

3. CIRCULATION ELEMENT

The City of Peoria understands that the City requires a transportation system that meets the transportation needs of all residents, visitors and businesses in both existing and future areas. The Circulation Element provides the layout of a balanced, comprehensive transportation system within the City's planning area. This transportation system strives to develop a multi-modal system that serves both local and regional travel needs that is dependable, safe, efficient and aesthetically pleasing while offering users choices in routes and modes of travel. The Circulation Element provides a policy framework for improving this system and provides the layout for its ultimate build-out.

The Circulation Element is organized in the following manner:

- 3.a. Introduction
- 3.b. Goals, Objectives and Policies
- 3.c. Circulation Plan

3.A. INTRODUCTION

The Circulation Element outlines the necessary transportation system components to serve the future needs of residents and visitors of the City and its planning area. The element utilizes the policy framework along with the Circulation Plan Map to depict and identify implementation measures to realize this system.

The goals, objectives and policies contained within this element will provide guidance for future recommendations on street, transit, commuter rail, bikeway and pedestrian transportation system improvements. The projected population forecasts suggest that upgrades and expanded multi-modal opportunities are critical components in the City's circulation system. The recommendations will assist the City Council and staff in decision-making on future development and redevelopment activities. The following is a discussion on the implementation tools used for this element.

The Circulation Plan Map (Figure 3-1), is a planning tool used to portray and define the envisioned roadway transportation network. This network represents the system of streets –to provide transportation mobility and access to existing and future residential, recreation, and economic uses throughout the City. The City also maintains a consistent Street Classification Map, which identifies specific functional classification of roadways along with the number of lanes, future right-of-way needs, and intersection configurations for major roadways in the city. The Circulation Plan and Street Classification Map work together to identify the future roadway capacity needed to maintain an acceptable level of mobility in the City.

The Multi-Modal Transportation Master Plan uses the Circulation Plan Map as a base to create Transit maps that depict existing and future Bus Routes (Line and Express), along with Commuter Rail alternatives. It also depicts possible transit centers, park and ride lots as well as outlining a hierarchy of different transit stops to account for different purposes and passenger volumes.

3.B. GOALS, OBJECTIVES AND POLICIES

The following goals, objectives and policies provide the guidance for implementing the Circulation Plan and the subsequent completion of a consistent Street Classification tool.

GOAL 1:

PROVIDE FOR A MULTI-MODAL TRANSPORTATION SYSTEM THAT WILL SERVE ALL MEMBERS OF THE COMMUNITY AND REGION IN A SAFE, EFFICIENT, DEPENDABLE, COST EFFECTIVE AND AESTHETIC MANNER WHILE MINIMIZING ADVERSE IMPACTS TO NEIGHBORHOODS, BUSINESSES, AND THE NATURAL ENVIRONMENT.

Objective 1.A:

Develop a sustainable transportation system within Peoria that is compatible with and designed to compliment, the existing and proposed land uses as provided in the Land Use Plan, without diminishing the efficient movement of all users, all modes, goods and services.

Policy 1.A.1:

Maintain a detailed Street Classification map which further defines functional classification into major and minor categories, identifies ROW width, typical street cross-sections and intersection type. The map is consistent with the General Plan Circulation Map.

Policy 1.A.2:

Encourage land development patterns that efficiently integrate transportation and housing and foster social equity in affordable transportation options. Promote the operational efficiency of the existing and future transportation system to reduce negative impacts on public health by improving roadway user traffic safety, improving air quality, promoting physical activity, fitness and increasing community cohesion.

Policy 1.A.3:

Require conveyance of right-of-way and the design and improvement of arterials and collectors consistent with the City's Street Classification and Transit maps.

