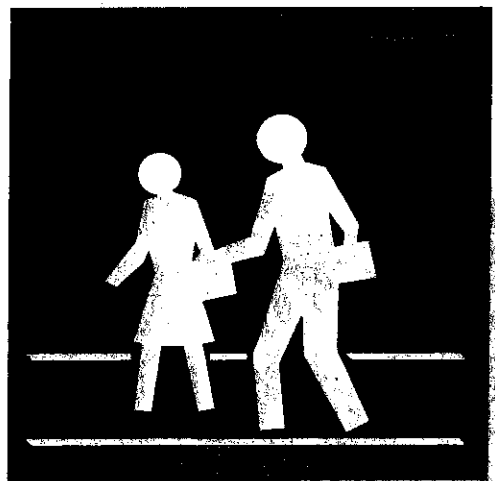
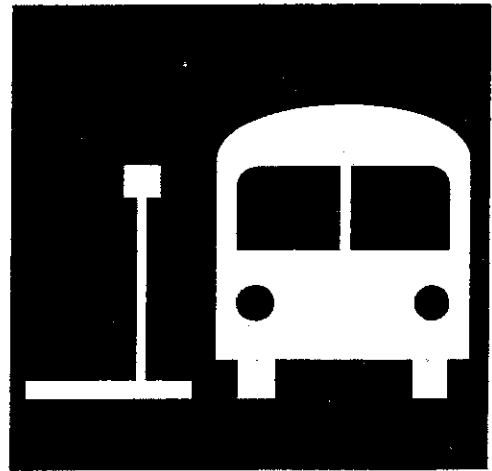


Transit Plan



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Community Involvement in the Plan. In order to determine Tempe's transit needs, the Transportation Committee formed a Transit Planning subcommittee which obtained additional citizen input. The subcommittee received comments during regular meetings held between November 1989 and May 1990, a Mayor's Breakfast in January 1990, a Neighborhood Workshop in February 1990, community meetings during August/September 1990, and via the telephone survey conducted by committee members and volunteers during March/April 1990.

Participants in the public meetings and the telephone survey felt there is a transportation problem in Tempe, and that major factors contributing to the problem are traffic congestion and the lack of frequent, comprehensive bus service. The lack of a rapid transit system was also frequently mentioned as part of the transportation problem. In general, citizens felt public transit was an important part of the city's infrastructure and would help relieve traffic problems by providing an affordable alternative to the automobile. They indicated that transit service should be responsive to older citizens, the handicapped, students, children and those who do not have other means of transportation.

Although citizens agreed transit was important, most do not use the current system because they believe it is less than adequate or because they do not have enough information on the service available. The types of improvements that would cause more people to use transit were 10-15 minute bus frequency, reduced travel time, and bus stops closer to their homes. Almost all of the major arterial intersections were mentioned as needing a bus stop. Baseline, Rural, Broadway and Mill were most often suggested as streets where new or additional service would be used, and Phoenix, ASU, Fiesta Mall and Downtown Tempe were the most frequently mentioned destinations.

The majority of citizens indicated they would pay additional taxes to see the regional freeway system completed. Telephone survey respondents ranked rapid transit second after freeways in the list of transportation improvements for which they would be willing to pay more taxes. Other improvements ranked highly by public meeting attendees and telephone survey respondents were additional bicycle paths, more frequent bus service throughout the Valley, more dial-a-ride service throughout the Valley, and more Tempe neighborhoods served by bus routes. However, the majority of those participating in the telephone survey would only be willing to spend less than \$100 per year in additional taxes, and most people preferred to pay gasoline tax.

Subsequent Steps in the Local Planning Process. The committee members have incorporated the information gained from the meetings and survey in their recommendations for a transit plan, including the prioritization of improvements to existing service. The committee makes the following general recommendations for future actions by the City of Tempe in its local planning process:

1. The Tempe City Council should adopt the Transit Plan as a basis for future local transit and transportation planning, including the recommended goals, service standards, service improvements, and long-range planning policies. The Council should direct staff to prepare a detailed transit service plan using the committee's

recommendations as a starting point. The Transit Plan's long-range planning policies should be incorporated in the City's General Plan 2000 as a part of the General Plan update process. The Transit Plan and related detailed service plan should be reviewed on an annual basis to assure that it continues to reflect current conditions and local needs.

2. The City of Tempe should support efforts to provide a dedicated revenue source for transit. The Legislature, in its 1990 session, authorized a County-wide vote for a 1/2 cent sales tax to be split among transit and freeway improvements. Designating an appropriate level of this tax for transit improvements will help fund the cost of improved local transit in Tempe, as well as a coordinated system for the region.
3. Tempe's planning should incorporate a multi-modal transportation approach, using a combination of public and private providers to coordinate local, express and circulator routes, custom transit, neighborhood feeder service, private and specialty shuttle services, and transportation demand management strategies such as bicycling and ridesharing. Land use and transportation planning for the city should support the goals of a multi-modal system by promoting policies which encourage transit use. Planning should incorporate possibilities for regional fixed guideway transit service. The possibility should also be explored of using existing Southern Pacific railroad right of way to provide additional options for commuter rail service joining Tempe to the region. The Transportation Committee strongly supports the policies of the Bicycle Advisory Committee and recommends that facilities to support the interface between transit and bicyclists be included in the transit plan implementation. Such facilities include bicycle racks on transit vehicles, bicycle parking and support facilities at transit stops including transit centers, and other means of coordinating bicycle and transit travel.
4. The recommended transit service improvements should be implemented on a phased basis through some combination of City revenue sources, possible joint agreements with neighboring jurisdictions, public-private partnerships, and other methods including federal, state and regional funding.

2. LONG RANGE PLANNING POLICIES: RECOMMENDATIONS

Tempe's geographic location within the metropolitan region has contributed to its excellent access to a variety of transportation modes, as well as its consistent growth in the face of a slowdown in Arizona's economy. Because of the limited land available to Tempe for new development, planning for continued improvement of Tempe's quality of life involves determining the most effective use of the existing resources. The following facts are pertinent to understand the planning opportunities and constraints for transit/transportation in Tempe.

Review of 1985 census data and related Maricopa Association of Governments (MAG) projections show that: population by age breakdown has stayed fairly stable in Tempe over the last thirty years; Tempe median household income is higher than

most of the Valley cities; Tempe has a higher percentage of multi-family housing units than any other city in the Valley; and Tempe residents have a higher average education level than other Arizona residents. The estimated total population in Tempe for 1990 is 150,945, with a year 2015 estimate of 197,402. According to the 1985 census, the median age in Tempe is 30.5 years, with more recent estimates indicating that six percent of Tempe's population is over 65 years of age, with 29% under 17 years of age. It is interesting to note that most of the elderly population (99%) is located north of Elliot Road. Also of interest, as previously noted, is Tempe's strong job growth. The estimated total number of jobs in Tempe in 1990 is 90,221, with an increase to 204,862 jobs by the year 2015.

Tempe has 39.3 square miles of land area. Review of the land use plan in Tempe General Plan 2000 shows that the residential and employment growth nodes for the period 1990-2015 are concentrated primarily in the areas west of Rural Road or north of University, with additional employment in the ASU Research Park area.

Tempe has very good facilities to support vehicular traffic, with a well-designed street system incorporating traffic signal synchronization and modular signals, and approximately twelve existing freeway miles linking Tempe to the rest of the Valley. Three new freeways, for an additional twelve planned freeway miles, are in design or construction in Tempe at present.

Tempe has had a Bicycle Plan in place since 1974. Currently, there are over 127 miles of bicycle facilities in Tempe, consisting of bicycle paths, lanes, and signed bicycle routes. These routes provide connections from residential areas to community facilities, work, school and recreational amenities. Tempe's active Bicycle Advisory Committee, along with City staff, is working on a revised Bicycle Plan which will address both the recreational and commuter aspects of cycling in Tempe. The Bicycle Advisory Committee is represented on the Transportation Committee's Transit Planning subcommittee.

Tempe has access to non-vehicular modes such as railroad and air transportation through its proximity to Southern Pacific Railroad right of way as well as to Sky Harbor International Airport. Earlier studies conducted by RPTA identified a major potential rapid transit corridor in Tempe which would access Tempe's downtown and the Rio Salado project.

The Transportation Committee members believe that broad long-range planning policies must guide the effective development (within the twenty year time frame) of a multi-modal approach to transit service in Tempe and in the region. A detailed description of existing service and recommendations for specific service improvements and service standards follows in a later section of this report. However, the following long-range policy recommendations are the basis for the detailed service improvements.

LAND USE

Goal: Coordinate land use planning and all modes of transportation planning in Tempe and the region.

Goal: Encourage mixed use development served by transit so that people are less dependent on the automobile for their employment, shopping, or recreational trips.

Objectives:

Consider existing and projected population and employment densities, zoning and activity center designations in the Tempe General Plan 2000 when planning the level of transit service and mix of transit modes.

Provide high levels of transit service in designated growth nodes (downtown Tempe, Salt River Project development, and the I-10 corridor from the Hohokam Freeway to Ray Road), developing industrial areas, and mixed-use corridors (Apache Boulevard from Rural to Tempe's eastern city limits and the East Papago Freeway between Scottsdale Road and the Outer Loop).

Consider regulations and incentives in Tempe's zoning and subdivision ordinances that encourage pedestrian and transit-friendly environments by allowing more intense population and employment densities in locations supported by the community.

Assure that planning for transit service (including fixed guideway, high capacity transit) reinforces and enhances existing neighborhood patterns.

TRANSIT SERVICE

Goal: Provide transit service levels for all modes that are convenient, reliable, and frequent so that transit is fully accessible to the user and more attractive to riders than single occupant vehicle travel.

Objectives:

Provide transit service and facilities that are fully accessible to the physically challenged, including handicapped and frail elderly.

Provide multi-modal connections, including bicycle facilities, pedestrian access, and bus transfer facilities, especially in areas with access to multiple bus routes or near proposed fixed guideway, high capacity transit stations.

Provide specialized transit service when needed to serve community goals (e.g., support for special events, hospitality industry, downtown redevelopment).

Study and evaluate a wide range of technological options for regional fixed guideway, high capacity transit service.

TRANSIT CORRIDORS

Goal: Support the development of some form of fixed guideway, high capacity transit service in Maricopa County coordinated by a regional agency.

Goal: Provide a significant level of transit service in local and regional travel corridors in the absence of fixed guideway, high capacity transit and to complement such service when it becomes available.

Objectives:

Link all major current activity centers in and serving Tempe (including ASU, downtown Tempe, Salt River Project, downtown Phoenix, the Fiesta Mall area, Sky Harbor Airport) and future activity centers (e.g., Baseline Road/I-10 regional airport), and include a transit corridor linking these current major activity centers in the first phase of any regional fixed guideway, high capacity transit program.

Use existing railroad, highway, and freeway rights-of-way as transit corridors where future study shows that joint use is feasible (e.g., matches route needs or provides service or speed advantages).

Encourage the efficient use of the freeway system by incorporating traffic management strategies including high occupancy vehicle (HOV) lanes and bus priority at freeway on-ramps.

PARKING

Goal: Reflect the direct relationship between the parking availability/ pricing of parking, and transit use, in land use and transportation planning.

Goal: Encourage incentive for parking reduction, recognizing the value of providing transit service and facilities in lieu of parking and as a supplement to automobile use which will provide economic development benefits, improved personal mobility options and balanced site design.

Objectives:

Consider parking requirements that encourage alternatives to the single occupant vehicles (e.g., through rideshare parking preferences).

Provide improved transit access to mixed use, industrial, and growth center areas, while discouraging the use of additional parking (surface or structured).

Provide parking facilities at transit stations that reflect the scarcity of land in Tempe and that are designed to limit the demand for additional parking spaces.

Work with major employers to limit the use of city streets and private property in providing employee parking.

3. EXISTING TRANSIT SERVICE IN TEMPE

The City of Tempe provides fixed route bus service and custom transit services to its citizens through contracts with several transit providers who operate and manage these services. Fixed route bus service is defined as service in which transit vehicles follow a schedule over one or more prescribed routes. Custom transit service is designed to supplement fixed route service by providing vehicles which may be used by those who cannot use conventional transit service, either because of a physical or mental disability, age, or because there is no fixed route service available where they live. The total cost of fixed route and custom transit service to the City of Tempe during FY 1989-90 was approximately \$658,000 from Local Transportation Assistance Funds (LTAF), \$36,000 from community funded transit monies allocated to the cities through RPTA, with an additional \$708,000 provided through RPTA Proposition 300 monies. It is important to understand the current level of transit service provided in order to evaluate the need for additional service.

