**City of Phoenix** 

## STREET CLASSIFICATION SYSTEM

General Policy Document and Technical Supplement Approved by City Council July 8, 1992





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Document Prepared by the City of Phoenix Planning Department



### STREET CLASSIFICATION SYSTEM

### **GENERAL POLICY DOCUMENT**

Approved by City Council July 8, 1992

This document proposes changes to the way streets are built by means of a new, more detailed street classification system.

### A. WHY DOES THE CITY NEED A NEW STREET CLASSIFICATION SYSTEM?

### THE CURRENT SYSTEM

The current classification system provides a basic hierarchy of streets and focuses on the role of streets to serve automobile traffic. In the current General Plan, Goal 1 of the Circulation Element states:

A system of roads must be established and built that will allow the movement of goods and people safely and smoothly throughout the City especially into and within the urban village cores.

Further in the text, the system of roads is described as having four types of streets: freeways, major streets, collector streets, and local streets. Streets are classified based on their role in the system, and a depiction of those classifications is found on the Existing Street Classification Map. A second map, the Minimum Right-of-Way Standards Map, also uses those classifications to identify the future role of each street and the right-of-way widths planned for each street when it is fully improved.

The section of text plus the two maps just described comprise the City's current Street Classification System.

### IMPROVEMENT OF THE CURRENT SYSTEM

The proposed new street classification system responds to the Street Environment Policy Committee (SEPC) and Future's Forum recommendations for an improved street environment in Phoenix. The SEPC, in particular, pointed out that the current street system does not respond well to the varying landscapes of the City and non-automobile modes of travel, and, therefore, opportunities are being missed to improve the quality of life in Phoenix. The improvement the Committee was looking for is communicated in its proposed new goals for the City's General Plan and its proposed action step to create a new street classification system.

The Committee's recommended goals, to replace the existing street system goal in the General Plan, are listed below. Accompanying them are statements showing how the proposed new street classification system is intended to work toward achieving each goal:





Goal: A comprehensive transportation system must be planned, established and built that will allow the movement of goods and people safely and efficiently throughout the City, especially into and within the urban village cores.

**Statement:** Streets are the dominant transportation facility in the City, and the new street classification system defines how streets should be built throughout the City.

Goal: Public transit, pedestrian, bicycle, and other alternative modes of transportation should be expanded and integrated into the City's street system to reduce traffic congestion, improve air quality, conserve energy, and provide better transportation for those who choose not to or are unable to drive.

**Statement**: The new street classification system includes policies to guide the inclusion of alternative modes of transportation within the street right-of-way.

Goal: The City's transportation system should be planned and designed to assist in implementing the General Plan's Land Use goals. Change in neighborhoods and commercial districts should occur because of anticipated and planned efforts, not as an unforeseen by-product of modifications to our transportation system.

**Statement:** The new street classification system ties every street to its desired future land use class and indicates street feature designs that are appropriate to support that land use. Land use classification will be generalized for mile street segments and based first on General Plan designations and secondly on vested zoning and existing land use patterns.

As a step toward achieving these goals, the SEPC recommended the "action step" of creating a new street classification system which identifies both street function and the environment the street passes through. The rest of this document describes the new street classification system proposed to replace the current system and further implementation steps that are needed.

### B. THE DESIGN OF THE NEW STREET CLASSIFICATION SYSTEM

The new classification system proposes a street have both a street function and a land use designation. A set of design policies would then apply to each of these street-land use classes.

### STREET CLASSES

Every street will be assigned to a street functional class. The function reflects the typical trip distances, access controls, etc. that the street will be designed to handle. Streets are in a hierarchy wherein trip lengths and access controls are greatest for freeways. Major arterials, arterials, collectors, minor collectors, and locals follow with decreasing trip lengths and access controls.

### STREET FUNCTIONAL CLASSIFICATION DEFINITIONS

The following street classification definitions shall be used as general planning guidelines rather than rigid definitions. As such, they should permit sufficient flexibility for the exercise of professional judgment. Freeways/expressway and local street definitions are included, but this street classifica-

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tion system does not provide policies and design standards for them. Freeway designs are the purview of ADOT while local street designs are regulated by the Subdivision Ordinance. Figure 1 follows these definitions and illustrates the four classes that are part of this policy document.