Policy 1.A.4:

Require that all developments substantially meet the following criteria:

- a) Development shall be located or designed in a manner that will not inhibit or impair future improvement of the transportation system.
- b) Dedications of land may be required to implement the adopted Circulation Plan, Street Classification and Transit maps.
- c) Residences should be located away and buffered from major arterial intersections.
- d) Developments shall be designed and located so that access requirements and traffic generation characteristics do not impair the safety and maintenance of the transportation system.
- e) Direct access to arterial streets from individual parcels shall be discouraged. Access will be controlled through the use of median-divided arterials, frontage roads and background collector streets and vehicle non-access easements.
- f) The number of driveways on arterial streets shall be limited to improve traffic flow and safety.
- g) A uniform spacing pattern of all new driveways and median breaks shall be required to simplify timing to support progression for traffic signals.
- h) Intersections with arterial streets should be minimized; they should be limited to intersections with other arterials, collectors and major driveways/access roads.
- i) Provisions should be made for safe pedestrian and bicycle crossings of collector, arterial or key intersections where high vehicular, pedestrian and bicycle traffic volumes are common or anticipated.

- j) The City should encourage and support the development of a multi-modal path and trail network as alternative safe routes that connect with adjacent regional networks.

Policy 1.A.5:

Require the provision of parking facilities in a manner that will support the economic vitality of the land uses served, by ensuring that:

- a) Off-street parking facilities are designed and located to minimize disruption and inconvenience to adjacent properties and streets.
- b) Large parking areas are developed with screen walls or landscaped perimeter planting strips, bays and islands to provide shade and visual screening from direct traffic flow and high speed travel areas.
- c) Adequate lighting is provided to minimize safety hazards.

Policy 1.A.6:

Promote the construction of new street system segments in coordination with its adopted Land Use Plan, Growth Areas, Transit and Rail maps, Street Classification map and Capital Improvement Program (CIP).

Policy 1.A.7:

Monitor the condition and use of all existing streets, and maintain these streets, as required, on a regular phased basis.

Policy 1.A.8:

Conduct an assessment that identifies bus stop, street improvement projects, estimates costs, establishes timing and identifies revenue sources to implement the projects in the CIP on an annual basis.

Policy 1.A.9:

Coordinate its efforts in transportation, transit, commuter rail and major roadway capital improvements programming with the Arizona Department of Transportation (ADOT), Maricopa County Department of Transportation (MCDOT), Maricopa Association of Governments (MAG), and the Regional Public Transit Authority (RPTA) to ensure timely provision of required transportation improvements.

Policy 1.A.10:

Develop designated routes for heavy use such as freight traffic and heavily utilized regional highways. These include Roads of Regional Significance (RRS), State Routes, freeways and City major arterial roadways.

Objective 1.B:

Provide for the functional needs of the City's transportation system by addressing urban, suburban, and rural conditions.

Policy 1.B.1:

Maintain a hierarchy of arterials, collectors and transit service levels based principally upon:

- a) Existing one-mile grid system in urban areas.
- b) Identified major and minor arterials and collectors in suburban and rural areas.
- c) Land management regulations to maintain the established hierarchy.

Policy 1.B.2:

Require that new transportation facilities are developed as necessary to support the planned incremental population and economic growth of Peoria and designed to their planned function to provide for all modes of transportation.

Policy 1.B.3:

Ensure that as the City grows, it will be prepared to design and employ traffic control and access management measures to ensure that roadways function as intended.

Policy 1.B.4:

Expand our transportation networks in ways that offer competitive travel choices for people and goods, promote clean energy and enable us to respond quickly to disasters and emergencies.

Objective 1.C:

Develop neighborhood street (local) patterns and circulation systems which preserve neighborhood integrity and serve local traffic and discourages non-local or cut-through traffic.

Policy 1.C.1:

Approve the design and construction of local ~~and~~ /residential and collector streets that contribute to the residential environment and minimize cut-through traffic and speeding and provide alternatives to automobile mobility.

