annual ridership for bus, trolley bus, commuter rail, light rail, heavy rail, ferryboat, and monorail operations. “Other” includes the sum of demand response (paratransit) and vanpool services. The Bus/Rail and Other categories were then divided by the total population within the UZA in order to compare the average ridership per person for all peer regions.

The annual ridership per person for the “Bus/Rail” mode ranges from 17.73 (Dallas) to 56.54 (Seattle). The Dallas and Phoenix regions have the lowest ridership per population, while the remaining regions have a ridership per person above 30. The annual ridership per person for the “Other” mode ranges from 0.35 (Atlanta) to 2.12 (Seattle). The Seattle and Salt Lake City regions have the highest demand response and vanpool ridership per person. Figure 1 depicts annual ridership by peer region for 2006.

Also included in Table 4 are the total operating expenses and per capita operating expenses for each UZA. The operating expenses range from a low of \$71.10 per capita in the Phoenix Region to a high of \$295.26 per capita for Seattle which also has the highest total reported ridership.

Table 4: 2006 Ridership and Operating Expenses by UZA Population

Region	State	UZA Population ^{1,3}	Transit Agencies in UZA ²	Mode ⁴	2006 Ridership (NTD 2006 Reporting-Annual Unlinked Trips) ²	Ridership per UZA Population	Operating Expenses ⁵ & Operating Expenses per UZA Population
Phoenix	AZ	3,228,000	<ul style="list-style-type: none"> - Valley Metro - Phoenix Public Transit - Glendale Transit - Tempe In Motion - Phoenix-VPSI, Inc. - SCAT - MCHSD - Peoria Transit - Surprise Dial-A-Ride 	Bus	62,270,000	19.29	\$229,507,781 \$71.10/capita
				Other	2,061,000	0.64	
				Total	64,331,000	19.93	
Atlanta	GA	4,051,000	<ul style="list-style-type: none"> - MARTA - GRTA - Marietta-VPSI, Inc. - CCT - City of Canton Transit - Gwinnett County Board of Commissioners - Douglas County Rideshare 	Bus/Rail	147,128,000	36.32	\$331,704,840 \$81.88/capita
				Other	1,415,000	0.35	
				Total	148,543,000	36.67	
Dallas	TX	4,809,000	<ul style="list-style-type: none"> - DART - The T - Handitran Special Transit Division - Dallas-VPSI, Inc. - ATC - Grand Connection - MTED - DCTA 	Bus/Rail	85,265,000	17.73	\$399,393,985 \$83.05/capita
				Other	2,242,000	0.47	
				Total	87,507,000	18.20	
Denver	CO	2,057,000	<ul style="list-style-type: none"> - Regional Transportation District-Denver 	Bus/Rail	85,301,000	41.47	\$320,088,805 \$155.61/capita
				Other	1,271,000	0.62	
				Total	86,572,000	42.09	
Salt Lake City	UT	945,000	<ul style="list-style-type: none"> - UTA 	Bus/Rail	36,802,000	38.94	\$136,824,235 \$144.79/capita
				Other	1,793,000	1.90	
				Total	38,595,000	40.84	
San Diego	CA	2,722,000	<ul style="list-style-type: none"> - SDMTS - SANDAG - NCTD - NCT - CVT 	Bus/Rail	93,721,000	34.43	\$264,244,089 \$97.08/capita
				Other	2,375,000	0.87	
				Total	96,096,000	35.30	
Seattle	WA	2,875,000	<ul style="list-style-type: none"> - King County Metro - Sound Transit - Pierce Transit - Community Transit - Everett Transit - Senior Services - Seattle Center Monorail Transit (City of Seattle) - Washington State Ferries - Pierce County Ferry 	Bus/Rail/Ferry	162,540,000	56.54	\$848,865,748 \$295.26/capita
				Other	6,099,000	2.12	
				Total	168,639,000	58.66	

¹Source: U.S. Census Bureau – “American FactFinder: 2006 Community Survey Population.” 2006. <http://factfinder.census.gov>

²Source: Federal Transit Administration – “National Transit Database: 2006 Transit Profiles.” 2006.

³Note: Data for Dallas is 2006 data, while Denton is 2000 data.

⁴Note: Under Mode, “Other” equals the sum of Demand Response and Vanpool ridership.

⁵ Note: Operating Expenses reported as a total of all major transit agencies in the UZA and based on “National Transit Database: 2006 Transit Profiles.” 2006. Operating expenses include the following categories: Salary, Wages, and Benefits; Materials and Supplies; Purchased Transportation; and Other Operating Expenses.

2006 Ridership and Operating Expenses by UZA Population

Ridership and operating cost by urbanized area vary greatly with the Phoenix Urbanized Area ranking near the bottom of both categories. When normalizing the data by population, only the Dallas, Texas UZA has a lower quantity of transit trips per capita (19.93 boardings/capita vs. 18.20 boardings/capita). Comparing operating expense per capita, the Phoenix UZA expends the fewest dollars on transit operations than any of the peer regions reviewed.