FIXED ROUTE BUS SERVICE

Currently, the City of Tempe funds local, regional and express fixed route bus service within its boundaries through contracts with the City of Phoenix, RPTA, and Metro Trolley, Inc. Tempe pays the City of Phoenix the total expense for routes #1, 44, 520 and 521, as well as a portion of the cost of Route #2. Routes #61, 72, and 523 are paid for through RPTA Proposition 300 monies. The City of Tempe subsidizes the cost of Metro Trolley, Inc. operations on routes #T1 and T2.

Local Routes. The following is a description of the service provided by the seven local bus routes operating in Tempe. All routes except #61 and #72 operate Monday through Friday only, with no service extending later than 8:00 p.m. Saturday service is provided in Tempe on #72. Routes #2, 61 and 72 are wheelchair accessible.

Route 1 connects downtown Tempe to downtown Phoenix

Route 2 connects Tempe to Mesa, Sky Harbor Airport, Phoenix and Peoria.

Route 44 connects downtown Tempe to East Phoenix and Paradise Valley.

Route 61 connects central Tempe to Mesa and south Phoenix.

Route 72 connects Tempe to Scottsdale, Guadalupe and Ahwatukee (Phoenix).

Trolley routes T1 and T2 circulate between downtown Tempe, southern Tempe, and Mesa Community College. Transfer points are located at Southern and McClintock and Fifth Street and Mill.

Express Routes. Currently three express bus routes serve the City of Tempe (routes 520, 521 and 523). These routes operate during peak periods only to serve commuter trips between Tempe and central Phoenix. These routes offer local service within Tempe's boundaries, switching to limited-stop express service in the vicinity of the Superstition Freeway. The following is a description of the express route coverage. None of these routes are wheelchair accessible.

Route 520 operates in local service (north of the Superstition Freeway) from Price Road and Southern Avenue to Mill Avenue and Hermosa Drive in Tempe, then non-stop express from there to 3rd St. and Moreland in Phoenix. The service drops off

only at bus stops from there to the State Capitol. This route is reversed in the evenings. Park and Ride lots for express route 520 are located at: Danelle Plaza (SW corner of Mill Ave. and Southern Ave.), Mervyn's Shopping Center (NW corner of Southern Ave. and Rural Rd.), and Grace Community Church (NW corner of Dorsey Lane and Southern Ave.)

Route 521 operates in local service (south of the Superstition Freeway) from Price Road and Southern Avenue to Mill Avenue and Carter Drive in Tempe, then non-stop express from there to 3rd St. and Moreland in Phoenix. The service drops off only at bus stops from there to the State Capitol. This route is reversed in the evenings. A Park and Ride lot for express route 521 is located at Target Shopping Center at Baseline Rd. (NE of McClintock Dr.).

Route 523 operates in local service from Chicago and Colorado in Mesa to Elliot and Interstate 10 via Dobson Road and Warner Road, then non-stop express from there to 3rd St. and Moreland in Phoenix. The service drops off only at bus stops from there to the State Capitol. This route is reversed in the evenings. A Park and Ride lot for express route 523 in Tempe is located at Cobblestone Village (SW corner of Warner Rd. and McClintock Dr.)

CUSTOM TRANSIT SERVICE

Custom transit service provided in Tempe includes the Tempe/Scottsdale Dial-a-Ride, which began as a joint demonstration project among the RPTA and the two cities, and Red Cross Transportation service, which primarily provides supplementary medical appointment trips for those outside the Dial-a-Ride service area. Custom transit provides service to the physically challenged, frail elderly, and others who may not be able to use other types of transit services.

The Tempe/Scottsdale Dial-a-Ride service is a demand-responsive, shared-ride transportation service. It offers door-to-door transit service to senior citizens 65 and older and to people with disabilities regardless of age. Service is provided via wheelchair accessible vehicles, including vans and one sedan. The service boundaries encompasses the area north of Baseline Road in Tempe and south of Thunderbird Road and west of 96th Street in Scottsdale. There are drop-off points at Tri-City Mall, Mesa Community College, Lakeview Dialysis Center, and Desert Samaritan Hospital in Mesa as well as Westchester Care Center and Getz School in Tempe.

Demand responsive service means that, within the Tempe/Scottsdale system, passengers are picked up within 45 minutes of calling, or sooner if possible. Service is provided from 7:30 am to 6:00 pm., Monday to Friday, except major holidays. Service is coordinated with the Mesa Dial-a-Ride program, which is also demand-responsive and operates similarly with the exception that it is available to the general public and provides weekend and holiday service hours.

American Red Cross provides supplemental special transportation service in Tempe as well as other urban and rural areas under a contract with Maricopa County Human

Resources. In Tempe, the program provides transportation for handicapped and elderly persons only. Red Cross Transportation uses vans equipped with lifts for the handicapped. They rely on volunteer drivers. Although Red Cross service is available throughout Tempe, it does not duplicate service provided by other public transportation providers. The Red Cross service is a prescheduled, reserve-a-ride system with priority for medical appointments. It operates from 8:00 am to 4:00 pm Monday through Friday. Users must make reservations at least 24 hours and not more than two weeks in advance.

EXISTING SERVICE STANDARDS

Along with the detailed description of the route coverage and service hours currently provided in Tempe, it is important to review overall service standards and policies which determine the general level of transit service the City will provide. Table 3.1 (page 21) compares national industry standards and Phoenix Transit standards to the level of transit service provided in Tempe. Comparison of local standards within the metropolitan area to industry standards shows the level of improvement needed in such areas as route frequency, operating hours, route design, passenger stops and amenities, and is useful in developing service standard policies. Table 3.2 provides a comparison of local service standards to other similar cities throughout the country.

4. RECOMMENDED TRANSIT SERVICE IMPROVEMENTS

The Transportation Committee, after reviewing the existing system and its service standards, and obtaining input from the community meetings and surveys, made recommendations for detailed service improvements. This section of the report lists all of the service improvements and related service standard policy recommendations. The following section defines the committee's priorities by showing the phasing (based on expressed citizen concerns) for these improvements. With regard to service improvements, the committee recommends that the City of Tempe transit plan include local bus service on, at the very least, every mile arterial street with levels of service as adopted by the committee. Recommended local, express, and circulator routes described below will connect to routes serving destinations in Phoenix, Mesa, Chandler, Gilbert, Glendale and Scottsdale in a regional plan. Recommended neighborhood feeder service will supplement the route system in a manner that is appropriate to Tempe's goal of preserving neighborhood character. Improvements in transit facilities and amenities, including transit centers, shelters and benches will make transit use more convenient and comfortable, thus encouraging ridership. Most importantly, improvements in the transit service standards will provide an effective, usable system that will facilitate the travel needs of residents, visitors and employees in Tempe.

LOCAL BUS ROUTES ON MAJOR ARTERIAL/COLLECTOR STREETS

The committee recommends specific local bus routes be studied to serve the following major streets:

North/South Streets

48th Street
Priest Drive/56th St.
Hardy Drive
Kyrene Road
Mill Avenue
Rural Road
McClintock Drive
Price Road

East/West Streets

McKellips Road
Washington St./Curry Rd.
Rio Salado Parkway
First Street
University Drive
Apache Boulevard
Broadway Road
Southern Avenue
Baseline Road
Guadalupe Road
Elliot Road
Warner Road

ADDITIONAL EXPRESS BUS ROUTES

The committee recommends studies for additional express bus routes along the following roadways

1. Price and East Papago Freeways to and from Phoenix.
2. Price/Pima Freeway to and from North Scottsdale.
3. Rural Road to and from Scottsdale.
4. McClintock Road to and from Scottsdale.

and additional park and ride lots at:

1. Interstate-10 and Baseline Road
2. Interstate-10 and Elliot Road
3. Interstate-10 and Warner Road
4. Interstate-10 and Chandler Boulevard (recommendation at regional level)
5. Rural Road and Warner Road
6. Price Freeway and Elliot Road
7. Price Freeway and Southern Avenue (half diamond to and from the north only)
8. East Papago Freeway and Dobson Road (recommendation at regional level)

As outlined in the service standard policies which follow, the existing and additional express buses will run at the current service level during peak periods and at 60 minute intervals during off peak periods. Off-peak hour service is essential to convince riders that they can return home during the day if needed. This service improves the reliability and predictability of express service for current and future needs.

CUSTOM TRANSIT SERVICE IMPROVEMENTS

The committee recommends as a priority the establishment of a higher level of service for the physically challenged, frail elderly, and others who may not be able to use traditional

transit service. Recommendations for custom transit improvements are:

1. Extend dial-a-ride service to the southern city boundary.
2. Provide service Monday through Sunday, including holidays.
3. Extend the hours of operation to, at minimum:
 - a. Provide service from 7:30 am to 6:00 pm Monday through Friday with evening service (6:00 pm to midnight) on two days of the week.
 - b. Provide Saturday service from 9:00 am to 5:00 pm.
 - c. Provide Sunday service from 8:00 am to 1:00 pm.
4. Provide a custom transit service that is regionally coordinated and not affected by jurisdictional boundaries. Ensure good coordination between Red Cross service and other custom transit systems so that complete service is available to those with special needs.

PROPOSED NEIGHBORHOOD CIRCULATOR SERVICE

There is no current neighborhood-oriented circulator or feeder service in Tempe. Circulator service, also occasionally called shuttle service, is more appropriate for areas of lower demand. Specially designed buses are often used to provide identity to the service and avoid confusion with other bus service that may operate on the same street. The committee recommends studying the possibility of neighborhood circulator/feeder service, including evaluation of specific routes.

TRANSIT AMENITIES

The committee recommends that a high level of transit amenities be provided to make the transit system more convenient, comfortable, and consistent with Tempe's high quality of life. This includes appropriate signage and route information; shading, either by landscaping or a structure, at every bus stop; shelters and benches at stops as determined by route usage. The committee also recommends larger facilities, such as transit centers, when warranted by volume of transit routes and adjacent activity centers. Transit centers create focal points where transit services converge, enabling riders to transfer conveniently between transit routes and various travel modes such as bus, car, rapid transit and bicycle. A typical center could include off-street facilities such as bus pull-out areas or bus loops and passenger waiting areas. Shelters, benches, bike racks, drinking fountains, transit information displays, lighting and landscaping are usually included. A multi-modal transportation center, a more extensive use of the transit center concept, could be studied for areas which have a particularly intense concentration of transit services, including those areas previously proposed as potential rapid transit corridors.

The committee recommended some specific locations to be studied for transit centers:

1. Mill and University at Tempe Center.
2. 56th Street and University in the Hohokam Industrial Park.
3. Rural and the Superstition Freeway.
4. Baseline and Lakeshore in the Lake Country Shopping Center.
5. Elliot Road and Interstate 10 at the Autoplex.

6. Price Road and Southern (ideally at Fiesta Mall).

SERVICE STANDARD POLICIES

The transit plan recommends system improvements that will bring the level of service to at least the industry standard shown in Table 3.1. The Tempe Transportation Committee developed the following service standard policies based on survey results, on-going citizen input and transit industry standards.

A. AREA COVERAGE

1. Fixed route service should come within a quarter mile of the major activity centers for employment, shopping, services, high-density living, schools and colleges in Tempe and the region.
2. Fixed route service should be provided, at the very least, on all major arterial streets (section line roads that are a mile apart) through Tempe.

B. PRIORITY TREATMENT

1. Buses should have priority treatment on all streets in Tempe and the region. The precise implementation measures, whether mandated right-of-way over automobiles, bus turn outs or other measures, require future study.
2. High occupancy vehicle lanes should be available for buses. The precise implementation measures, which may include reallocated or added lanes on existing freeways, allocation of new lanes on freeways and reallocation of existing lanes on major arterial streets require future study.