Policy 1.C.2:

- a) Ensure that residential areas have convenient access to local and collector roadways that connect to arterial streets. Residential developments may be permitted access to arterial roadways contingent on a site plan review that assesses the size of the development, daily trips generated, and impact on the functional integrity of the arterial roadway.
- b) Connections to the arterial grid system should not result in a negative impact to the functional integrity of the roadway or in a manner that would reduce safety and mobility.
- c) Connections to the arterial system should be safe and convenient and assist residents in accessing bus and/or rail routes and facilities.

Policy 1.C.3:

Discourage private streets unless the Peoria City Council determines that the streets meet the adopted standards and that the benefit to the City exceeds the liability. Any private street permitted must meet all access and connectivity standards established by the City.

Objective 1.D:

Develop and maintain Limited-Access Parkways throughout Peoria.

Policy 1.D.1:

Maintain Limited-Access Parkways as defined on the Circulation Map.

Policy 3.1.D.2:

Enforce the goals and objectives of the State Route 74 Access Management Plan.

Policy 1.D.3:

Enforce the goals and objectives of the Northern Parkway design concept report.

Objective 1.E:

Develop a comprehensive, coordinated, sustainable, efficient and continuous multi-modal transportation system.

Policy 1.E.1:

Continually monitor, evaluate and update the adopted Trails Master Plan. The alternative modes identified in the Trails Master Plan should be consistent with emerging development patterns, and respond to opportunities presented, particularly in north Peoria.

Policy 1.E.2:

Continually monitor, evaluate, and update a city-wide Bicycle Development Plan.

Policy 1.E.3:

Develop a safe and convenient network of sidewalks, crossings, and paths for walking and bicycling that provide connections between schools, recreation facilities, residential areas, transit stops and business centers.

Policy 1.E.4:

Design, construct and revise culvert and bridge details as needed to allow for safe pedestrian/bicycle crossings.

Policy 1.E.5:

Work with the adjacent jurisdictions, Flood Control District of Maricopa County, Maricopa County, and the Maricopa Association of Governments (MAG) to ensure bicycle and pedestrian network continuity at municipal boundaries.

Policy 1.E.6:

Implement the concepts of Complete Streets to accommodate multi-modal transportation needs when designing and building all new streets and when improving existing street, using the most current MAG Complete Streets Guide as reference.

Objective 1.F:

Efficiently expand Peoria's transit and express route system and commuter rail access points as an attractive and convenient alternative for Peoria's residents, workforce and visitors.

Policy 1.F.1:

Plan and adopt both short, mid and long-term local and express route transit services.

Policy 1.F.2:

Seek to increase the frequency and service area of transit services.

Policy 1.F.3:

Seek express route service at strategic City locations to major employment centers.

Policy 1.F.4:

Partner with MAG and ADOT in the development of a commuter rail access plan along the BNSF railroad corridor.

Objective 1.G:

Provide for the existing and future linkage of bicycle, pedestrian and automobile traffic with existing and future public transit, and commuter rail systems and facilities.

Policy 1.G.1:

Coordinate with the Regional Public Transportation Authority (RPTA) to develop passenger transit and Park-and-Ride facilities at selected locations in commuter corridors.

Policy 1.G.2:

Encourage site planning and transit-oriented design and land uses around future express route, and commuter rail transit centers to emphasize the ease and safety of pedestrian circulation and orientation of compatible and mutually supportive uses.

Policy 1.G.3:

Include sidewalks, bus pullout bays and transit shelters within future development located along designated commuter corridors and transit routes.

Policy 1.G.4:

Establish transit-oriented and rail-oriented development regulations, guidelines and incentives to provide land uses and improvements around future transit and rail centers that facilitate and encourage ridership.

3.C. CIRCULATION PLAN

The multi-modal transportation system for Peoria should be well maintained and improved to accommodate the existing needs and long-range objectives for growth, revitalization and redevelopment. Each component of the Circulation Element achieves a wide range of objectives which, when combined into a comprehensive network, allow for the satisfaction of a variety of travel demands throughout the City.