### Freeway/Expressway

Trip Distances:

■ Provides for long-distance traffic movement within Phoenix and between Phoenix and other cities.

Access Controls:

No service to abutting land.

Access points are limited to other freeways, expressways, and selected arterial streets, with typical minimal spacing of 1 mile.

Traffic Separation:

Opposing traffic flows are physically separated and cross streets are grade-separated except that expressways may have at-grade signalized intersections, spaced at least 1 mile apart.

Traffic Volumes:

Over 50,000 ADT (Average Daily Trips)

Other:

Travel by pedestrians, bicycles, and low-powered vehicles is prohibited.

### **Major Arterial**

Trip Distances:

■ Provides for long-distance traffic movement within Phoenix and between Phoenix and other cities.

Access Controls:

Very limited service to abutting land.

Access control through frontage roads, raised medians, and the spacing and location of driveways and intersections.

Traffic Separation:

Opposing traffic flows are physically separated by a raised median.

Signalization:

Traffic signals are coordinated for progressive movement.

Traffic Volumes:

**30,000** to 60,000 ADT (typical)

Number of Lanes:

■ 3 through lanes in each direction (there may be 4 lanes in the peak direction of movement or 4 lanes in each direction when the street serves as an extension of a freeway or expressway.)

Other:

Travel by pedestrians, bicycles, and low-powered vehicles will be considered.

### Arterial

Trip Distances:

Provides for moderately long-distance traffic movement within Phoenix or between Phoenix and adjacent cities.

Access Controls:

Moderate service to abutting land.

Access control through frontage roads, raised medians, and the spacing and location of driveways and intersections.

Traffic Separation:

Opposing traffic flows are separated by a raised median or a continuous left-turn lane.

Signalization:

■ Traffic signals are coordinated for progressive movement.

Traffic Volumes:

15,000 to 50,000 ADT (typical)

Number of Lanes:

2 or 3 through lanes in each direction

Other:

Travel by pedestrians, bicycles, and low-powered vehicles will be considered.

### Collector

Trip Distances:

■ Provides for short-distance (less than 3 miles) traffic movement; primarily functions to collect and distribute traffic between local streets or high volume traffic generators and arterial streets. \*

<sup>\*</sup> A small group of existing streets operating under unique conditions are included in this classification. These streets differ from other collectors in that they accommodate medium distance trips (less than six miles) and relieve arterial streets in congested areas.





Access Controls:

Provides direct access to abutting land and some access control through raised medians and the spacing and location of driveways and intersections.

Traffic Separation:

Generally unseparated but may have a continuous left-turn lane or median.

Signalization:

Some traffic signals are coordinated.

Traffic Volumes: Number of Lanes: 5,000-30,000 ADT (typical)

Other:

■ 1 or 2 through lanes in each direction

■ Travel by pedestrians, bicycles, and low-powered vehicles will be considered.

### **Minor Collector**

Trip Distances:

Provides for short-distance traffic movement (less than 3 miles); primarily functions to collect and distribute traffic between local streets and arterial streets.

Access Controls:

Provides direct access to abutting land and has some access control through spacing and location of driveways and intersections.

Traffic Separation: Signalization:

Generally unseparated but may have a continuous left-turn lane.

■ Traffic signalization should discourage through traffic from using the collector

Traffic Volumes:

1,000-8,000 ADT (typical)

Number of Lanes:

1 through lane in each direction

Other:

Travel by pedestrians, bicycles, and low-powered vehicles will be considered.

### Local

Trip Distances:

Provides for short-distance traffic movement (less than 1/2 mile); not intended for through traffic; connects to collector, minor collector and arterial streets.

Access Control:

Primarily functions to provide direct access to abutting land and for traffic movements within neighborhoods.

