

## **CIRCULATION/BICYCLING TOWARD BUILD-OUT**

In coordination with the General Plan update process, a Transportation Master Plan update has proposed comprehensive system improvements integrating all transportation modes. This Element establishes the framework for subsequently adopting the more detailed Transportation Master Plan. Citizen participants in the General Plan process agreed that transportation and circulation issues deserve high priority attention.

The City has moved aggressively into the implementation phase for its share of major regional transportation funding approved by Maricopa County voters. Planning and design are complete for projects ranging from public transit to road and pathway improvements.

In the past, high intensity land uses were placed at freeway interchanges and arterial street intersections to provide maximum accessibility. Now the City faces a major paradigm shift. Capacity on the freeways and arterials will no longer be able to support higher densities without expensive transportation improvements. The City is applying lessons learned from other mature urban communities: high intensity land uses will need to be placed near transit corridors within walking distance of bus rapid transit or light rail transit stations.

Bicycle planning is one of the Elements called for in State planning statutes. In this General Plan -- as in the Transportation Master Plan -- bicycling is considered as a parallel component and is directly integrated with this Circulation Element. Non-motorized transportation alternatives are an important part of Chandler's overall future circulation system.

### **CIRCULATION**

The Circulation Element responds to particular needs that the City is experiencing as it approaches build-out. As jobs, commerce and housing are added, steps must be taken to mitigate traffic congestion. Convenience and cost factors also need to be considered for all citizens, particularly the elderly, youth and lower income families. Population concentrations and major shopping or employment nodes can generate sufficient ridership to support transit options.

#### **GOAL: IMPROVE PUBLIC TRANSPORTATION ALTERNATIVES FOR CHANDLER CITIZENS, COMMUTERS AND VISITORS.**

*Objective:* Engage in long-range planning for light rail system extension into the City along High Capacity Transit Corridors and/or commuter rail service on existing railroad facilities.

*Objective:* Expedite High Capacity Transit Corridor improvements including high speed bus rapid transit connections with metropolitan area destinations.

*Objective:* Encourage ridership through transit-oriented development.

*Objective:* Provide connections from outlying, lower-density neighborhoods (e.g., dial-a-ride, local bus service) to downtown Chandler and transit centers.

#### **GOAL: MATCH LAND USE INTENSITIES WITH PLANNED TRANSPORTATION SYSTEM CAPACITIES.**

*Objective:* Plan high intensity land uses near High Capacity Transit Corridors.

*Objective:* Design optimum roadway widths, geometrics, ingress-egress and signalization in "high capacity corridors" tied to land use intensity.

*Objective:* Emphasize transportation safety in all parts of the City.

*Objective:* Discourage through traffic in residential neighborhoods by means of efficient signalization on arterial streets and traffic calming.

*Objective:* Coordinate with regional and neighboring community transportation plans.

*Objective:* Establish site planning design criteria that relate vehicular access/parking with bike and pedestrian connections between adjacent land uses.

**GOAL: CONTINUE THE DEVELOPMENT OF AN INTEGRATED MULTI-MODAL TRANSPORTATION SYSTEM.**

*Objective:* Utilize aviation facilities to attract business and accommodate local aircraft owners.

*Objective:* Facilitate residents' accessibility to regional and interstate transportation with links to bus, rail, air passenger services, and freeway connections.

*Objective:* Strive to achieve efficient truck routes, reducing conflicts with passenger vehicles.

*Objective:* Plan multi-modal connections -- public transportation, roadway capacity, bike lanes, pedestrian paths -- through employment corridors and growth nodes.

**BICYCLING**

Bicycle facilities serve transportation as well as recreational purposes. Chandler promotes bicycle use as an affordable transportation alternative for shopping and commuting as well as for outdoor enjoyment. Element Goals and Objectives for bicycling are as follows:

**GOAL: BROADEN BIKEWAYS SCOPE TO CONNECT NEIGHBORHOODS WITH DOWNTOWN.**

*Objective:* Complete bicycle lanes on all arterial streets.

*Objective:* Encourage bicycle commuting.

*Objective:* Include bicycle plan integration in new developments, street improvements and neighborhood revitalization strategies.

*Objective:* Plan a continuous and interconnected system for bicycle travel among adjoining communities.

*Objective:* Plan an interconnected bicycle system containing continuous east-west and north-south bicycle routes.

**GOAL: DESIGN ON- AND OFF-ROAD BICYCLE FACILITIES FOR MAXIMUM SAFETY, CONVENIENCE AND COMFORT.**

*Objective:* Serve bicyclists of all ages and skill levels.

*Objective:* Improve safety for bike paths and lanes.