To address each of the identified issues, a functional classification system establishing a hierarchy of streets required to meet the needs of the designated land uses and functional circulation components. The functional classification system addresses both urban and rural conditions (based on the character of the recommended land use pattern) and provides for the comprehensive needs for all citizens whether they are driving a car to work, riding a bus to the store, riding a bicycle to school or walking to the neighborhood park.

In general, the primary purpose of roadway classifications is to:

- Establish a logical, integrated system for each jurisdiction,
- Relate geometric traffic control and other design standards to the roadways in each classification,
- Establish a basis for developing long-range programs, improvement priorities and fiscal plans, and
- Define the relationship between accessibility and mobility on existing and planned roadways.

The functional classification characteristics describe the service performed, typical trip lengths, access spacing and continuity of the Peoria roadway system. For transportation system planning, as well as specific design purposes, roadways are most effectively classified by function.

Roadways have two basic functions:

- To provide mobility from point to point, and
- To provide access to adjacent land uses.

From a design standpoint, these two functions are incompatible. For property access with ingress and egress, low speeds are desirable, usually accompanied by inconsistent flows with a large number of turning movements. Mobility demands higher speeds and uniform flows with limited turning movement interference. The City of Peoria encourages the balance between mobility and access and places an emphasis on all modes of transportation for the enhancement of overall quality of the transportation system.

FUNCTIONAL CLASSIFICATION

The following functional categories are used to classify roadways in the City of Peoria. These categories are:

- Freeway,
- Limited Access Parkway,
- Major Arterial,
- Minor Arterial,
- Major Collector,
- Minor Collector,
- Local, and
- Rural.

These categories comprise the hierarchy of functional classification of roadways in Peoria and relate directly to the different types and lengths of generated trips as well as access needs. Travel demand determines these characteristics.

Freeway is a major highway that provides for the expeditious movement of large volumes of through traffic and has full access control via interchanges only. All roadways classified as Freeways are under the jurisdiction of the Arizona Department of Transportation.

Limited Access Parkway is a major arterial that serves high volumes of traffic traveling relatively long distances and is managed to reduce conflict between through traffic and traffic entering, leaving and crossing the facility. By limiting access to intersections and interchanges, Limited Access Parkways regulate and control the spacing and design of driveways, medians, median openings, traffic signals and intersections to improve safe and efficient through traffic flow. Limited Access Parkways typically have up to three lanes in each direction.

Major Arterial is a roadway that is of regional importance and is intended to serve high volumes of traffic traveling relatively long distances. A major arterial is intended primarily to serve through traffic, service to abutting land is limited and access is controlled. Opposing traffic flows are often separated by a raised medium. Major arterials typically have up to three lanes in each direction.

Minor Arterial is a roadway that is similar in function to major arterials, but operated under lower traffic volumes, serves trips of shorter distances, and provides a higher degree of property access than major arterials. Opposing traffic flows are often separated by a raised medium. Minor arterials typically have two lanes in each direction.

Major Collector is a roadway that provides for traffic movement between arterials and local streets and carries moderate traffic volumes over moderate distances (less than 3 miles). Provides direct access to abutting land and has some access control through spacing

and location of driveways and intersections. Opposing traffic flows are generally separated by a continuous left turn lane. Major collectors normally have two lanes in each direction.

Minor Collector is a roadway that is similar in function to a major collector, but carries lower traffic volumes at lower speeds over shorter distances (less than 3 miles) and has a higher degree of property access. Minor collectors normally have one lane in each direction.

Local is a roadway that is intended to provide access to abutting properties, tends to accommodate lower traffic volumes at lower speeds, serves short trips, and provides connection to collector streets.

Rural is the same as local, just in a rural setting versus an urban or suburban setting for local.

Roadway function establishes the design characteristics and type of transportation service provided, which is related to the degree of access control. Increasing access control allows traffic to travel at higher speeds in a more uniform manner. Table 3-1, *Functional Classification System*, illustrates the relationship between roadway categories, primary function and degree of access control.