Traffic Volumes:

Under 1000 ADT

Number of Lanes:

1 lane in each direction

Other:

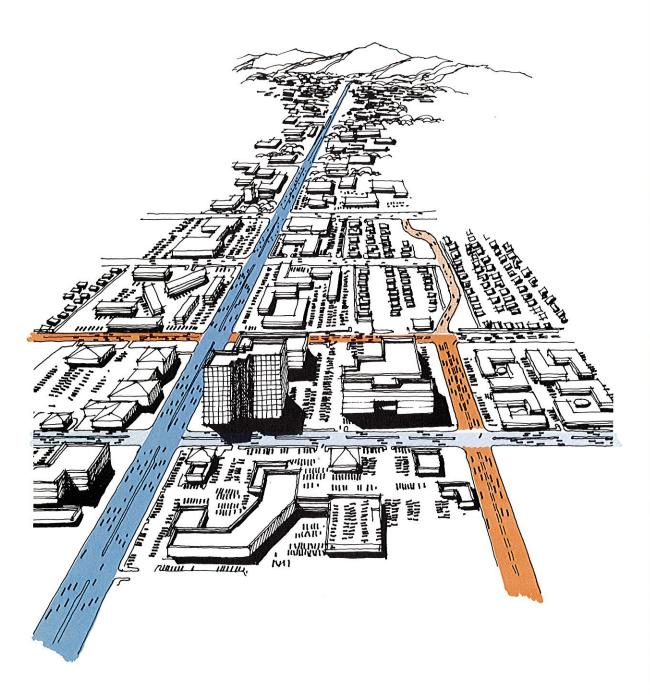
■ Travel by pedestrians, bicycles, and low-powered vehicles will be considered.

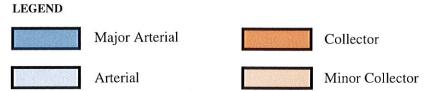
There are a small group of existing streets which operate under unique conditions in the City, i.e., 15th Avenue, Osborn Road, Missouri Avenue, 12th Street, etc. These streets originally functioned as residential collector streets. However, as new development and its associated trip generation led to congestion on major streets, the parallel collector streets began to be used more for through tripmaking. The resulting combination of land use and street function and design is generally undesirable, and, therefore, this group of streets should be strictly limited. A study of the future role of these streets is included in the section of "Implementation Items."

### LAND CLASSES

Each street--major arterial, arterial, collector, and minor collector--will also be assigned a land use functional class. The land use class generalizes the mix of land uses projected for the future of a mile segment of a street. Land use classes are descriptive only. They do not set requirements for development, and, therefore, rezoning of land does not require an amendment to the General Plan Street Classification Map. The intent of the land use classes is to describe the use of the land, development form, and circulation characteristics and thereby identify appropriate street design features. The eleven land use types are: urban core; suburban core; commercial-limited access; commercial-free access; medium-high density residential; low density residential-direct access; low density residential-indirect access; industrial park; industrial-free access; open space; and developed recreational.

Figure 1. STREET NETWORK ILLUSTRATING FOUR CLASSIFICATIONS







### LAND USE DEFINITIONS

These definitions describe eleven land uses in the City, but do not set requirements for land use development.

### **Urban Core**

Land Use:

Retail, Office, Multifamily Residential

Development Form:

- Concentrated, mixed use developments
- Dense development with FAR (floor-to-area ratio) above .5.
- Buildings oriented to street with setbacks of 0-60 ft.

Circulation:

- Access to the core is focused on automobile and transit modes.
- Accommodates up to a moderate level of through traffic.
- Internal circulation within the core is focused on pedestrian and transit movements.
- Most building fronts are open to pedestrians with rear or underground automobile access
- Mixed use developments have joint parking and there is some joint parking shared by developments.

### Suburban Core

Land Use:

Retail, Office, Multifamily Residential

Development Form:

- A group of self contained developments.
- Medium dense development with FAR predominantly between .2-.5.
- Buildings oriented to and away from the street with setbacks of 20-200 ft.
   (Orientation should accommodate transit service.)

Circulation:

- Access to the core is focused on automobiles and transit.
- Can accommodate a large volume of through traffic.
- Internal circulation within the core is focused on automobile, transit, and pedestrian movements.
- Building fronts are oriented to both parking lots and pedestrians/transit service.
- Most buildings have their own parking lot.

### **Commercial-Limited Access**

Land Use:

■ Retail, Office, (may have some Multifamily Residential or Institutional Uses-schools, churches, etc.)