Figure 1: 2006 Ridership per UZA Population

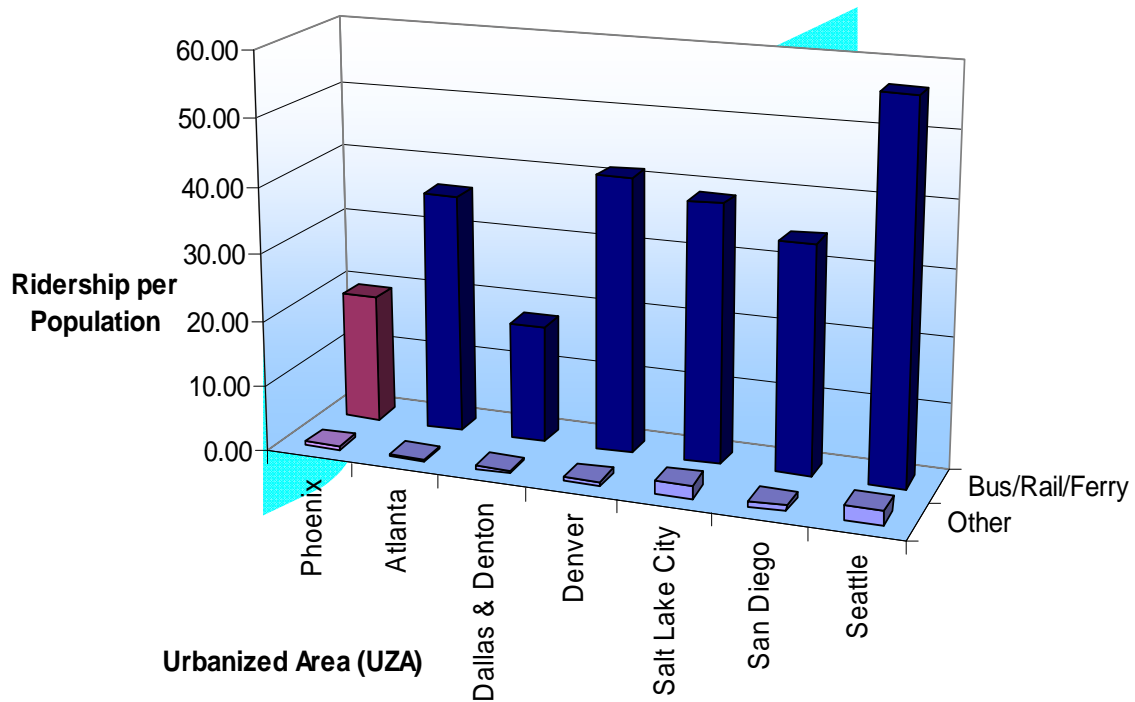


Table 5 provides a comparison of revenue miles per capita and ridership per capita by peer region. Based on the total average of the revenue miles per capita for all peer regions, Phoenix, Atlanta, and Dallas all fall below the average of 18.8; but of those regions Atlanta has a higher than average ridership per capita. As shown in Table 4, these regions also spend the least amount in operating expenses per capita.

Table 5: Revenue Miles/Capita & Ridership/Capita by Peer Region

Region	State	Regional Modes Operated	2006 Urbanized Area (UZA) Population ^{1,3}	2006 Annual Revenue Miles ²	Revenue Miles per Capita	2006 Annual Ridership ²	Ridership per Capita
Phoenix	AZ	<ul style="list-style-type: none"> • Bus • Demand Response • Vanpool 	3,228,000	40,444,000	12.53	64,331,000	19.93
Atlanta	GA	<ul style="list-style-type: none"> • Bus • Heavy Rail • Demand Response • Vanpool 	4,051,000	60,437,000	14.92	148,543,000	36.67
Dallas	TX	<ul style="list-style-type: none"> • Bus • Light Rail • Commuter Rail • Demand Response • Vanpool 	4,809,000	55,611,000	11.56	87,507,000	18.20
Denver	CO	<ul style="list-style-type: none"> • Bus • Light Rail • Demand Response • Vanpool 	2,057,000	54,028,000	26.27	86,572,000	42.09
Salt Lake City	UT	<ul style="list-style-type: none"> • Bus • Light Rail • Demand Response • Vanpool 	945,000	30,188,000	31.94	38,595,000	40.84
San Diego	CA	<ul style="list-style-type: none"> • Bus • Demand Response • Commuter Rail • Vanpool • Light Rail 	2,722,000	54,385,000	19.98	96,096,000	35.30
Seattle	WA	<ul style="list-style-type: none"> • Bus • Demand Response • Vanpool • Monorail • Ferryboat • Commuter Rail • Light Rail 	2,875,000	94,493,000	32.87	168,639,000	58.66
Average			2,955,286	55,655,143	18.8	98,611,857	33.4

¹Source: U.S. Census Bureau – “American FactFinder: 2006 Community Survey Population.” 2006. <http://factfinder.census.gov>

²Source: Federal Transit Administration – “National Transit Database: 2006 Transit Profiles.” 2006.