In addition to the ability of each classification to satisfy various travel demands, facility spacing, continuity and access control mechanisms are key distinguishing features of the functional system. Table 3-1 documents important characteristics of each functional class.

TABLE 3-1 -- Functional Classification System

Roadway Category	Primary Function	Degree of Private Access Control
Freeway	Mobility	Very High (at interchanges only)
Limited Access Parkway	Mobility	Very High
Major Arterial	Mobility	High
Minor Arterial	Mobility	Moderate
Major Collector	Mobility and Accessibility	Moderate
Minor Collector	Transition	Moderate
Local	Accessibility	Low

SOURCE: TRB ACCESS MANAGEMENT MANUAL

The four major Functional Classifications, Freeway, Limited Access Parkway, Arterial, and Collectors, are illustrated on Figure 3-1, *Circulation Plan*. The City also maintains a Street Classification Map, which identifies intersection configurations along with differentiating between the major and minor categories of Arterial and Collector streets as defined in Table 3-1.

The Major Arterial system should carry the major portion of trips entering and leaving the urban area, as well as the majority of through movements desiring to bypass major City centers. In addition, significant internal travel between commercial business districts and outlying residential areas, between older mature communities and between suburban centers should be served by this classification of roadway.

- Loop 303 provides a regional freeway route complementing Loop 101.
- The following will serve as Limited Access Parkways and will maintain access control as outlined within this section:
 - Northern Avenue, from 71st Avenue to 115th Avenue,
 - Happy Valley Road/Parkway, from 67th Avenue to Litchfield Road, and
 - El Mirage Road, from Loop 303 to State Route 74.
 - Vistancia Blvd. from Happy Valley Road to the CAP
 - Lake Pleasant Parkway from Beardsley Road to Carefree Highway (SR 74)

Because of the nature of the traffic volumes served by the Major Arterial system, all fully controlled access facilities will be part of this functional classification. Design types that are often included under the Major Arterial system are Limited Access Parkways (e.g., Lake Pleasant Parkway).

The distance between Major Arterials will depend upon the developed densities/intensities of particular portions of the urban and suburban areas. The spacing of Major Arterials may vary from less than two miles in highly developed central business areas to five miles or more in undeveloped areas in the north. The addition of the eight interchanges on Loop 303 within the planning area will also directly impact the Major Arterial system.

For Major Arterials, service to abutting land is secondary to the provision of service for major traffic movements. It should be noted that only partially controlled access facilities are capable of providing any direct access to land, and such service should be incidental to the primary functional responsibility of mobility.

The Minor Arterial street system for the City of Peoria should interconnect and augment the Major Arterial system to provide service trips of moderate length and a somewhat lower level of travel mobility than principal arterials. This system also distributes travel to geographic areas smaller than those identified in the Major Arterial system, and provides north-south and east-west continuity within the City.

The Minor Arterial system includes facilities that allow more land access than the Major Arterial system, at a lower level of traffic mobility. Such facilities provide inter-community continuity, but ideally should not penetrate identifiable neighborhoods. Because of the potential destination type land uses that has a high multi-modal (pedestrian and bicycle) destination and located near the Arterial system, additional specific area access plans may be required as the development of the area adjacent to the Arterial occurs.

The spacing of Major and Minor Arterial streets may vary from half mile to one mile in central commercial areas, but may be more than two to three miles elsewhere in the City, based on physical barriers. In the central and southern portions of the City, the Major and Minor arterial streets are usually located along and within the section-line grid system.

The Major and Minor Collector street system differs from the Major and Minor Arterial system by penetrating neighborhoods and distributing trips from the Arterial system to the ultimate destination, which may be on a Local or Collector street. In some cases, because of the design of the street system, through traffic may be carried on some Collector streets. The Collector system provides land access and local traffic movement within commercial and industrial areas and to residential neighborhoods.

The Local street system comprises all facilities that are not included within the higher classification systems. This system provides direct access to abutting land and access to the higher roadway systems with minimal through traffic movement. On-street parking is generally permitted on local streets, unless otherwise posted.