Development Form:

- Individual buildings developed along the street frontage and some centers with multiple tenants. Has at least one generator of numerous trips.
- Medium dense development with FAR between .1-.4.
- Buildings oriented to or away from the street with setbacks of 20-200 ft.

Circulation:

- Access is oriented to the automobile and transit.
- Businesses focus on attracting street traffic to their building.
- Driveways are consolidated.
- On-site circulation within each development is critical and is coordinated with street access.
- Buildings with multiple tenants have joint parking.

### **Commercial-Free Access**

Land Use:

Retail, Office, (may have some Multifamily Residential or Institutional Uses)

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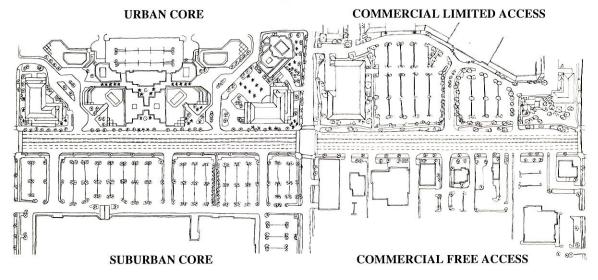
Development Form:

- Individual buildings are developed along the street frontage.
- Medium dense development with FAR from .1-.4.
- Buildings are oriented to the street with a setback of 20-100 ft.

Circulation:

- Access is oriented to the automobile and transit.
- Businesses focus on attracting street traffic to their building.
- Little on-site circulation.
- Each building has its own parking lot.

### Figure 2.



### **Medium to High Density Residential**

Land Use:

- Residential (may have some Institutional uses)
- Development Form:
- Multi-family, 3 stories and above.
- Buildings are oriented to or away from the street with setbacks of 20-60 ft.

Circulation:

- Circulation among buildings is focused on pedestrians and bicyclists.
- Access to housing is from another street or parking lot.
- Access to transit is important for residents.
- Parking is mostly centralized.

### **Low Density Residential-Direct Access**

Land Use:

Residential (may have some Institutional uses)

Development Form:

- Single Family and Townhouse-like Apartments.
- Buildings face on the street with setbacks of 20-35 ft.

Circulation:

- Circulation between homes is focused on pedestrians and bicycles.
- Access to the housing is directly from the street.
- Parking is distributed, not centralized.

### **Low Density Residential-Indirect Access**

Land Use:

Residential (may have some Institutional uses)

Development Form:

- Single Family, Townhouse, or Garden Apartments.
- Buildings side or back on the street with setbacks of 10-25 ft or front on a frontage road adjacent to the street.



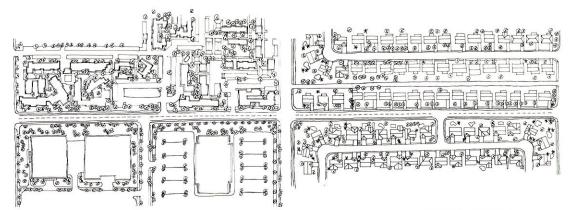
Circulation:

- Access to housing is from another street or parking lot.
- Parking is distributed or in small lots.

### Figure 3.

### MEDIUM-HIGH DENSITY RESIDENTIAL

### LOW DENSITY RESIDENTIAL DIRECT ACCESS



LOW DENSITY RESIDENTIAL INDIRECT ACCESS

### **Industrial Park**

Land Use:

Development Form:

- Industrial, Manufacturing, Warehouse, Retail Distribution, Supporting Services
- Planned Park Development
- Low density development with FAR predominantly between .1-.3.
- Buildings oriented away from or to the street with setbacks of 30-300 ft.

Circulation:

- Focus on access to and from the park by automobiles and trucks.
- Some internal circulation important because of co-production facilities.
- Transit service, including ridesharing, is focused on developments with high numbers of employees.
- Some joint parking; all parking on site.

### **Industrial-Free Access**

Land Use:

Industrial, Manufacturing, Warehouse, Retail Distribution

Development Form:

Buildings developed along the street with setbacks 0-100 ft.

Circulation:

- Focus on automobile and truck access to each development site.
- Transit service, including ridesharing, is focused on developments with high numbers of employees.
- Parking often insufficient for all clientele; some reliance on street parking.