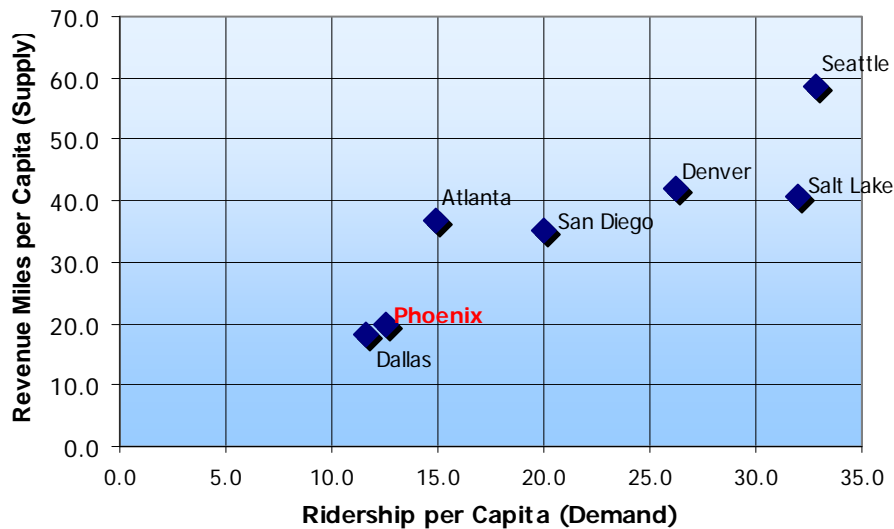
³Note: Data for Dallas is 2006 data, while Denton is 2000 data.

Comparison of Transit Supply and Demand

The supply of transit service in the peer regions ranges from approximately 30.2 million annual revenue miles in Salt Lake City to 94.5 million miles in Seattle. Likewise, the amount of transit service consumed (demand) ranges from 38.6 million annual boardings in Salt Lake City to 168.6 million annual boardings in Seattle. To normalize the data both factors have been divided by the urbanized area population. The relationship of revenue miles supplied per capita and ridership per capita is provided in Figure 2.

In general, the relationship of transit service supplied and transit service consumed in the peer regions indicates that as revenue miles per capita increases, passenger boardings per capita follow. This relationship does not directly account for other potential variables such as land use/development patterns, traffic congestion, auto ownership rates, parking costs, etc. Nonetheless, the relationship of ridership to transit service supplied among the peer regions generally follows a linear growth trend.

Figure 2: Comparison of Transit Supply and Demand by Urbanized Area



Source: Federal Transit Administration – "National Transit Database: 2006 Transit Profiles." 2006.

3.6 Summary

The peer regions identified in this report illustrate that the MAG region is not unique in using multiple funding sources and agencies to build, operate and maintain a regional transit system. One of the most important findings is that while the regions reviewed have varying levels of funding, the funds used for transit are generated from a mixture of funding sources (local sources, regional sources, etc.). No single region relies completely on a single source of revenue. Even regions like Atlanta and Dallas that have comparatively large sales taxes rates (1 percent) dedicated to public transit depend on additional revenue sources (federal, local and sub-regional) to expand and maintain the regional transit network.

Table 4 shows that with the exception of Dallas, the MAG region lags behind its peers in transit use per capita. Increasing transit use per capita to a level similar to the MAG region's peers is consistent with the consumer-focused and demand-based perspective that is guiding the development of the MAG Regional Transit Framework Study.

Based on this initial review of transit characteristics for the six peer regions, it is recommended that the five considerations listed below be further explored to determine their applicability to the MAG region. These considerations will be further examined through coordination with the peer regions in the initial development of this framework study through personal interviews with agency representatives. The five topics that will be further considered include:

- Ballot initiatives and their applicability to the MAG region. The framework study will examine what worked and what did not based on lessons learned from peer regions.
- Land use and transit planning considerations for transit oriented development.
- Percentage of transit dependent riders in each region.
- Planning, location and coordination of operations facilities. The framework study will include a summary of how operational facilities are planned and implemented in peer regions to maximize efficiency of the system.
- Transit policies, service availability, land use patterns, and other factors that may influence ridership. As shown in Table 4, there are large differences in ridership per population between Phoenix, Dallas, and other peer regions. This will be examined further along with transit policies, funding levels and distribution of funding among sources.

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