TRANSIT AND RAIL PLAN

The City recognizes that the transportation systems must integrate multi-modal opportunities to reduce reliance on the automobile. The Multi-Modal Transportation Plan is the City's guiding document for future transit services within Peoria. The Transportation Plan includes maps, which indicate the current and proposed line bus routes, commuter rail corridor and potential stations, potential park and ride, and transit station sites.

Light Rail and High Capacity Transit (HCT) options currently are not depicted in the plan as our land uses do not support them. Should future land uses change to justify HCT, the Transit/Rail Plan should be amended to reflect the new routes.

The Master Plan also creates new standards for transit stops within Peoria. These standards outline a hierarchy of different stops to account for different purposes and passenger volumes, and identify amenities to be provided at each type. In addition, the Plan outlines a process for incorporating art into bus stops to make them more attractive, improve the character of the surrounding areas and to help the City create unique identities for specific areas. In general, bus stops for local line routes should be located every quarter mile or at locations that have high potential use. All high use stops shall have pull-out bays.

BIKEWAYS, TRAILS AND PEDESTRIAN CIRCULATION

The street system illustrated on Figure 3-1, *Circulation Plan*, includes Collector, Arterial and Freeways streets. The City also maintains a Street Classification Map System which differentiates between Major

and Minor Collectors, Major and Minor Arterials, and Freeways. The City's Parks, Recreation, Open Space, and Trails (PROST) Master Plan establishes corridors that have the potential to become the recreational "spines" of the City and provide significant transportation benefits. The Trails Vision is significant relating to recreation, transportation and civic pride. It states:

"We envision a City with an inter-linked trails network from Lake Pleasant to Northern Avenue that includes connections to other trails outside Peoria. The trails network has been developed to transition from the natural environment that exists in the northern region of the City to an urbanized character through the developed City. The network of trails provides a safe, non-motorized pathway system for diverse user groups as well as public safety and emergency personnel. The trail system was implemented through a public/private partnership and invites all trail users to enjoy the outdoors and the high quality of life in the City. The system relies on a dedicated group of Peoria private citizens for assistance with ongoing improvements, surveillance and maintenance."

The Trails Plan identifies four types of system categories. They include:

- **On-Street Bicycle Routes** that consist of designated and non-designated on-street bicycle lanes that serve as on-street connectors to other bicycle facilities and multi-use paths and trails. Standards for on-street bicycle lanes are identified on the City's Street Classification Map.
- **Paved Multi-Use Paths** that consist of a paved off-street facility used by multiple user groups such as bicyclists, walkers, runners, hikers, strollers, in-line skaters, skateboarders, and others.
- **Unpaved Multi-Use Trails** that consist of an unpaved off-street facility used by multiple user groups such as mountain bicyclists, walkers, runners, hikers, equestrians and others.
- **Equestrian Trail** that consists of an unpaved off-street facility designated only for equestrian use that may connect to paved or unpaved multi-use trails.

Each of the trail elements are desired to be integrated into residential areas, City parks, and major activity centers creating a network promoting bicycling, recreational activities, and non-vehicular circulation access. Residential developers are encouraged to develop spur and through trails to neighborhood parks, schools, and business centers. Commercial development is encouraged to develop trail access that minimizes conflict between motorists, pedestrians and cyclists and provide pedestrian amenities such as bike storage racks, water faucets, pedestrian shade structures and benches.

The Bicycle Development Plan is a supplement to the PROST Master Plan by addressing the on-street network of bicycle lanes and bicycle routes, with a goal of establishing a network of bicycle facilities on all collector and arterial roadways.