### **Open Space**

Land Use:

Natural; agricultural

Development Form:

None

Circulation:

May or may not accommodate through automobile travel.

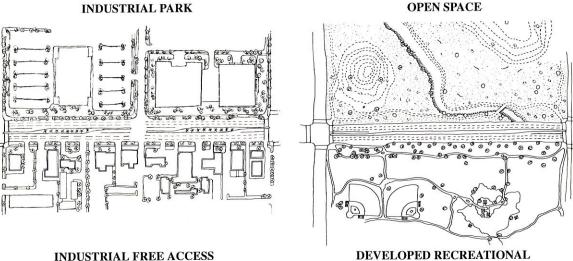
# Development Form: Circulation:

### **Developed Recreational**

Land Use:

- Parks, Golf Courses, Country Club (may have some Institutional uses)
- Very low density with few buildings; landscaped open space.
  - Infrequent, but high trip generation during off peak hours. Few, but large driveways.

Figure 4.



### STREET-LAND USE FUNCTIONAL CLASS

The classification a street will have is a combination of one street class and one land use class. See Figure 5. There are 39 possible classes (4 x 11 minus 5 street-land use combinations that are incompatible). The classes are shown in Figure 6. A black square represents a street-land use functional class. A black square with an asterisk indicates there is no classification because of incompatible street function and land use.

Figure 5. STREET-LAND USE COMBINATION

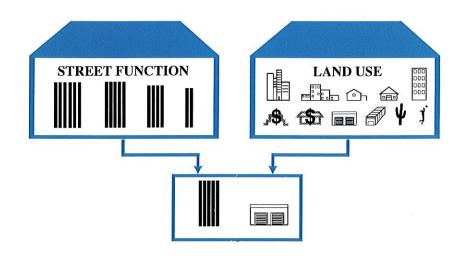






Figure 6. STREET-LAND USE FUNCTIONAL CLASSES

	Major Arterial	Arterial	Collector	Minor Collector
Urban Core				eta 🗖 jes
Suburban Core				
Commercial Limited Access				
Commercial Free Access				
Medium to High Density Residential				
Low Density Residential Direct Access		<b>=*</b>		
Low Density Residential Indirect Access				
Industrial Park				
Industrial Free Access				
Open Space				
Developed Recreational				

A valid street-land use functional class.

This category, while undesirable, is a prevalent street-land development pattern in the City. In order to properly deal with existing streets, this category must be retained. However, this street land use combination will not be allowed for new development.

### **DESIGN FEATURES** There is a set of design features that accompany each of the 39 street-land use classes. The design features are categorized into three types, as shown in Figure 7: Figure 7. DESIGN OF THE STREET CLASSIFICATION SYSTEM STREET FUNCTION LAND USE AS (1567) 🚃 🗗 🗸 🕽 ALTERNATIVE STREET TRAVEL STREETSCAPE DESIGN MODES **DESIGN FEATURES** Design features pertaining to each of the three categories are listed below: **II.** Alternative Travel Modes **Street Design** III. Streetscape 1. Driveways 7. Pedestrian System 12. Plants Medians 8. Bicycle System 13. Streetscape Amenities 2. 3. Traffic Signals 9. Bus System 14. Signage 4. Intersections 10. Future Rail Potential Street Alignment 11. Multi-Use Recreational 5. Trails On-Street Parking Section E of this document states *general* policies on each design feature. The *detailed* design policies that apply to each one of the 39 street-land use classes are found in the companion Technical Supplement. The detailed policies in the Technical Supplement conform completely to the general policies outlined in this document. Each policy has been numbered so that numbers correspond between this General Policy Document and the Technical Supplement. **SCENIC OVERLAY** Any one of the 39 classifications may be overlaid with a scenic designation. A scenic designation applies to a street that has or is intended to have a special character. The designation does not alter the underlying functional classification for the street, but it does signal the application of special design features and policies. These design features will relate to streetscape design, landscaping in adjacent easements, and policies for compatible design of adjacent development.



A scenic designation should be a continuous feature even though it may pass through several land use areas. Still, each street designated as scenic should have consistency in themes and designs used. Landscaping and other features should be of an intensity and quality that harmonizes with the uniqueness or special character of the selected route.