*Objective:* Provide bicycle transport on buses and light rail.

*Objective:* Add bicycle amenities such as parking and rest areas.

*Objective:* Provide an educational bike safety program.

## **Existing Conditions**

Surface street transportation currently operates at or above acceptable levels of service. Freeway connections, such as the addition of Loop 202 and its interchanges, provide excellent regional access for Chandler motorists; however, there is increasing congestion on primary commuting routes.

Portions of the community where most recent growth has occurred have full-width rights-of-way dedicated, but some are not improved to full lane capacity. Intersection improvements proceeding throughout the older sections of the City have been found to be more cost-effective than adding lanes.

Multi-modal transportation improvements, especially bus transit and bicycling alternatives, are being implemented. Bus Rapid Transit is aimed, in large part, at increasing commuters' use of public transportation. Bike routes attract increasing numbers of commuters to local places of employment.

**Assets.** The three freeways that serve Chandler -- Loop 101 (Price Freeway), Loop 202 (SanTan Freeway), Interstate 10 -- and a grid pattern of major arterials provides the City's circulation framework. Traffic flow and travel times inside the municipal limits are generally very good, in contrast to regional peak hour traffic conditions.

Transportation system improvement has been, and continues to be a public financing priority. Transportation Master Plan attention covers all forms of travel that will be supporting build-out. Recent and continuing capital investments devoted to other transportation modes (from bikes to buses) are beginning to take effect as alternatives to automobile trips.

The City of Chandler provides a number of transportation programs and services to help senior citizens and people with disabilities maintain their independence within the community. Dial-A-Ride service is provided in accordance with the American with Disabilities Act (ADA) through the East Valley Dial-A-Ride (EVDAR). EVDAR provides door-to-door, shared-ride public transportation services for senior citizens and persons with disabilities. Valley Metro operates the EVDAR service under contract for the Cities of Chandler, Mesa, Tempe, Scottsdale and the Town of Gilbert. Proposition 400 funds the cost of service for persons with disabilities in accordance with the Americans with Disabilities Act (ADA), which makes up approximately 80% of the EVDAR service hours. Non-ADA service is funded by the City of Chandler.

The Maricopa County Human Services Department Special Transportation Services (STS) program supplements Dial-A-Ride services currently provided through East Valley Dial-A-Ride with assisted, door-to-door transportation for persons with disabilities and the elderly. This is a shared-ride service and advance reservations are required. The City of Chandler also contracts with Maricopa County to provide transportation service to income-qualified veterans.

The City of Chandler initiated a subsidized taxicab coupon program with Valley Metro in 2006. This program, modeled after successful cab subsidy programs in Mesa and Scottsdale, provides subsidized taxicab coupons for Chandler residents that are eligible for Dial-A-Ride services. The program is intended to provide additional transportation options for senior citizens and persons with disabilities at a lower cost than traditional

Dial-A-Ride service. Under this program, participants purchase coupon booklets at a discounted price. The coupons can then be applied toward the fares of participating cab companies.

Positive bike system factors include planned roadway widenings to include bike lane installation, pathway connections designed into new developments and incorporation of facility extensions through linear parks and along canal banks.

**Challenges/Issues.** Meaningful reductions in car traffic can improve transportation system performance as build-out approaches. Increasing in-city job availability reduces commuting time and trip lengths. Adding residential density in the downtown core and High Capacity Transit Corridors is needed to encourage the viability of public transit.

Two commuter express bus routes offering weekday, peak hour service between Chandler and downtown Phoenix have been in operation since the mid-1980's. In 2004, Maricopa County voters approved Proposition 400, which will provide additional funding for construction of freeway high occupancy vehicle (HOV) lanes, park and ride facilities and expansion of the express bus fleet with new routes offering service between Chandler, Phoenix, Tempe and Scottsdale. A regional park and ride facility with 450 parking spaces will be built adjacent to Tumbleweed Park in 2008. As fuel prices continue to rise, demands for commuter express service will likely increase requiring construction of additional park and ride facilities in proximity to the freeways and further expansion of commuter bus service.

Rail service may not be realized during the tenure of this General Plan; nevertheless, Chandler should continue to participate actively in long-range planning. Failure to do so could preclude or delay future rail transportation service.

Bicycle system challenges include safety and providing continuity enhancements. Where rights-of-way and funding permit, bike paths and lanes should meet American Association of State Highway and Transportation Officials (AASHTO) guidelines for bicycle facilities. City staff and bike enthusiasts continue looking for ways to add system links in the community and across municipal boundaries into neighboring cities.