C. ROUTE SCHEDULING

1. All fixed routes should offer at least 10 - 15 minute peak hour headway (interval between buses) with more frequent service on specific corridors.
2. Weekend fixed route service should run at weekday off-peak levels of service on all routes.
3. **Operating hours:**

Peak hours: (6:00 am to 9:00 am and 3:00 pm to 6:00 pm). There should be 15 minutes or less between buses.

Offpeak: (9:00 am to 3:00 pm).

There should be 20 minutes or less between buses.

Evening: (6:00 pm to midnight).

There should be 30 minutes or less between buses.

Night time: (Midnight to 6:00 am).

There should be 60 minutes or less between buses.

Weekend:

There should be 60 minutes or less between buses.

Holiday:

There should be 60 minutes or less between buses.

4. Custom transit service should be available during the evenings (6:00 pm to midnight) at least two evenings a week; on Saturdays (9:00 am to 5:00 pm); and on Sundays (8:00 am to 1:00 pm). This standard should be reviewed to assure that it complies with the Americans with Disabilities Act.

D. AMENITIES

1. Bus stops should be available at every quarter mile or less for each fixed route.
2. Each bus stop should have adequate signage, including route number and schedule information.
3. Every bus stop must have shade, either by a tree or by a bus shelter.
4. Bus shelters and benches should be provided as needed based on usage.

E. SPECIAL NEEDS TRANSIT

The transit system should be fully accessible to the physically challenged.

5. FINANCE PLAN

Current and proposed Tempe transit service is a crucial public transportation need. Alternatives to single occupant vehicle trips and improvements in transit service levels can be achieved only by commitment of substantial amounts of additional revenue. Comparable cities across the nation already spend three times annually the amount that Tempe spends for transit service (Table 3.2). These cities are actively improving their transit service beyond the levels recommended in this report and are initiating fixed guideway service that provides a new level of regional mobility. Without substantial improvements in transit financing, Tempe will continue to fall behind comparable cities.

FINANCIAL GOALS

The net costs of improved Tempe transit service and Tempe's share of a fixed guideway regional system should be viewed in relation to potential sources of revenue. This report recommends that:

Transit revenues be generated from a mix of federal, state, regional and private sources to provide the large scale funding necessary to bring Tempe transit service to the level of transit service in peer cities, and that regional transit service be provided across jurisdictional boundaries to reflect travel demand preferences for local bus, express bus and custom transit service.

This fiscal approach is consistent with current recommendations for Arizona state tax reform and the Fiscal 2000 report. The committee recognizes that there are competing public demands for the limited revenue resources presently available, including the local sales tax. Communities need to develop alternative revenue sources for transit service.

REVENUE SOURCES

Multiple revenue sources should be considered if full operating and capital costs of local bus service and a regional fixed guideway system are to be met. Revenue sources, such as user fees, should provide disincentives to the single occupant vehicle use while providing funds for transit. Parking fees are one example of this approach. Tempe residents surveyed for this transit plan stated their willingness to pay up to \$100 per year in extra taxes for improved freeway and transit service. Their preferred revenue sources are:

1. gas tax
2. sales tax
3. highway user taxes such as vehicle registration/license fees.
4. taxes on transportation related items such as tires, automobiles or trucks.

The current expenditure for transit service provided in Tempe is approximately \$1.3 million annually. This expenditure includes: local and express bus routes provided through the City of Phoenix Public Transit Division and paid for by the City of Tempe; local service provided by Metro Trolley, Inc. under contract to the City of Tempe; the City's contribution to the Red Cross Transportation service administered through Maricopa County Human Resources Department; Tempe's share of the Tempe/Scottsdale Dial-a-Ride service administered by the Regional Public Transportation Authority (RPTA); and local and express bus routes provided by the RPTA through Proposition 300 funds. Improved transit service which meets the committee's recommended service standards for Tempe will require a substantial increase in transit investment and may necessitate new revenue sources. A mix of federal, state, regional, local and private revenue sources will best assure that transit does not depend on any one diminishing source of funds, and will help to bring transit service in Tempe nearer to the level currently offered in comparable U.S. cities (see Table 3.2 - Peer City Comparison Chart).

The committee reviewed the proposed County sales tax increase (a half-cent split 50:50 between freeways and transit improvements) as an option for financing this significant increase in transit investment. If this tax passed, Tempe would be allocated \$4.3 million annually (assuming the tax would generate \$118 million and revenues were allocated to local jurisdictions based on population). If the proposed half-cent County tax was dedicated solely to transit, approximately \$8.6 million annually would be available to Tempe.

The subcommittee considered another source of funds - a potential increase in the City's sales tax. If the City held an election to increase the present 1% City sales tax and designated the increased funds for transportation and transit, approximately \$5.7 million could be generated from a one-quarter cent increase; approximately \$11.4 million could be generated from a half-cent increase. For comparison, in November 1989, Scottsdale voters approved a 1/5 of a cent sales tax increase (for a total City sales tax level of 1.2%). The Scottsdale tax increase was designated for streets and other transportation projects and was expected to generate \$5 million to \$5.5 million per year.

Both of these sources depend on voter authorization of an increase in the sales tax. However, neither of these sources, by itself, is likely to fully finance the proposed capital and operating costs estimated for the Tempe Transit Plan in the long term. Tempe should consider other funding sources in the long-term mix, such as transportation-related fees (e.g., tolls and fares for use of transportation facilities, and auto-related taxes such as gasoline tax); developer incentives, impact fees, and public-private partnerships; and continuation of existing sources such as the Local Transportation Assistance Funds (lottery proceeds). Communities must also continue to pursue alternative funding sources as transit improvements compete with other community priorities.

OPERATING COSTS

Operating costs of approximately \$11.8 million for the full proposed long term transit program in Tempe are summarized in Table 5.1. (These costs represent the full implementation of routes and service standards, which could occur over a twenty year time frame.) As the table shows, even if a proposed county tax increase is approved, this funding mechanism still leaves gaps in annual operating costs for implementing the full twenty year program. All cost estimates (including both operating and capital) should be reviewed and refined in the development of a detailed service plan.

CAPITAL COSTS

The annual capital cost associated with the transit service levels in this plan is estimated at \$1.9 million (see Table 5.2) and represents the capital costs borne by the City of Tempe, assuming some regional and federal participation. No estimate is made of Tempe's share of the costs of a regional fixed guideway system. Estimated Tempe capital costs in this plan include signage, shelters and benches, and a portion of the cost for transit centers and park-and-ride lots (shared with other jurisdictions/developers). No vehicle costs are included, as the City would contract with providers for service.

The substantial transit center and park-and-ride costs and Tempe's limited land availability present constraints on full implementation of the transit recommendations. As a policy matter, the City should continue whenever possible the current method of obtaining park and ride locations through developer dedication of spaces in existing or planned parking lots.

6. IMPLEMENTATION PLAN: PHASING OF SPECIFIC ACTIONS

Committee members recommend that improvements to Tempe's transit system be implemented on a phased basis, with immediate actions to occur in the first year after plan adoption to respond to current needs at a relatively low cost. Short term actions (those occurring in the next two to five years) will require a higher level of funding and emphasize increases in local service levels. Longer term actions (after five years) will focus on regional planning issues, achievement of optimal service levels, and ongoing capital and operations improvements. The following actions are based on community needs identified during the telephone survey and initial public meeting process, and may be adjusted after additional citizen input and the development of a detailed service plan.

Transit improvements are recommended in three stages:

1. Immediate actions in the next year.
2. Short-term actions in the next two to five years.
3. Long-term actions after five years

Improvements in each phase are **not** listed in any priority order.

IMMEDIATE ACTIONS (First Year After Plan Adoption)

Extend local bus service between downtown Tempe and the Fiesta Mall area.

Extend the service area for dial-a-ride to southern city limits and expand the hours and days of service to match other transit service.

Improved service standards on existing routes:

- a. Evening hours (to 10:00 pm) on all routes.
- b. More frequent peak hour service on all routes.
- c. Add Route number 2 weekend service to link downtown Tempe to Sky Harbor Airport.
Add Route number 44 weekend service to serve ASU.
Add Route number 72 Scottsdale/Rural Road service every half hour to both ASU Research Park and Phoenix (Ahwatukee).

Provide peak hour service (6 a.m.- 9 a.m. and 3 p.m.- 6 p.m.) as a demonstration project to serve the Hohokam Business Park and nearby employers.

Participate in the planning for regional fixed guideway rapid transit, including

an immediate study of the feasibility of using existing Southern Pacific railroad right-of-way as a short term commuter rail service.
Develop a detailed service plan for Tempe's transit system based on the service standards and improvements recommended in the Tempe Transit Plan.

Institute more effective marketing and promotion of the existing transit service to build ridership.

SHORT TERM ACTIONS (Two to Five Year Period)

More frequent local bus service on evenings and weekends.

Better bus route coverage:

- a. Additional service from Tempe to major activity centers in Phoenix, Scottsdale and Mesa and within Tempe to downtown Tempe and ASU.
- b. New north-south service: Priest, Hardy, and McClintock.
- c. Additional north-south routes: Mill and Rural.
- d. New east-west service: Broadway, Southern and Baseline.
- e. Additional east-west routes: University and Apache.

New local service connecting downtown Tempe between Rural Road, Mill Avenue, Salt River Project and Sky Harbor Airport.

Increased express bus service.

LONG TERM ACTIONS (After Five Years)

Implement full service standards on a phased basis.

Continue the long-term Tempe capital and operating plan for transportation and transit.

Participate in the financing and implementation of regional fixed guideway transit service.

7. TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Tempe's Transit Plan is a vital element in multiple local and regional transportation strategies that focus on reducing travel congestion, costs, and time. The Valley shares development and travel characteristics with other Southwestern U.S. metropolitan areas: low-density land use, a high level of dependence on the automobile, dispersed origins and destinations for many local trips, and increasing air pollution problems as a result of increasing trip lengths and trip numbers. Improved transit is an essential means of improving daily travel for the metropolitan population under these conditions.

At the broadest level, transportation planning addresses problems of travel demand and traffic congestion in four ways:

1. travel demand management (TDM),
2. traffic systems management (TSM),
3. facilities development,
4. growth management.

Each approach is integrated into the Tempe Transit Plan recommendations.

TRAVEL DEMAND MANAGEMENT

Travel demand management (TDM) attempts to limit the traffic congestion problem at the source, the number and type of trips made. These strategies include:

1. Encouraging off-peak commuting.
2. Telecommuting.
3. Flextime.
4. Limiting free parking.
5. Subsidies and incentives for transit users.
6. More efficient use of the automobile, including carpools and vanpools.

For example, the Maricopa County Travel Reduction Program requires employers with over 100 employees to develop and implement plans to reduce single occupant vehicle commuting and the number of commuter miles travelled by their employees. The City of Tempe has already developed and is implementing a travel reduction plan for its employees. For the first year, the City of Tempe plan is using four strategies based on the results of a travel reduction survey conducted in the Fall of 1989.

- a. Using compressed work week schedules and flextime to reduce the number of commuter trips and miles, and to encourage off peak commuting.
- b. Providing bus subsidies to encourage transit use.
- c. Providing incentives (such as cash and reserved parking) to encourage carpooling, bicycling and walking.
- d. Developing an in-house rideshare data base to complement the regional rideshare program.

The City of Tempe will adopt other strategies in 1991 to reduce commuter trips and traffic congestion.

The city is cooperating with other major employers in Tempe (Arizona State University and firms in the Hohokam and other industrial parks) in their effort to reduce peak hour congestion and develop carpool and vanpool options. Some industrial parks are developing transportation management associations (TMAs). These TMAs can bring together a critical mass of employees and spread the costs of trip reduction measures. The support of these employers for improved local and express bus routes is essential if major alternatives to single occupant automobile commuting are to be effective locally.

TRAFFIC SYSTEMS MANAGEMENT (TSM)

Traffic systems management (TSM) reinforces transit improvements through relieving congestion and giving priority to transit vehicles or those who rideshare. Multiple engineering, legal, and planning mechanisms are possible: synchronized traffic signals, priority bus lanes at freeway on-ramps, high occupancy vehicle (HOV) lanes on freeways, and bus priority on streets (e.g., queue jumpers). Many of these mechanisms assist transit directly by saving time for multiple-occupant vehicles compared to single occupant automobiles. Giving priority to alternative modes such as buses and bicycles on city streets shows a local priority for moving people rather than vehicles.