The basis for selecting a scenic street is:

- Preservation of existing natural areas: desert, hills, or mountains.
- Recognition of the existing character or theme of adjacent areas: citrus neighborhood, palm-lined roads.
- Designation of areas of special or unique character: village core, village boundary, village's main street.
- Preservation of important views: Squaw Peak, Salt River corridor, Downtown skyline.

In all cases, a scenic street should be executed as a complete element of the roadway system and adjacent development.

Three scenic designations are proposed:

### 1. Scenic Corridor:

- Option for three residential classes where they pass through relatively undeveloped areas with a high quality natural environment.
- A scenic corridor preserves significant natural areas adjacent to the roadway.
- Typically these areas would be lush, high desert vegetation, desert foothills, or mountains.
- The protected areas would be accomplished by either an easement or by development standards.
- Technical specifications are needed to cover the degree of protection of the natural resource, degree of access, development rights, and sign standards.

### 2. Scenic Roadway:

- Option applicable to all land use categories.
- A scenic roadway is typically in a developed area where unique landscaping and other features are primarily within the right-of-way and easements in the setback areas of adjacent property.
- The roadway incorporates landscaping themes and intense plantings which do not always preserve the original native plants and landforms. A scenic roadway should reflect landscape or design themes found in the area.

### 3. Scenic drive:

- Option applicable in open space or developed recreational classes and collector, minor collector or local street classes.
- A scenic drive travels through a public area, usually a major park or natural preserve, in such a manner that the road becomes one with the surrounding area.
- The drive's primary purpose is not to carry through traffic.
- It's primary purpose is to take people to destinations within its own area or simply for the pleasure of the drive or bicycle ride.

Each street designated as scenic will be unique, responding to its local environment as well as design goals and policies for the area it passes through. No scenic designation should be made on the Street Classification Map without being based on a plan which enumerates the those goals, policies, and standards which the street must meet. The plan should also contain similar standards for property adjacent to the scenic corridor, roadway, or drive which can be implemented through the design review process, zoning conditions, and coordination with other public projects.

### C. HOW THE STREET CLASSIFICATION SYSTEM SHOULD BE USED

The main use of the street classification system is to guide new construction within the street right-of-way. Streets may be constructed or "improved" through the City's Surface Transportation Program, i.e., the capital improvement program. Other streets are constructed by private development. Both the Surface Transportation Program and private development will refer to the street design policies of the Street Classification System as a guide for street design.

The Surface Transportation Program and private development projects focus on building new streets or adding capacity to existing streets. Many of the city streets have already been designed and constructed under old street design policies, and therefore, are unlikely to comply in all details with the new policies. Approval of the new street design policies does not obligate the City to retrofit existing streets, i.e., adding landscaping and other amenities.

Given that the street design policies will guide current street construction programs, how will they apply to developing versus developed areas?

### **DEVELOPING AREAS**

Developing areas are areas of new construction, areas where the street has not been improved to its ultimate width, and areas where buildings and parking lots are not built up to the new right-of-way standard line. North Cave Creek Road is an example. In developing areas, street improvements are usually made through private development projects or the City's Surface Transportation Program. In these areas, it should be possible to comply with all the new policies, i.e., incorporate the desired number of lanes, multi-modal routes, and landscaping within the right-of-way. Deviations to the policies can be made, however, if documented and approved by the City Council.

### DEVELOPED AREAS WITH STREETS TO BE IMPROVED

Some areas of the City are built up, but the streets in these areas are still candidates for capacity improvements. An example is Indian School Road. Street improvements in developed areas are usually made through the City's Surface Transportation Program or an improvement district of private property owners. In many cases, the planned right-of-way width is unlikely to be ample to comply with all of the policies outlined for the street under this new classification system. In these instances, the feasibility of acquiring additional right-of-way, the potential for land redevelopment, and tradeoffs amongst amenities must be considered on a case by case basis.