**FIGURE 3-1
CIRCULATION MAP**

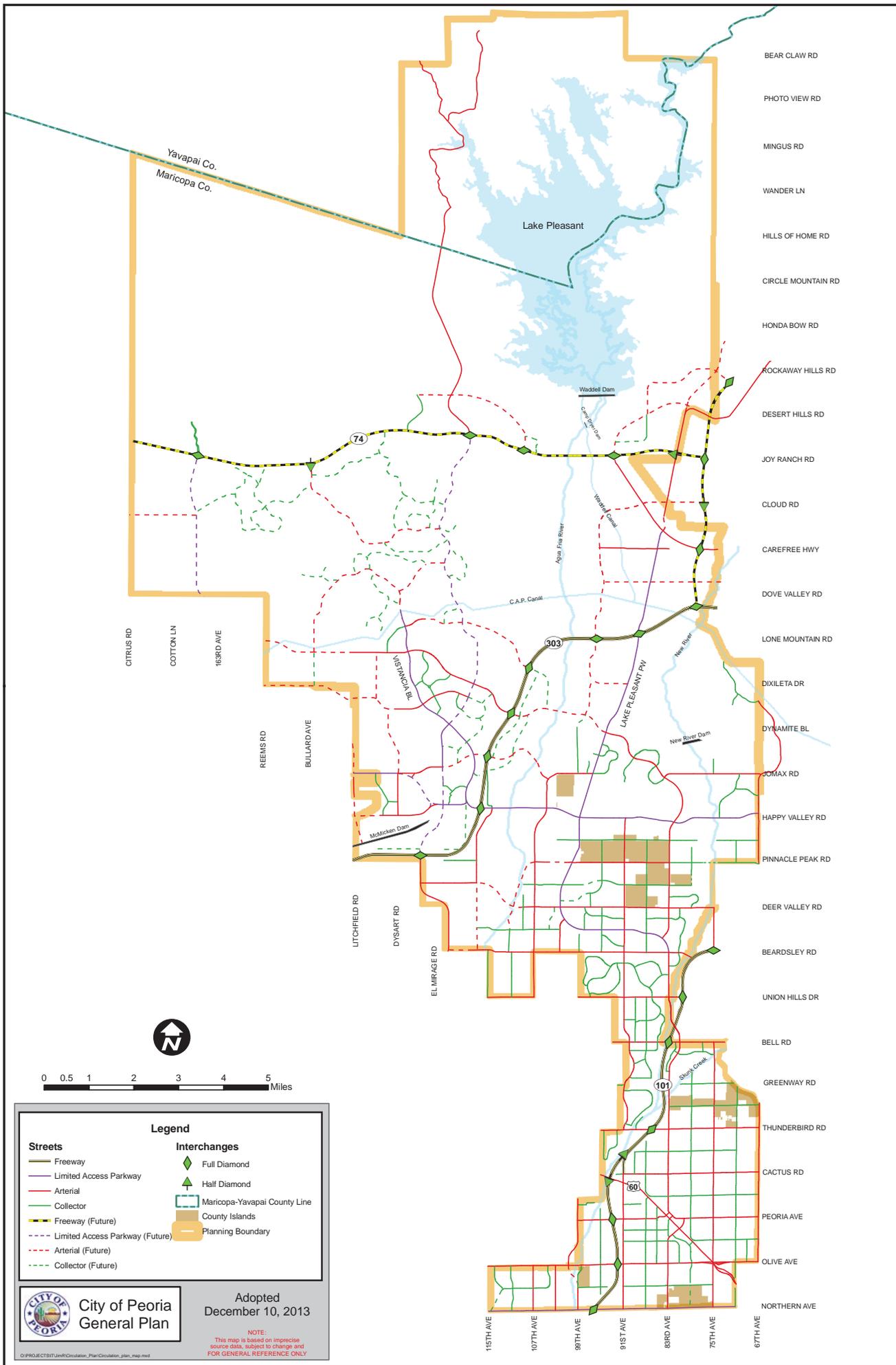


Figure 3.1 - Circulation Plan

CITY OF PEORIA
City of Peoria
General Plan

Adopted
 December 10, 2013

NOTE:
 This map is based on imprecise
 source data, subject to change and
 FOR GENERAL REFERENCE ONLY

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