**Opportunities.** Tax dollars allocated by passage of Proposition 400 are expected to generate one billion dollars for Chandler transportation projects over the life of the sales tax. An example is providing Bus Rapid Transit (BRT) in the Arizona Avenue Corridor. This improvement is scheduled to begin service in July 2010.

Studies for extending light rail routes into the Chandler area are underway. Each project takes 9-10 years from planning to completion, so the City is participating now -- to be included in long-range planning. Commuter rail possibilities also merit consideration. They can be accommodated on existing railroad tracks, typically averaging longer distance trips (e.g., 20 miles compared with light rail's 4-5 miles) and offering consistent travel times.

Integrating build-out land use with transportation planning is a real opportunity. Maturing, more intense urban activities with transit facilities leads to multiple benefits: more riders, improved schedule frequency, vehicular trip reduction on main streets, reduced vehicular emissions and more.

Advances in bicycle use may occur from implementing the City's bicycle plan as well as incorporating bike path/lane installation in plans for roadway and intersection improvements. Although bicycle trips represent a relatively low proportion of circulation movements now, the cost of bike enhancements is minimal when combined with other larger projects.

### **Build-Out Policies**

The desired balance of land development depends on efficient, functional transportation. Safe, convenient mobility should be considered a "given" as the City matures.

Circulation Element policy guidelines cover a variety of transportation system aspects:

- ◆ Explore all feasible options for extending public transit opportunities, particularly for service to older or more densely populated areas such as downtown, or in employment and shopping activity centers.
- ◆ Design and maintain Chandler's street hierarchy for safety and separation of through trips from residential neighborhoods.
- ◆ Emphasize participation in long-range planning for regional light rail and commuter rail.
- ◆ Integrate transportation modes for choice and convenience -- on individual sites, within neighborhoods and for connections across town or to regional transportation destinations.
- ◆ Protect aviation operations from residential encroachment.
- ◆ Promote alternative transportation modes and the ease of circulation within the Chandler Airpark Area as well as other Growth Areas to support the City's economic development strategy.

Citizens participating at community planning workshops frequently mentioned the need for bicycle and pedestrian linkages throughout the City.

- ◆ Promote a continuous bicycle system that connects neighborhoods with downtown, places to work or shop, schools, libraries, parks and adjacent communities.
- ◆ Eliminate system gaps wherever possible with special attention to include bicycle facilities in neighborhood revitalization plans and new developments.
- ◆ Encourage bike riding as an alternate transportation mode as well as a healthy and sustainable recreational activity.

### **Implementation Recommendations**

Chandler's transportation Elements are critical to preparations for build-out, i.e., community-wide circulation with an emphasis on transit and bicycling. These subject areas represent fine-tuning for citizens' accessibility to destinations throughout the City and region. The following recommendations are intended to make it easier, safer and less expensive to get from place to place, together with increased mobility choices for all persons, especially lower income families, older people and youth.

**Strengthen public transit partnerships.** Municipal growth pressures create needs for diverse transportation options. Heavy reliance on the City's street system, even though it is being improved continuously, leads to worsening traffic congestion. By expanding

public transportation services and supporting alternate modes, Chandler plans to accommodate more employment, commerce and urban density housing.

Public transit offers excellent prospects to relieve transportation demand on a large scale. Valley Metro, the metropolitan transit system, will play an important role in Chandler's alternative ridership progress. Working with neighboring jurisdictions as well as private sector interests (e.g., developers and employers), Chandler intends to maximize its share of Proposition 400 funds for transit.

A variety of bus services, routing decisions, park-and-ride lots and collection/transfer points mark the next steps that are required to attract and retain riders. In time and as funds permit, shuttle or dial-a-ride services may be extended to retirement communities or less dense neighborhoods.

In addition, the City is actively participating with regional rail transit evaluations. Lengthy preparations involved in rail system implementation give Chandler time to secure its place in the growing metro rail transit network. Build-out land use decisions can strengthen and expedite the case for rail service extension into the City.

**Recommendation:** Set public transit priorities to increase service, convenience, and ridership within the City and connect to regional destinations. Plans and designs should be developed for parking, bus stop/station access, street furniture, signage and security. Designs should be in place as soon as possible for the Arizona Avenue BRT route, and later for feeder bus route concepts and future rail transit alignments.

Increase mass transit planning and funding communication with Federal, State and county agencies, and especially with Valley Metro and MAG staff. An annual transit status report by Transportation Services and Planning staff should be issued through the Chandler Transportation Commission.

**Produce traffic management guidelines for Growth Areas.** City staff and advisory commissions should collaborate on specifying circulation system features desired in large-scale development projects. Criteria for access points, parking, transit connections, pedestrian and bicycle interface could be considered.