The process of evaluating tradeoffs (e.g. space for landscaping vs. a bike lane) still needs to be created, as described in the next section on "Implementation Items." The reporting of decisions on tradeoffs should make use of the 3-report process recently introduced into the Surface Transportation Program. The 3-report process tracks a project through its design via a concept report, a preliminary design report, and a final design report. Some decisions on tradeoffs might be reported on the concept report, developed at the time a street project is proposed for inclusion into the Surface Transportation Program. The preliminary design report, which follows the concept report, should provide a complete list of which policies cannot be met and the reasons why. This report will be presented to the public for review and input before the City council makes the final design decision.





### DEVELOPED AREAS WITH REDEVELOPMENT PROJECTS

Some streets in the City have developed land uses and the streets are not candidates for capacity improvements and, in some cases, may be reviewed for a reduction in capacity, yet the streets may need other improvements, such as improved sidewalks, landscaping, etc. By means of improvement districts, redevelopment plans, or a retrofit program, streets may be improved even though no vehicular capacity is added. The Central Avenue Beautification project is an example. These improvement projects should attempt to meet, as far as possible, the policies set by the new classification system. Much more flexiblity in making tradeoffs and meeting the policies would be applied in these situations, however, because the funding associated with the improvement may be targeted for only one specific feature, (i.e., landscaping, street lighting, or bike lanes) or because the acquisition of additional right-of-way is not feasible.

Private developers periodically redevelop parcels along previously built streets. The size and extent of the redevelopment will determine the degree to which these new design features should be incorporated into the street right-of-way fronting the property. For example, under the existing ordinance projects adding less than 2000 square feet of building area are not required to make street frontage improvements. On the other hand, projects adding more than 2000 square feet of building area may need to adhere to driveway, sidewalk, and landscaping policies depending on the scope of redevelopment. The scope of the project and the street classification map also will determine if right-of-way must be dedicated.

### RIGHT-OF-WAY EASEMENTS

In developing areas, the City will require ROW dedications of land for streets in accordance with the current Minimum ROW Standards Map. If, during the creation of a new Street Classification Map, it is determined that ROW in addition to the amount now shown on the Minimum ROW Standards Map is desired, this extra amount may be dedicated as an easement. This can occur only if the easement will be developed as sidewalk, landscaping, off street path, or utilities corridor.

In developed areas where a parcel is being redeveloped, the City will require ROW dedications in accordance with the following:

- The Minimum ROW Standards Map,
- A Specific Plan for the area,
- Identified requirements for intersection improvements, and
- Requirements determined by a traffic impact study.

If additional width is needed beyond what is specified by these documents to accommodate required amenities, that additional width may be dedicated as an easement so long as it will only be developed as sidewalk, landscaping, off street paths, or utilities.

For clarity within this document, the term "right-of-way" is used to refer to the entire street width, including all design features. Under conditions specified in the previous paragraph, the land area may legally be identified as an "easement" and not "public right-of-way."

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### COORDINATION WITH OTHER CITY CODES, ORDINANCES, POLICIES AND PLANS

The new street classification system brings together, in one place, general policies on street design. This is a new concept of street classification for the City. The engineering detail that guides or regulates specific design features is found in various other documents, such as the Phoenix City Code or the American Association of State Highway and Transportation Officials (AASHTO) street and highway design book. The new Street Classification System along with these other design guides must be consulted when streets are designed. The matrix in Figure 6 shows how the documents are linked together. The matrix lists each design feature from the classification system and links it to other relevant City documents.

It is likely there are a few conflicting policies between the new Street Classification system and these other approved City documents. In such cases, the policies within the Street Classification represent current policy and will supersede other policy documents, when not in conflict with state law, federal regulations, or generally accepted design standards.

Specific plans for an area may vary from the policies in this new classification system. In most cases, a specific plan would ask for more rigorous design standards to be achieved in street and streetscape design than are contained here.

### COORDINATION WITH THE SURFACE TRANSPORTATION THREE REPORT PROCESS

The policies within the Street Classification System provide part of the framework for the reports referred to within the Three Report Process recently incorporated into the City's Surface Transportation Program. Use of the Street Classification System in the Surface Transportation Program can begin once a map designating the functional street and land use classification of streets is completed. The map's street/land use designation with the related design policies for that designation provides a list of desired features for each major street in the City. Once a street is proposed for improvement or retrofit, the list of desired design features provides the initial basis to examine the street in detail.