FACILITIES MANAGEMENT

A third approach to urban transportation problems is the development of new facilities such as more surface streets, freeway routes, and specialized transit systems including fixed guideway service. The freeway construction program now underway in urban Maricopa County provides additional road capacity in developed and developing areas of the Valley. Twelve miles of freeways link Tempe to the rest of the Valley. Three new freeways for an additional 12 freeway miles (East Papago/Hohokam/Price Road) are in design or under construction in Tempe. However, the cost of construction and land acquisition, disruption of nearby neighborhoods, and lengthy construction timetables limit the ability of new facilities alone to solve transportation problems, especially in a city like Tempe with limited land area. Improved transit options in the form of regional fixed guideway service with supporting transit stations and park-and-ride lots can provide a higher level of mobility, allow trips to shift from congested streets, and accommodate increased trips due to population and employment growth.

GROWTH MANAGEMENT

A fourth approach, growth management, is a long-term strategy that brings individuals closer to dispersed land use activities. Metropolitan residences and workplaces are separated, often by long distances; shopping and cultural opportunities are widely spread, and multiple and/or long trips often result. Land use planning can encourage mixed land uses and activities and allow people to combine their activities and make more efficient and fewer trips. Greater land use intensities allow more options for pedestrian, bicycle, and shuttle modes in local communities. Attractive and accessible developments and mixed-use activity centers bring people together (away from their automobiles) and foster community life and participation.

8. AREAS FOR FURTHER STUDY

The process of developing Tempe's transit plan revealed several issues that deserve additional study or are implementation areas that will be part of the recommended detailed service plan. These issues often reflect the problem of coordinating different transportation modes or transportation and land use problems that merit more detailed review by City staff and regional planning entities.

The following specific implementation issues have been identified by the Transportation Committee and deserve more detailed analysis than can be performed in this plan:

1. Parking standards in relation to zoning regulations and encouraging transit use.
2. Multimodal coordination, including bicycle support services on buses and bicycle storage facilities at bus stops.
3. Regional coordination of service standards among jurisdictions.
4. Coordination of site development requirements and standards for bus stops and shelters between the City of Tempe and other jurisdictions in the region.
5. Compatibility of design standards for transit support facilities with the physical character of different city districts and neighborhoods.
6. Regional and local corridors, and technological options for regional fixed guideway transit.
7. Land requirements for transit facilities, especially the needs of proposed transit centers and extensive park-and-ride lots.
8. Regional funding for transit and its relationship to local funding levels.
9. Funding and provision of accessible transit service for the physically challenged and others, including but not limited to custom transit.
10. Evaluation of the existing local route system in Tempe.
11. Maintenance costs for support facilities associated with the expanded system.

Table 3.1

Existing Service Standards Comparison

Service Standard	Industry Standard	Phoenix Transit	Tempe Service*
Service Frequency:			
Local Service			
Peak	15 minutes	20 minutes	20 - 60 minutes
Offpeak	30 minutes	30 minutes	none
Feeder			
Peak	30 minutes	20 minutes	none
Offpeak	60 minutes	30 minutes	none
Express			
Peak	30 minutes	15-30 minutes	15-30 minutes
Offpeak	60 minutes	none	none
Operating Hours:			
Monday-Saturday	5:30am-Midnite	5:30am-8:30pm	5:30am-8:30pm
Sundays/Holidays	7:00am-7:00pm	No service	No service
Coverage (Route Spacing):			
High population density	1/4 mile	1/2 mile	1/2 mile
Medium population density	1 mile	1 mile	1/2 - 1 mile
Low population density	Special**	1 mile plus	1 mile plus
Route Design (Layout)	Direct	Direct	Direct
Farebox Return	30 %	27 %	28 %
	of operating expenses		
Passenger Stops			
Residential Area	One per 1/10 mile	One per 1/4 mile	One per 1/4 mile
Major Activity	Two per 1/10 mile	One every 1/10-1/4 mile	One every 1/10-1/4 mile
Passenger Amenities			
Bus shelters	one per 2000 population	415 Total	11 Total
Passenger benches	as needed	1,100	32

* Phoenix Transit, RPTA and Metro Trolley provide service in Tempe.

** Demand-responsive service (dial-a-ride) operates in this area. In Tempe this service covers an area that is also served by local buses.

Table 3.2

PEER CITY COMPARISON CHART

	BELLEVUE(1) WASHINGTON	MONTEREY(2) CALIFORNIA	VAIL (3) COLORADO	PALM SPRINGS CALIFORNIA(4)	SANTA FE(5) NEW MEXICO	LA JOLLA(6) CALIFORNIA	MIAMI BEACH(7) FLORIDA	TEMPE ARIZONA
SERVICE FREQUENCY								
REGULAR PEAK	15 min	20 min	15 min	15 min	demand	15 min	15 min	20 - 60 min
OFF-PEAK	30 min	20 min	30 min	30 min	responsive	15 min	15 min	none
FEEDER								
PEAK	15 min	30 min	n/a	n/a	demand	30 min	30 min	none
OFF-PEAK	30 min	30 min	n/a	n/a	responsive	30 min	30 min	none
EXPRESS								
PEAK	15 min	24 hours	7 min	n/a	demand	30 min	20 min	15 - 30 min
OFF-PEAK	30 min	24 hours	20 min	n/a	responsive	1 hour	20 min	none
OPERATING HOURS								
WEEKDAY	5:AM to 11:PM	6:15AM to 11:15PM	6:AM to 7:PM	6:AM to 8:PM	24 hours/day	5:45AM to 6:30PM	6:AM to 12AM	6:AM to 6:30PM
SAT/SUN	7:AM to 11:PM	9:AM to 7:PM	same	same	same	none BUN	same	none BUN
ROUTE SPACING								
HIGH DENSITY POP	1/4 mile	1/4 mile	1/4 mile	1 mile	w/in city limits	1/4 mile	1/4 mile	1/2 mile
MID DENSITY POP	1/2 mile	1/2 mile	1 mile	1 mile	w/in city limits	1 mile	n/a	1/2-1 mile
LOW DENSITY POP	1 mile	1 mile	2+ miles	1 mile	w/in city limits	2 miles	n/a	1 mile +
ROUTE DESIGN	direct	direct	direct	direct	n/a	direct	direct	direct
FAREBOX RETURN (%)	45%	25%	none	20%	none	24%	42%	28%
PASSENGER STOPS RESIDENTIAL	4 to 6 per mile	1/2 to 1 mile	3/4 mile	1/8 mile	demand	1/4 mile	8 to 10 per mile	1/4 mile
MAJOR ACTIVITY	8 to 10 per mile	1/4 mile	1/4 mile	2 blocks	responsive	7 per mile	8 to 10 per mile	4 to 10 per mile
PER CAPITA TRANSIT REVENUE								
LOCAL (8)	\$142.50	\$31.32	\$274.00	\$56.41	\$6.63	\$20.41	\$94.66	\$4.66
FEDERAL	\$4.19	\$16.33	\$8.00	\$4.42	\$1.60	\$3.27	\$3.27	\$.50
REVENUE MILES (10)	3,321,832 (11)	3,287,890	480,000	1,731,866	n/a	1,286,116	449,892	166,000
ANNUAL RIDERSHIP	3.3 million	1.8 million	3.2 million	1.4 million	65,800	3.1 million	1.4 million	855,000
TOURIST COMPONENT	unknown	unknown	60%	40%	unknown	unknown	unknown	unknown

1 = Population of Bellevue is 65,180. Population of the Seattle Metro area is 1,391,535.
 2 = Study area is the Monterey-Salinas Transit System which operates from Watsonville in the North to Big Sur in the South. Population is 226,000
 3 = Population of permanent residents 5,000. It is estimated that approximately 80% of the bus ridership is skiers commuting to the surrounding ski areas.
 4 = Study area is the Sunline Transit System which serves the Coachella Valley. Population 66,400.
 5 = Population 55,000. Santa Fe Ride is a user-ride subsidy program utilizing UMATA funds, local appropriations, and user revenues to reduce-fare taxi service to patrons.
 6 = Population of La Jolla is 24,428. Population of the San Diego Metro area is 1,704,352.
 7 = Population of Miami Beach is 87,000. Population of the Miami Metro area is 1,608,159.
 8 = % of operating budget.
 9 = Includes state, local, farebox, and other user revenues.
 10 = Annual miles.
 11 = Revenue miles for Bellevue include deadhead miles.

Table 5.1

**Proposed Tempe Bus and Local Transit Service Improvements
Operations Funding Gap from Proposed County Sales Tax Increase**

Estimated annual operating costs (twenty year program)	\$11,785,000
Tempe's share of proposed county sales tax increase	4,300,000
Difference	(\$ 7,485,000)

NOTE: These costs do not include the cost of regional fixed guideway service; farebox return of twenty-five percent (25%) is assumed.

Table 5.2

Proposed Tempe Bus and Local Service Transit

Annual Capital Costs

<u>Program</u>	<u>Total \$ Cost</u>
Bus stop signs	\$ 21,840
Bus shelters	60,300
Transit centers	900,000
Park-and-ride lots	1,000,000
TOTAL ANNUAL CAPITAL COSTS	\$1,982,000

NOTE: These costs do not include the projected total capital costs of a proposed multi-modal transportation center, estimated at approximately \$8 million.

Table 5.3

**Proposed Tempe Bus and Local Transit Service Improvements
(excluding fixed guideway regional service)**

<u>CURRENT SERVICE</u>	Operating Costs(\$)	
Local bus routes		
Express bus routes		
Dial-a-ride		
Red Cross Service		
Metro Trolley		
	1,300,000	
<u>PROPOSED SERVICE IN ADDITION TO CURRENT SERVICE *</u>		
Improved service on existing routes		4,325,000
Additional service		
Local bus routes on one mile arterials		
Express bus routes		
Dial-a-ride for 10 more square miles		
Neighborhood feeder service		
	7,460,000	
		TOTAL
CURRENT AND PROPOSED TRANSIT SERVICE	13,085,000	
less current transit costs	-1,300,000	
		ADDITIONAL
OPERATING COSTS PROPOSED	11,785,000	

*These net figures assume that fares provide 25% of the total transit service costs. All current revenue sources and transit funding levels continue.

APPENDICES

**RESULTS OF TRANSIT COMMUNITY MEETINGS
FOR PRESENTATION OF DRAFT TRANSIT PLAN**

MEETING DATES, LOCATIONS AND TIMES:

August 29, 1990, Pyle Adult Center, 7:00 p.m.
August 30, 1990, Escalante Senior Center, 10:30 a.m.
September 5, 1990, Kyrene Middle School, 7:00 p.m.
September 8, 1990, Tempe City Council Chambers, 9:00 a.m.

APPROXIMATE TOTAL NUMBER OF MEETING ATTENDEES:

72

CITIZEN COMMENTS:

Bus service/support facilities

Recommended changes to scheduling and routing for existing routes (e.g., #1, 2, 44, 520);
disagreement among attendees on changes to Route #2

Need for evening and weekend bus service is a major priority (especially Route #2)

More frequent peak hour service is especially important on routes between Phoenix and Tempe

Expand low-cost services (small vehicles such as Tempe Trolley) instead of additional Phoenix Transit vehicles

Extend express bus hours, especially evening, in the immediate term

Incentives are needed to encourage people to use the bus; can also emphasize the environmental and cost benefits of mass transit through advertising; air quality considerations, stress and trauma of single occupant vehicle travel should be stressed

Disincentives such as higher parking costs will encourage mass transit

Make the bus available and convenient, while making automobile traffic more difficult; reduced traffic volumes will help make pedestrian traffic safer

Is there any commitment for bus pullouts? Bus pullouts are important to allow the handicapped to use the bus

We have too many publicly funded bus systems; the various jurisdictions, including school districts, should combine their resources to form a transportation cooperative; shared use of vehicles and administrative costs would be more cost-effective

The Tempe Center property owned by ASU should be used as a transit center

Will there be a transit link to the proposed baseball stadium in Tempe?