Growth Area development approvals, incentives, or bonuses might require applicants' Transportation Demand Measures (TDMs) to include innovative approaches to reduce transportation system impacts. Employers could offer ride sharing, transit discounts, preferred parking or other inducements for reducing automobile trips. Shopping areas would benefit from park-and-ride, shuttle service and bicycle accommodations. Greater residential density would be justified if located proximate to transit, such as in the Arizona Avenue Corridor -- the closer to bus stops or BRT, the better.

**Recommendation:** Consider transportation improvements as essential prerequisites for approving higher intensity development projects. Site layouts can be designed to reduce walking distances from transit. Efficient interior roadway circulation avoids queuing and engine idling. Preferred bus stop and drop-off areas should be designated. Proactive programs such as vanpools, telecommuting, staggered hours and the like could represent performance commitments for businesses to meet.

Capacity studies for portions of Growth Areas can be performed to determine numbers of dwelling units, employees and commercial floor area that can be sustained at acceptable traffic service levels.

**Add dimension to Chandler's multi-modal circulation system.** The street extension and upgrade improvements called for in the Transportation Master Plan constitute a Citywide priority. Residential areas should receive attention to assure their connectivity to other parts of the community and region. Outlying, newer neighborhoods, in addition to those nearer the downtown core, are scheduled for roadway investment as well as enhanced accessibility to public transit and bicycle facilities.

Balanced economic development requires promoting business-related transportation functions. Better surface street travel times and convenient access to employment and shopping centers are key objectives in constructing non-residential projects. General aviation facilities will attract industry to the Airpark Area. Truck movements are becoming more efficient -- and causing less conflict with commuters' vehicles -- as a result of on-going freeway system improvements.

As build-out approaches, the City is completing its basic transportation network. Looking ahead, "smart growth" principles invite a wider range of more affordable transportation choices for residents and businesses.

**Recommendation:** Implement the updated Transportation Master Plan with particular emphasis on priorities for upgrading street intersections. Adopt Intelligent Transportation System technology, where applicable, to regulate traffic flow on arterial roadways through signalization timing, information systems, "queue jumping" to permit BRT buses to by-pass lines of cars, and similar techniques.

Traffic management policies may address such issues as minimizing the impacts of truck movements during peak hours and discouraging through traffic from penetrating neighborhoods. Public safety departments prefer regulatory or design solutions other than physical barriers (e.g., diverters, speed bumps) that may affect emergency response.

**Bicycling Element** initiatives relate with several build-out planning themes. Energy and Environmental Elements are served by reducing motorized trips. Bikepaths can contribute to Neighborhood Planning as well as other General Plan components.

Many Chandler residents, at various planning events, liked the idea of their City being recognized as "bicycle friendly".

**Plan for comprehensive bike lane/path connections.** Focus is on completing the basic arterial and collector street network for bike lanes in conformance with design safety standards. Bicycle travel among neighborhoods and destinations (e.g., downtown, shopping, employment, culture, recreation) requires municipal installation, oversight and maintenance.

Investments in bicycling will produce long-term benefits. An alternative transportation system can be accomplished at relatively little public expense when compared with the costs associated with public transit or major roadway projects. Most bike lane installation/upgrades would occur in conjunction with City Capital Improvement Program projects.

Neighborhoods Plans should include bicycle plan components to encourage use by residents and businesses.

**Recommendation:** Identify and prioritize existing gaps in Bike Plan "main line" routes. Update order-of-magnitude cost estimates, including street crossing improvements and other safety enhancements. Develop annualized public funding targets from possible financial resources (e.g., Federal funds and local funds) for implementation.

**Encourage commuting and shopping by bicycle.** Private sector participation in Bike Plan implementation could be instrumental to accessing specific destinations. Developers' contributions to new collector street bike lanes and/or planned trails are expected in traffic management plans for project approval. Added amenities for employee or customer use of bicycle transportation would be highly encouraged.

City path or lane improvements could be expedited to coincide with private sector installation of bike facility linkages. Revitalization projects downtown and in the Arizona Avenue Corridor growth area locations might receive extra inducements (e.g., shared-use parking) in return for providing bicycle-friendly features such as rest areas, bicycle racks or through-site connections to adjacent properties.

**Recommendation:** Consider appropriate incentives for developer-provided bicycle improvements above and beyond transportation management plan requirements.

Initiate an awards program recognizing significant achievements by businesses or civic organizations in promoting bicycling. All vehicular trip reductions related to the Chandler Bike Plan should be publicized.



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# CIRCULATION PLAN

FIGURE 9