More transit service should be available to serve high school and elementary students; I would encourage my child to use transit if more information was available and stops were

closer to home; due to the number of working parents, use of bus service by children would be beneficial if more service was available and their needs were considered

Information on available bus service needs to be widely distributed

Shelters are not just an amenity, they're a necessity; shelters should be available at bus stops and Dial-a-Ride drop off points; other cities should be encouraged to do so too

Should be a discounted fare for purchase of bus passes (e.g., quantity discount)

Route planning should discourage transfers

Scheduling of bus routes should be improved

More bus service should be instituted to serve ASU staff who will be impacted by potential parking fee increases as part of ASU's Travel Reduction Plan

Buses are good for the commuter but do you think the average resident will use them? Possibly if more convenient, serve destinations

One of the bus routes should serve Pyle Center (like the old trolley route)

Added bus stops needed to serve express routes (petition by riders on #521)

Please change the policy re: courtesy stops; every other city allows

Alternatives for wheelchair lifts on buses; some bus drivers are not well-trained to work with the lifts, wheelchair lifts at the back door of the vehicle are not efficient

What destinations will new express routes serve? All downtown Phoenix? Centered around the Superstition Freeway?

Security on buses if evening service is instituted may be a problem

Other cities have bus service every five minutes (Milwaukee)

Custom transit/Dial-a-Ride

Americans with Disabilities Act is important

An expanded bus system is OK, but elderly can't use it; more Dial-a-Ride service should be available

Tempe/Scottsdale Dial-a-Ride drivers do a good job and should be commended

How soon will new Dial-a-Ride service be implemented south of Baseline?

Dial-a-Ride zones are too big; makes for a long ride for passengers

Multiple pick-up points for Dial-a-Ride are needed

More public information should be distributed on Dial-a-Ride; inserts in the water bill, brochures at grocery stores and other places where people go frequently

How do we improve our connections with the Mesa Dial-a-Ride system and make it easier for Tempe residents to access Mesa destinations?

Any plans for centralizing Dial-a-Ride? How would you coordinate with Red Cross Transportation?

Extending the service area for Dial-a-Ride is a high priority

Rail/rapid transit

Use of the Southern Pacific Railroad right-of-way is a good idea; is there anything we can be doing now?

Should look again at electric trolley service, which is more economical

Policy/planning issues

Parking issues are important; parking restrictions help to make transit successful in Portland

Problems in designing parking capacity for the existing transportation system versus the proposed system; existing zoning requirements do not encourage alternate modes

There should be a maximum number of parking spaces for each development instead of a minimum number

Public relations and marketing is very important; to encourage transit use, information regarding transit availability should be integrated into publicity for community events

What is the role of the State Legislature in promoting transit as an alternative?

The transit plan should be visionary and challenge the auto industry directly

ASU spends too much time and money accommodating automobiles; ASU is a major traffic generator; they should spend more time promoting alternate modes

Bicycling issues

Traffic safety concerns for cyclists and pedestrians

Bike racks on buses are needed

Bicyclists are forced onto main grids because of the reduction of collector grid streets; bicyclists have problems triggering lights at intersections (not enough time to get across); freeway overpasses are needed for bicyclists and pedestrians; removal of lights at some intersections makes it more difficult for the bicyclist; our streets are currently not "user-friendly" for bicyclists and pedestrians

Bicycle lanes needed along Broadway Road

Please consider bicycle routes along canals, complete with underpasses to avoid major arterials

What about a bike commuter route system on subarterial or collector streets? Then they're not competing with trucks, buses, etc.

As a bicycle rider I wish we would enforce a headlight ordinance in the evening

Financing issues

Would the gasoline tax be a good potential source of revenue in the light of recent hikes in gas prices?

How will citizens know how proposed local bond monies for transportation will be spent? What is the relationship between the bond and the sales tax questions? How can we assure that the money will be spent on these types of improvements? The relationship between the bond and sales tax questions and transit funding should be clarified for the public

**TEMPE TRANSIT PLAN
SELECTED DEMOGRAPHIC DATA
CITY OF TEMPE**

AREA 39.3 square miles

TOTAL POPULATION

1980	Census	106,742
1985	Special Census	132,942
1989	Estimate	149,844
1990	Estimate	150,945
2000	Estimate	174,591
2015	Estimate	197,402

DWELLING UNITS		Total DU's	Average Size (Persons/DU)
1985	Special Census	54,472	2.44
1989	Estimate	64,896	2.31
2000	Estimate	78,020	2.24

TOTAL JOBS

1990	Estimate	90,221
1995	Estimate	115,440
2000	Estimate	141,658
2015	Estimate	204,862

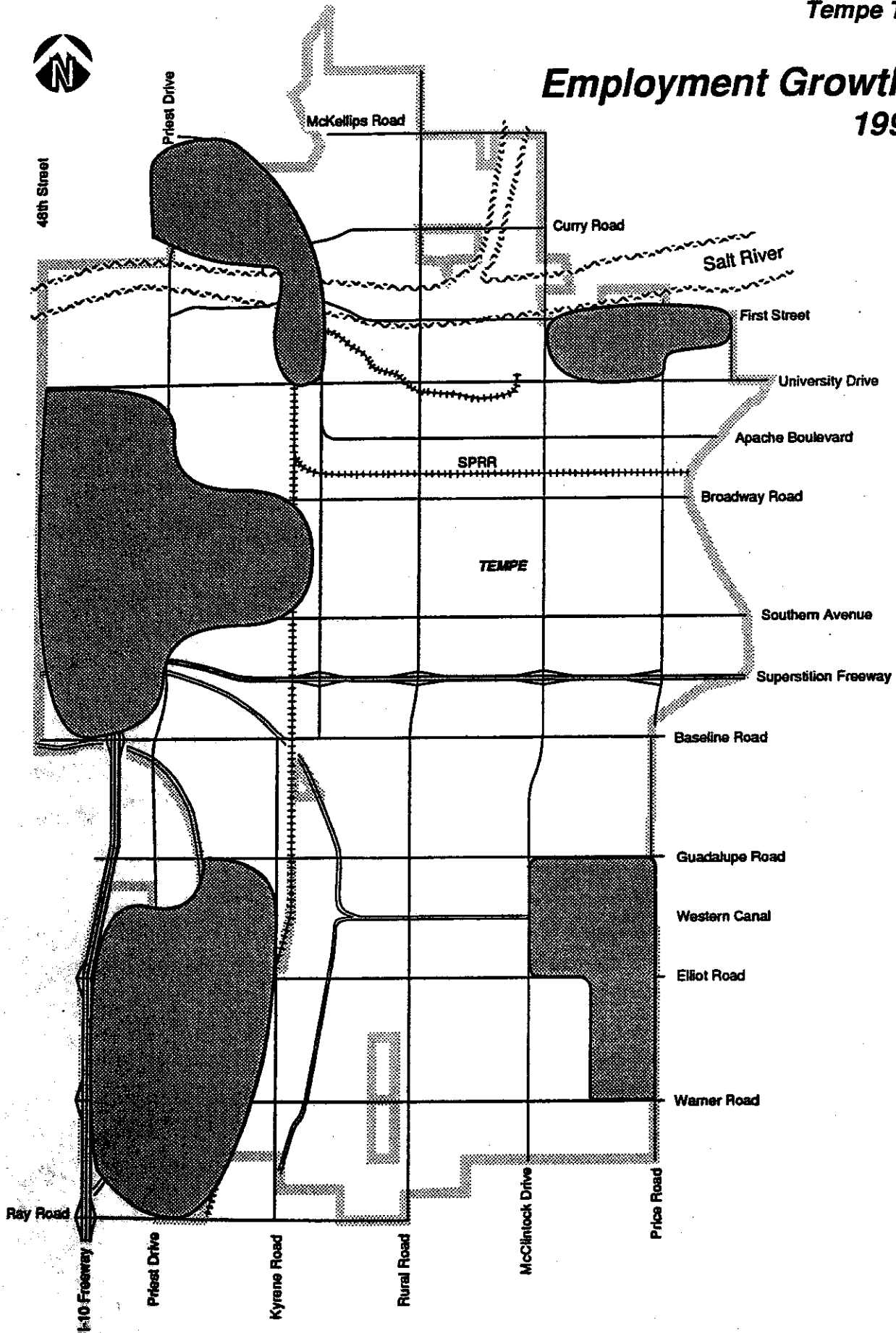
AGE

1985	Special Census	Median Age	30.5
		>65 years	6%
		<17 years	22%
1988	Estimate	>65 years	6%
		<17 years	29%

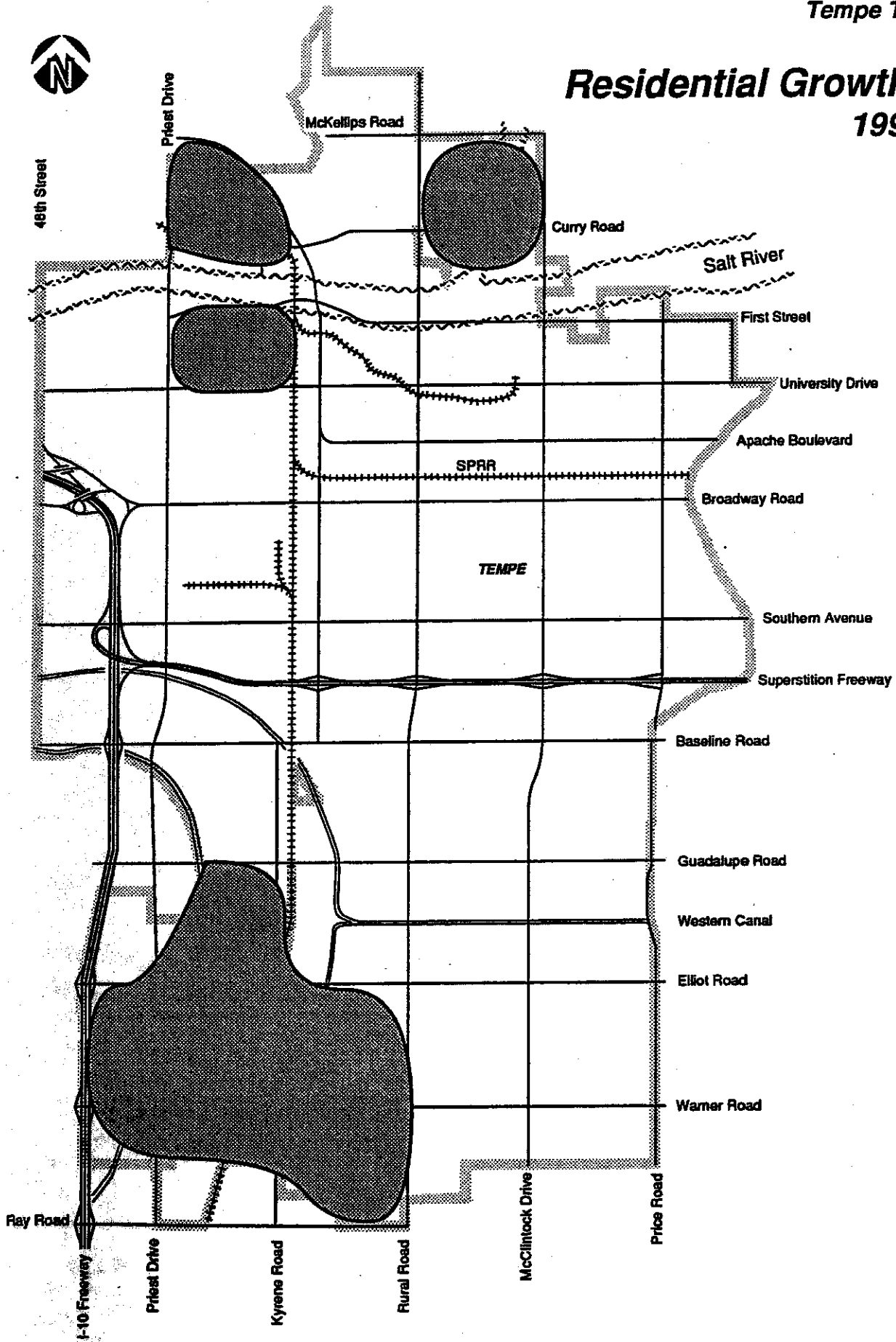
Note: Most of elderly population (99%) located north of Elliot Road. (1985 Special Census)

Data sources: Statistical Report 1989, City of Tempe, Community Development Department.
MAG Socio-Economic Data, December, 1989 (all estimates).

Employment Growth Areas 1990 - 2015



Residential Growth Areas 1990 - 2015



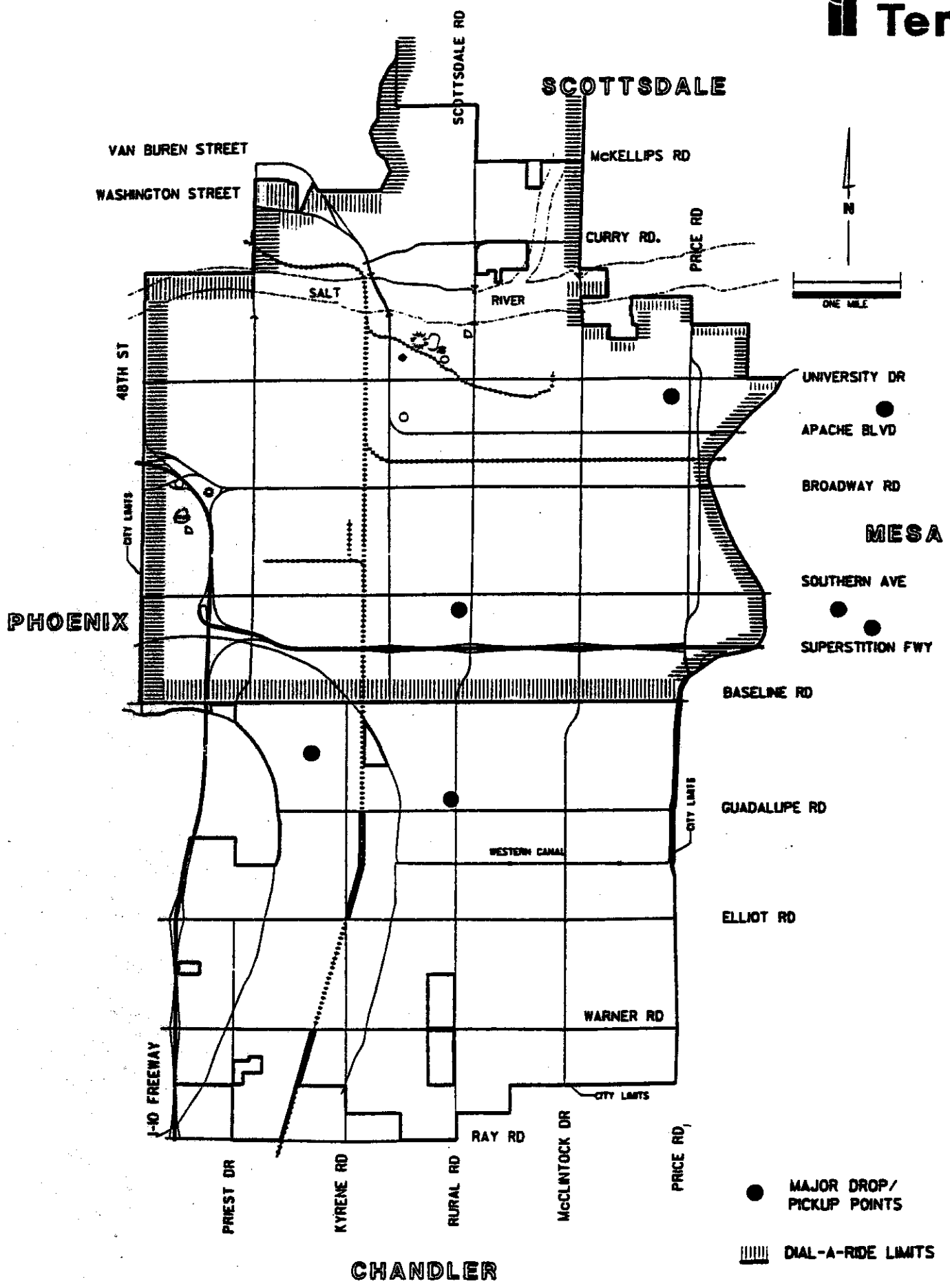
TEMPE TRANSIT PLAN
EXISTING SERVICE

Route Number	Type of Service	Headways/Frequency (minutes)					Hours of Operation in Tempe			Terminal Points
		Weekday Peak	Weekday Off-Peak	Saturdays	Sundays and Holidays	Weekdays	Saturday	Sunday/Holidays		
1	Local	30	30	No Service	No Service	5:27am - 6:55pm	No Service	No Service	Downtown Phoenix - Downtown Tempe/ASU	
2	Local	20-30	30	No Service	No Service	4:21am - 8:34pm	No Service	No Service	Peoria Commercial Center - Gilbert/University	
44	Local	30	30	No Service	No Service	6:33pm - 8:01pm	No Service	No Service	College/University - Paradise Valley Mall	
61	Local	15-20	60	No Service	No Service	5:42am - 6:48pm	No Service	No Service	43rd Ave/Southern - Westwood/Southern	
72	Regional	30	30-60	60	No Service	5:30am - 6:30pm	6:53am - 6:25pm	No Service	56th/Basseline/ASU Research - Scottsdale Airport	
T1	Trolley	60	60	No Service	No Service	7:06am - 6:50pm	No Service	No Service	McClintock/Guadalupe - 51st/Mill	
T2	Trolley	60	60	No Service	No Service	7:02am - 6:50pm	No Service	No Service	Mill/3rd St. - Mesa Community College	
520	Express	4 trips in am 4 trips in pm	No Service No Service	No Service No Service	No Service No Service	5:50am - 7:52am 4:44pm - 6:31pm	No Service No Service	No Service No Service	Price/Balboa - State Capitol Price/Balboa - State Capitol	
521	Express	5 trips in am 5 trips in pm	No Service No Service	No Service No Service	No Service No Service	5:52am - 7:39am 4:44pm - 6:39pm	No Service No Service	No Service No Service	Price/Basseline - State Capitol Price/Basseline - State Capitol	
523	Express	4 trips in am 4 trips in pm	No Service No Service	No Service No Service	No Service No Service	5:52am - 7:17am 4:39pm - 6:21pm	No Service No Service	No Service No Service	Chicago/Colorado - State Capitol Chicago/Colorado - State Capitol	

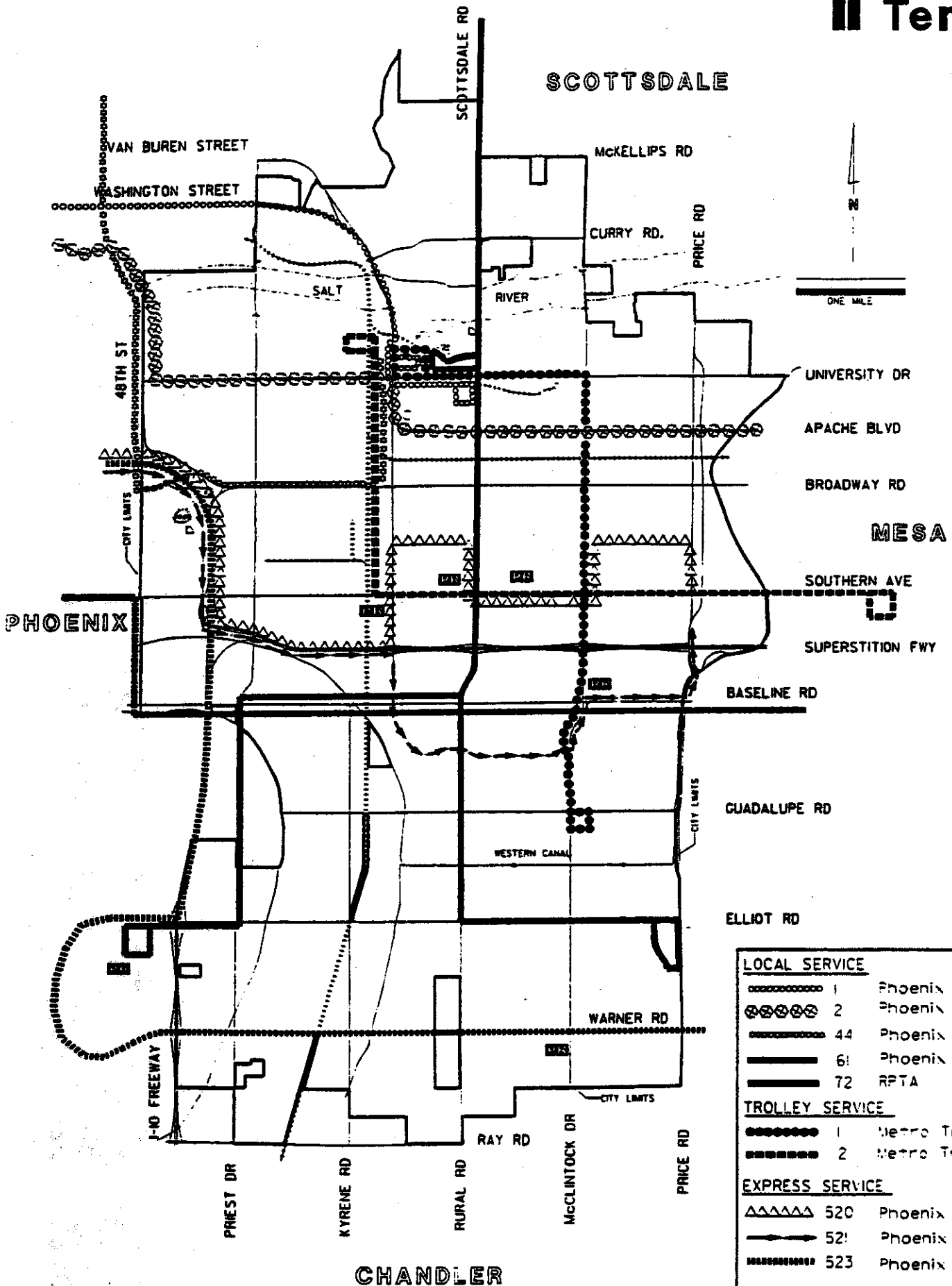
TEMPE TRANSIT PLAN
ACTIVITY CENTERS SERVED BY EXISTING BUS ROUTES

Route Number	Downtown Tempe	ASU	E. Papago Park/SRP	Mesa Com. College	Desert Sam. Hospital	Fiesta Mall	Downtown Phoenix	State Capital	Downtown Mesa	Downtown Chandler	Downtown Scottsdale
1	X	X	X				X	X			
2	X	X					X	X	X		
44	X	X									
61				X	X	X					
72		X									X
T1	X	X									
T2	X	X		X	X						
520							X	X			
521							X	X			
523							X	X			

EXISTING DIAL-A-RIDE LIMITS (FY 1989 90)



EXISTING TRANSIT SERVICE (FY 1989-90)



LOCAL SERVICE	
	1 Phoenix Transit
	2 Phoenix Transit
	44 Phoenix Transit
	61 Phoenix Transit
	72 RPTA
TROLLEY SERVICE	
	1 Metro Trolley
	2 Metro Trolley
EXPRESS SERVICE	
	520 Phoenix Transit
	521 Phoenix Transit
	523 Phoenix Transit
	PARK AND RIDE

GLOSSARY OF TRANSIT TERMINOLOGY

Accessibility - 1. The extent to which facilities are barrier free and useable by persons with disabilities, including wheelchair users. 2. Measure of the ability or ease of all people to travel among various origins and destinations.

Accessible Transit Service - Transit service which can transport any mobile person, including persons with disabilities, and in which the vehicles and stops or stations are designed to accommodate patrons who are confined to wheelchairs. See also Barrier-Free Transit.

Activity Center - An area with heavy traffic activity and high population or commercial building densities which generate a large number of trips (for example, a central business district, major air terminal, large university, large shopping center, industrial park, or sports arena).

ADOT - Arizona Department of Transportation.

AFC - See Automatic Fare Collection System.

AGT - See Automated Rapid Transit.

Amalgamated Transit Union (ATU) - A major labor union representing workers in the transit industry; membership is limited to operators, mechanics, and other non-supervisory employees of the transit industry.

American Public Transit Association (APTA) - A non-profit international industry association made up of transit systems and other organizations and institutions connected to or concerned with the transit industry; its objectives include promotion of transit interests, information exchange, research, and policy development.

A.M. Peak - The morning rush period in which the greatest movement of passengers occurs, generally from home to work.

APTA - See American Public Transit Association.

ART - See Automated Rapid Transit.

Arterial Street or Arterial Highway - A major thoroughfare, used primarily for through traffic rather than for access to abutting land, that is characterized by high vehicular capacity and continuity of movement.

Articulated Bus - An extra-long, high capacity bus which has the rear body section or sections flexibly but permanently connected to the forward section. The arrangement allows the vehicle to bend in curves and yet have no interior barrier to movement between the two parts. Typically, an articulated bus is 54-60 feet long and has a passenger seating capacity of 60 to 80.

ATU - See Amalgamated Transit Union.

Automated Rapid Transit (ART) - A transportation system in which automated, driverless vehicles operate on fixed guideways with exclusive right-of-way. Sometimes called Automated Guideway Transit (AGT). See also Mini Metro.

Automated Guideway Transit (AGT) - See Automated Rapid Transit.

Automatic Fare Collection System (AFC) - The controls and equipment that automatically admit passengers on insertion of the correct fare in an acceptable form, which may be coins, tokens, tickets, or farecards. The system may include special equipment for transporting and counting revenues.

Barrier-Free Transit - Transit service which has no obstacles that would prevent use by mobile persons with disabilities or any other person. See also Accessible Transit Service.

Base Period - See Off-Peak.

Basic Fare - The price (with no discounts) charged to an adult for regular local bus service. For systems with zone fares, a one-zone fare with no discounts; what it costs an adult paying a single cash fare to take a one-zone ride.

Boarding - Getting on a transit vehicle.

Bus - A rubber-tired transit vehicle designed for roadway operation to transport a large number of persons for public transportation service. In most cases, it operates with a self-contained source of motive power. See also Articulated Bus, Minibus, and Standard Urban Transit Bus.

Bus Bay - A branch from or widening of a road that permits buses to stop, without obstructing traffic, while passengers board and alight or while the bus is in layover.

Bus Lane or Bus Priority Lane - A street or highway intended primarily for buses, either all day or during specified periods, but sometimes also used by carpools and vanpools meeting requirements set out in traffic laws. See also High Occupancy Vehicle Lane.

Bus Priority System - A system of traffic controls in which buses are given special treatment over the general vehicular traffic (e.g., bus lanes or preemption of traffic signals).

Bus Rapid Transit - A bus operation which is characterized by operation on an exclusive or reserved right-of-way that permits high speeds and may include reverse-lane operations on limited access roads.

Bus Shelter - See Passenger Shelter.

Bus Stop - See Transit Stop.

Busway - A special roadway designed for exclusive use by buses, and sometimes carpools and vanpools. See Bus Rapid Transit.

Capital Costs - Nonrecurring or infrequently recurring costs of long-term assets, such as land, guideways, stations, buildings, and vehicles. These costs often include related expenses, for example, depreciation and property taxes.

Captive Rider - See Transit Dependent.

Carpool - An arrangement in which two or more people share the use and cost of privately-owned automobiles in traveling to and from pre-arranged destinations. See Vanpool.

CBD - See Central Business District.

Central Business District (CBD) - The downtown retail trade and commercial area of a city or an area of very high land valuation, traffic flow, and concentration of retail business offices, theaters, hotels, and services.

Charter Bus Service - Transportation by bus of a group of persons who, pursuant to a common purpose, and under a single contract at a fixed price, have acquired the exclusive use of a bus to travel together under an itinerary.

Circulator Transit Service - Transit service confined to a specific locale, such as a downtown area or suburban neighborhood, with connections to major traffic corridors.

Collector-Distributor Street - A street which gathers and disperses traffic between larger arterial highways and smaller streets. It has intersections at grade and provides access to abutting properties.

Commuter Lane - See High Occupancy Vehicle Lane.

Commuter Rail Transit - A passenger railroad service which carries passengers within urban areas, or between urban areas and their suburbs, but differs from rail rapid transit in that the passenger cars generally are heavier, the average trip lengths are usually longer, the passenger stations are spaced further apart, and the operations are carried out over tracks that are part of the railroad system in the area. In some areas it is called regional rail transit.

Contraflow Lane - A highway or street lane on which buses operate in a direction opposite to the normal flow of traffic in the other lanes. Sometimes called reverse lanes.

Corridor - In planning, a broad geographical band which follows a general directional flow or connects major sources and destinations of trips. It may contain a number of streets, highways, and transit route alignments. Corridors generally represent the major travel patterns within a region.

Crosstown Service - Transit service from one part of an urban area to another which does not enter or cross the central business district.

Crush Load - The maximum passenger capacity of a vehicle, in which there is little or no space between passengers (i.e. the passengers are touching one another), and one more passenger cannot enter without causing serious discomfort to the others.

Custom Transit - Public transportation designed for persons who cannot use conventional transit service, either because of a physical or mental disability, age, or because there is no fixed-route service where they live. Custom transit includes demand-responsive paratransit service, barrier-free rapid transit, and accessible bus service.

DAR - See Dial-A-Ride.

Deadhead - The movement of a transit vehicle without passengers aboard, often to and from a garage, or to and from one route to another.

Demand Responsive Transit - A transportation service with flexible routing and scheduling, usually in small vehicles, to provide door-to-door or point-to-point transportation at the user's request. See also Dial-A-Ride and Reserve-A-Ride.

Destination Sign - A sign on a transit vehicle indicating the route number, direction, or destination of the vehicle.

Dial-A-Ride(DAR) - A demand-responsive system in which door-to-door transportation is provided to patrons who request service by telephone, either on an ad hoc or subscription basis. See also Demand-Responsive Transit.

Discretionary Funds - Any funds whose distribution is not automatic. Decisions on the distribution of discretionary funds are made by an agency or person based on that agency's or person's choice or judgement and in accordance with criteria set out in laws or regulations.

Dispatcher - 1. In bus operations, the individual who assigns buses to runs, makes up work assignments to fill runs, directs the operators at the start of their assignments, and in some cases maintains a constant awareness of status of the operation via radio, telephone, or other means. 2. In demand responsive transit, the person who assigns the transit vehicles to customers and notifies the appropriate drivers, and who may schedule and route the transit vehicles and monitor their operation.

Downtown People Mover (DPM) or People Mover - An automated transportation system which runs on a fixed guideway and provides short-haul collection and distribution service, primarily serving internal movements in a central business district.

Dwell Time - The time a transit vehicle spends at a station or stop to take on or discharge passengers, measured as the interval between its stopping and starting.

E&H - See Elderly and Handicapped.

EIS - See Environmental Impact Statement.

Elderly and Handicapped (E&H) - People who may have special needs for services such as transportation. Transportation especially provided for their benefit is called elderly and handicapped (E&H) transportation. Transit operations may include discounted fares (E&H fares) for their benefit. The minimum age for elderly people varies by the program (e.g., 60+, 65+).

Environmental Impact Statement (EIS) - A comprehensive study of likely environmental impacts that will result from major federally-assisted projects. Environmental Impact Statements are one of the environmental protection mechanisms established by the National Environmental Policy Act of 1969.

Exclusive Right-of-Way - A highway or other facility which can only be used by buses or other transit vehicles. Sometimes called reserved right-of-way.

Express Bus Service - Scheduled bus service operating on a fixed route which provides higher speeds and fewer stops than are generally found on other portions of the bus system or on the same route in local service. Pick ups are made at or near an express route's point of origin and the bus does not stop to pick up or discharge passengers until it reaches its scheduled destination. Express bus service usually uses freeways or busways where they are available.

Farebox - A device which accepts coins, bills, tickets, tokens, or other fare media given by passengers as payment for rides.

Farebox Recovery Ratio - The ratio of fare revenue to operating expenses; used as an indicator of transit system financial efficiency.

Farebox Revenue - The passenger payments for rides, including cash, farecards, tickets, tokens, pass receipts, and transfer and zone charges.

Fare Collection System - The procedures and devices by which fares are collected and accounted for in a public transportation system.

Fare Structure - The system set up to determine how much is to be paid by various passengers using the system at any given time.

Feeder Bus Service - Local transit service which provides passengers with connections to main-line arterial service; an express transit service station; a rapid transit, commuter rail, or express bus stations.

Fixed Cost - A cost which remains relatively constant irrespective of the level of operational activity; that is, expenditures which do not vary with output in the short run. Examples include land, guideways, rent.

Fixed Guideway - A specially-constructed facility for transit vehicles enabling operation in exclusive right-of-way.

Fixed Guideway Transit - A transportation system composed of vehicles which can operate only on their own guideways, which were constructed for that purpose. Examples are rapid rail, light rail, and monorail.

Fixed Route Transit - A system in which transit vehicles follow a schedule over one or more prescribed routes. It is different from modes of transportation such as demand-responsive transportation, in which each trip may differ in its origin and destination.

Fleet or Rolling Stock - The vehicles in a transit system. Usually "fleet" refers to highway vehicles and "rolling stock" to rail vehicles.

Formula Funds - Formula funds are distributed or apportioned to qualifying recipients on the basis of formulas described in law. See Section 9.

Frequency of Service - The number of transit vehicles on a given route or line, moving in the same direction, which pass a given point within a specified interval of time, usually one hour.

Garage - Location where buses are based and operators report for work and receive supplies and assignments.

Guideway - See Fixed Guideway.

Headsign - A sign indicating the name of the transit route and/or the destination of the transit vehicle, usually located above the windshield.

Headway - The time interval between transit vehicles moving in the same direction on a particular route, usually expressed in minutes.

Heavy Rail Transit - See Rail Rapid Transit.

High Occupancy Vehicle (HOV) - Any passenger vehicle which meets or exceeds a certain predetermined minimum number of passengers; for example, more than two or three people per automobile. Buses, carpools, and vanpools are examples of HOV vehicles.

High Occupancy Vehicle Lane (HOV Lane) - A highway or street lane reserved (generally during specified hours) for one or more specified categories of vehicles, for example, buses, carpools, vanpools.

HOV - See High Occupancy Vehicle.

HOV Lane - See High Occupancy Vehicle Lane.

Intermodal - Switching from one form of transportation to another.

Jitney - Privately-owned vehicle usually operated on a fixed route but not on a fixed schedule, picking up and discharging passengers on demand.

Joint Development - Ventures undertaken by the public and private sectors for development of land above, below, or around transit stations or stops.

Kiss and Ride - A place where commuters are driven and left at a station to board a public transportation vehicle.

Layover - Time built into a transit schedule between arrivals and departures, used for the recovery of delays and preparation for the return trip. The term may refer to transit vehicles (vehicle layover) or operators (operator layover).

Light Rail Transit (LRT) - A type of electric rail system with a total passenger carrying capacity which is relatively "light" compared to heavy rail transit. Light rail may be on exclusive or shared right-of-way, high or low platform, multi-car trains or single cars, automated or manually operated. In generic usage light rail includes streetcars, trolley cars, and trams; in contemporary usage light rail refers to very modern and more sophisticated developments of these older rail modes.

Light Rail Vehicle (LRV) - A rail vehicle similar to a streetcar. It may be larger, however, and is often articulated. Light rail vehicles are capable of boarding and discharging passengers at either track or station-platform level.

Limited Stop Bus Service - Scheduled bus service operating on a fixed route which makes a limited number of stops, typically one or two per mile, and thereby provides a higher speed service than a local bus.

Linked Passenger Trip - A trip from the point of origin to the final destination, regardless of the number of modes or vehicles used.

Load Factor - The ratio of passengers actually carried versus the total seating capacity of a vehicle.

Local Bus Service - 1. Scheduled bus service operating on a fixed route which involves frequent stops and consequent low average speeds, the purpose of which is to deliver and pick up transit passengers close to their destinations or origins. 2. Transit service in a city or its immediate vicinity, as distinguished from regional transit service or interurban lines.

LRT - See Light Rail Transit.

LRV - See Light Rail Vehicle.

Major Street - See Arterial Street.

Mass Transportation - Transportation by bus, rail, boat or other conveyance, either publicly or privately owned, which provides general or special service to the public on a regular and continuing basis (not including school bus, charter, or sightseeing service).

Metropolitan Planning Organization (MPO) - The organization designated by local elected officials as being responsible for carrying out the regional urban transportation planning process and other regional planning processes.

Minibus - A small bus, typically capable of carrying 20 passengers or less, most often used for making short trips. Minibuses are often used for demand-responsive transportation and buspools.

Mini Metro - A class of intermediate-capacity transport in which fully automated vehicles or trains operate on fixed guideways. Also known as Automated Rapid Transit (ART) or Automated Guideway Transit (AGT), these systems feature small vehicles (40 feet long or less) and offer high-frequency service. See also Automated Rapid Transit.

Modal Split or Mode Split - A term most commonly used to describe the number of trips made using public transportation as a percentage of total trips.

Model - An analytical tool (often mathematical and computerized) used by transportation planners to assist in making forecasts of land use, economic activity, and travel activity.

Monorail - A mode of transportation with vehicles which run above or below a single rail or beam which functions as a guideway.

Monthly Pass - A pre-paid farecard valid for unlimited riding within certain designated zones for a one-month period.

MPO - See Metropolitan Planning Organization.

Multi-Modal - Concerning or involving more than one transportation mode.

Off-Peak - The periods of time outside the A.M. and P.M. peak periods. That is, the non-rush hour periods of the day when travel activity is generally lower and transit service is generally scheduled with less frequency than the peak periods.

Operating Cost - The total costs to operate and maintain a transit system including labor, fuel, and maintenance. Operating costs usually exclude such fixed costs as depreciation on plant and equipment, interest paid for loans on capital equipment, and property taxes on capital items.

Operator - 1. An employee of a transit system whose workday is spent in the operation of a transit vehicle; for example, a bus driver. 2. The organization which runs a transportation system on a day-to-day basis and is also known as an operation, property, or system.

Paratransit Service - Flexible forms of public transportation services which are not provided over a fixed route. The vehicles are usually low- or medium-capacity highway vehicles, and the service offered is adjustable in various degrees to individual users' desires. See also Custom Transit, Dial-A-Ride, and Demand-Responsive Transit.

Park and Ride - An access mode to transit in which patrons drive private automobiles or ride bicycles to a transit station, stop, or carpool/vanpool waiting area and park the vehicle in the area provided for that purpose. They then ride the transit system or take a carpool or vanpool to their destination.

Park and Ride Lot - A location where passengers drive their cars to designated parking areas and then board transit vehicles from these locations.

Pass - A means of transit prepayment, usually a card, which a transit passenger displays to the operator, conductor, or fare inspector or processes through automatic fare-collection equipment instead of paying a cash fare. Passes are usually sold by the week or month. In some areas, to encourage tourism, they are also sold for shorter periods, sometimes with restricted hours for their use.

Passenger Miles - The total number of miles traveled by passengers on transit vehicles; that is, the total number of passengers carried by a transit system for a unit of time multiplied by the number of miles they travel.

Passenger Shelter - A building or other structure constructed at a transit stop. It may be designated by the mode offering service; for example, a bus shelter. A passenger shelter provides protection from the weather and may provide seating or schedule information or both for the convenience of waiting passengers.

Passenger Station - See Transit Station.

Peak Period or Rush Hour - 1. The period during which the maximum amount of travel occurs. It may be specified as the morning (A.M.) or afternoon or evening (P.M.) peak. 2. The period when demand for transportation service is heaviest.

People Mover - See Downtown People Mover.

Platform or Station Platform - That portion of a transit station directly adjacent to the tracks or roadway at which transit vehicles stop to load and unload passengers.

P.M. Peak - The evening rush period during which the greatest movement of people occurs in a community, usually traveling home from work or school.

Priority Lane - A highway or street lane reserved (generally during specified hours) for high-occupancy vehicles; for example, buses, carpools, vanpools.

Public Transportation - Services provided for the public on a regular basis by vehicles such as bus or rail vehicle on public ways, using specific routes and schedules, usually on a fare-paying basis. Also includes non-scheduled, on-demand transit services, such as paratransit or dial-a-ride.

Queue Jumper - An added lane at an arterial street intersection which allows buses to bypass traffic congestion.

Radial Service - Local or express service designed primarily to connect the Central Business District with outlying areas.

Rail Rapid Transit or Rapid Rail Transit - A system which operates high speed, high capacity passenger trains using exclusive fixed guideways, grade separated and with high level station platforms for boarding passengers. The tracks may be in underground tunnels, on elevated structures, in open cuts, at surface level, or any combination thereof. Some local terms used for rail rapid transit are the elevated, the metro, the metropolitan railway, the rapid, the subway, the underground.

Rapid Transit - High speed transit service which is operated completely separate from all other modes of transportation; that is, on exclusive right-of-way.

Regional Rail Transit - See Commuter Rail Transit.

Reserve-A-Ride - A door-to-door transit service typically provided by smaller vehicles. Passengers must pre-schedule trips a day or more in advance. See Demand Responsive Transit.

Reserved Lane or Reserved Right-of-Way - See Exclusive Right-of-Way.

Revenue - Receipts derived from or for the operation of transit service including farebox revenue, revenue from other commercial sources, and operating assistance from governments. Farebox revenue includes all fares paid by transit passengers.

Revenue Miles - Miles operated by vehicles available for passenger service.

Revenue Passenger - A passenger who pays (or has prepaid) a fare.

Reverse Lane - See Contraflow Lane.

Ridership - The number of people making one-way trips on a public transportation system in a given time period.

Ridesharing - A form of transportation in which more than one person shares in the use of the vehicle, such as a van or automobile, to make a trip.

Road Call - A mechanical failure of a bus in revenue service that necessitates removing the bus from service until repairs are made.

Rolling Stock - See Fleet.

Route Miles - The total number of miles included in a fixed-route transit system network. That is, the sum of the lengths of all the routes in a transit network, less any duplication of mileage between routes.

Rush Hour - See Peak Period.

Scheduling - The process of preparing the operating plan (schedule) for a transit line or network on the basis of passenger demand, policy for level of service, and operating elements (travel times, etc.).

Section 3 - The section of the Urban Mass Transportation Act of 1964, as amended, which authorizes discretionary capital grants for public transportation projects out of the Mass Transit Account of the Highway Trust Fund.

Section 9 - The section of the Urban Mass Transportation Act of 1964, as amended, which authorizes grants to public transit systems in urbanized areas for both capital and operating projects based on formulas set out in statute.

Section 13c - A section of the Urban Mass Transportation Act of 1964, as amended, related to labor protection which is designed to protect transit employees against a worsening of their position with respect to their employment as a result of grant assistance under the Act.

Section 15 - The section of the Urban Mass Transportation Act of 1964, as amended, which authorizes the Department of Transportation to gather statistical information about the financing and operations of public transportation systems, based on a uniform system of accounts and records. This information is used in the formulas which determine Section 9 funding levels for transit systems in urbanized areas.

Section 18 - The section of the Urban Mass Transportation Act of 1964, as amended, which authorizes grants to public transit systems in non-urbanized areas, based on formulas set out in the statute. The funds go initially to the governor of each state.

Section 504 - The section of the Rehabilitation Act of 1973 that establishes the policy that otherwise qualified persons with disabilities may not be discriminated against in any federal or federally-assisted program. Transit systems which receive federal funds are required to commit to a program which places them in conformance with this regulation; usually referred to as the transit system's "504 Program".

Shuttle - A transit system that is characterized by a back-and-forth operation, usually over a short distance.

Standard Urban Transit Bus - A motorbus designed for a maximum number of seated and standing passengers in short-ride frequent stop service. Typically, it is 40 feet long and is self-powered by a diesel engine, although gasoline and propane engines have been used.

Station Platform - See Platform.

Streetcar - An electrically powered rail car that is operated singly or in short trains in mixed traffic on track in city streets. In some areas it is also known as a trolley car or tram. See also Light Rail Vehicle.

Subscription Bus Service - A bus service in which routes and schedules are prearranged to meet the travel needs of riders who sign up for the service in advance. The level of service is generally higher than that of regular passenger service (fewer stops, shorter travel time, and greater comfort), and the buses are usually obtained through charter or contractual arrangements.

Subsidy - A grant, usually provided by a government agency, which makes up all or part of the difference between the cost of providing a transportation service and the revenues generated by that service.

Subway - A mode of urban public transportation system which uses below-ground right-of-way. Also used to refer to that portion of a transportation system that is constructed beneath the ground surface.

TIP - See Transportation Improvement Program.

Tram - See Streetcar.

Transfer Center - A fixed location where passengers interchange from one route to another. See also Transit Center.

Transfer Passenger - A passenger who changes from one route or line to another route or line.

Transit Center - A facility where transit vehicles converge, enabling passengers to transfer among routes and services. Transit centers are generally located off the street and provide passengers with a shaded or enclosed waiting area, seats, drinking fountains, and transit information. See also Transit Station.

Transit Dependent - Someone who must use public transportation for his/her travel.

Transit Route - A designated, specified path to which a transit vehicle is assigned. Several routes may traverse a single portion of road or line.

Transit Shelter - See Passenger Shelter.

Transit Station - An off-street facility where passengers wait for, board, alight, or transfer between transit vehicles. A station usually provides information and a waiting area and may have boarding and alighting platforms, ticket or farecard sales, fare collection, and other related facilities. It is also known as passenger station. See Transit Center.

Transit Stop - An area where passengers wait for, board, alight, and transfer between transit vehicles. It is usually indicated by distinctive signs and by curb or pavement markings and may provide service information, shelter, seating, or any combination of these.

Transportation Improvement Program (TIP) - A program of transportation projects, to be implemented over several years (e.g. 3-5 years), growing out of the planning process and designed to improve transportation in a community. This program is required as a condition of a locality receiving federal transit and highway grants.

Transportation Systems Management (TSM) - That part of the urban transportation planning process undertaken to improve the efficiency of the existing transportation system. The intent is to make better use of the existing transportation system by implementing short-term, non-capital-intensive improvements in system and traffic management such as bus priority or reserved lane systems and restrictions on downtown traffic or parking.

Trip - 1. A one-way movement of a person or vehicle between two points for a specific purpose; sometimes called a one-way trip to distinguish it from a round trip.
2. The movement of a transit vehicle in one direction from the beginning of a route to the end of it; also known as a run.

Trolley Car - See Streetcar.

Trolley Coach - An electric, rubber-tired bus propelled by a direct-current motor that draws power through a trolley from overhead electric wires through a mechanism (trolley poles or pantograph), designed to allow the bus to maneuver in mixed traffic, over several lanes, and pick up and drop off passengers at the street curb.

TSM - See Transportation Systems Management.

UA - See Urbanized Area.

UMTA - See Urban Mass Transportation Administration.

Urbanized Area (UZA) - As defined by the Bureau of the Census, a population concentration of at least 50,000 inhabitants, generally consisting of a central city and the surrounding, closely settled, contiguous territory (suburbs). The boundary is based primarily on a population density of 1,000 people/square mile, but also includes some less densely settled areas such as industrial parks and railroad yards if they are within areas of dense urban development. Sometimes abbreviated UA.

Urban Mass Transportation Administration (UMTA) - A division of the U.S. Department of Transportation which administers the federal program of financial assistance to public transit under the Urban Mass Transportation Act of 1964, as amended, and various other statutes.

UZA - See Urbanized Area.

Van - A small vehicle, usually 20 feet or shorter in length, with an automotive-type engine and limited seating normally entered directly through side or rear doors rather than from a central aisle. Used for door-to-door and other specialized transit services.

Vanpool - An organized ridesharing arrangement in which a number of people travel together on a regular basis in a van. The van may be company owned, individually owned, leased, or owned by a third party. Expenses are shared, and there is usually a regular volunteer driver. See also Carpool.

Variable Cost - A cost that varies in relation to the level of operational activity.

Wheelchair-Accessible Transit - Transit service operating with vehicles equipped with a lift, ramp, or other boarding and safety devices which allow the boarding and transport of wheelchair-bound passengers. For high platform boarding railcars, wheelchair accessibility might require elevators or ramps in stations rather than lifts or ramps on the cars. See also Accessible Transit Service.

Wheelchair Lift - A device used to raise and lower a platform in a transit vehicle for accessibility by wheelchair users.

Zone Fares - A system of transit fares which is based on the geographical partitioning of the service area. The fare is determined by the location and number of zones traversed during a transit trip.