Each year, a list of new projects to include in the City's Six Year Street Plan will be developed. This list will be generated from staff and public comment. Once a list of projects is identified, each street project will be examined in more detail. For each project, a check list of desired features will be generated by listing the policies/features associated with a street's functional and land use classification. At the concept stage, a decision on many of the features under the Street Classification System, "Section I-Street Design" can be made. Medians, intersections, and alignment are examples of these features. It will also be possible to make preliminary decisions on features in "Section II-Alternative Travel Modes." Sidewalks and bicycle facilities are examples. This check list of Street Classification System design features then becomes a major component of the initial project concept report.

Items on the checklist which are not being considered for inclusion within the project at the concept stage will be identified. In addition, an explanation of why they are being excluded will be provided. This concept report will undergo public review, eventually being approved by the City Council. This approved concept report and the checklist then become the policy guide for how the project is to be designed.





Figure 8. COORDINATION BETWEEN STREET CLASSIFICATION SYSTEM AND OTHER CITY DOCUMENTS

		/	Drive	ways Media	as raffic	Signal	ctions Street	Ji ghne	at Parki	all Pote	ntial em c	system edestrian	System R	ecteational MIRTS	etscape es Amenigien
AASHTO GUIDE for Development of New Bicycle Facilities	G		07	\$\frac{1}{2}								*			
AASHTO Guide for Selecting, Locating, and Designing Traffic Barriers	G							ilisamia I			•				
AASHTO Policy on Geometric Design of Highways & Streets	G														
Arizona Bicycle Facilities Planning and Design Guidelines	G						My careful action (I)								
Arizona State Dept. of Water Resources Plant List	P														
Arizona Transportation Laws Title 28	L														
ITE Highway Capacity Manual	G														
MAG Uniform Standard Details for Public Works Construction	L														
MAG Uniform Standard Specifications for Public Works Construction	L														
Phoenix Bikeway System	P														
Phoenix Bus Passenger Facilities Street Improvement Guidelines	G														
Phoenix City Code Art. III, Section 31-43 to 31-49	L														
Phoenix City Code Ch. 32 Subdivisions	L														
Phoenix City Ordinance G-780	L														

L = Law or Regulation P = Policy G = Guide

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		/.	Drive	Ways Media	raffic	Signal	street	Alignm On Stre	en Park	Rus Sys	ential Bicycle	System System Redestrian	ystem R	ecreational MIRTS) Plants Stre	etscape es Ameningignage
Phoenix Comprehensive Recreational Trails Plan	P														
Phoenix Dark Sky Ordinance G - 3172	L														
Phoenix Design Review Guidelines (Zoning Ordinance)	L														
Phoenix Minimum ROW Standards Map G - 3094	P														
Phoenix Minimum Transit ROW Standards Map G - 3056	P						A 100								
Phoenix Sign Regulations (Zoning Ordinance)	L														
	L P														
Phoenix Standard Utilities Location Manual	G														
Phoenix Street Lighting Policy	P				4										
Phoenix Supplement to the MAG Uniform Standard Specifications for Public Works Construction	L														
Phoenix Supplement to the MAG Uniform Standard Details for Public Works Construction	L														
Phoenix Traffic Code Ch. 26	L														
Phoenix Transit Plan	P														
Phoenix Zoning Ordinance	L														
U.S. Americans with Disabilities Act	L														
U.S. DOT Manual on Uniform Traffic Control Devices	L														

L = Law or Regulation P = Policy G = Guide



Later, as much as 2 to 5 years, when a project's design is initiated, preliminary design will attempt to implement the concept policies adopted by City Council. Added to the checklist will be decisions on streetscape design features such as landscape design and lighting. The Street Classification System's "Section III-Streetscape" provides the frame work for those decisions.

During preliminary design, if items on the checklist are evaluated as not possible or practical to implement, then they will excluded and an explanation of why they are excluded will be provided.

The updated check list will then be part of the preliminary design report (60%). This report will undergo public review, during which the proposed design may be modified. A final design (90%) report is then prepared and brought to City Council for approval. This final report will contain the final checklist with the explanations of why elements have been excluded.

### D. IMPLEMENTATION ITEMS

The General Policy Guide and Technical Supplement set out the basic street classification system. Some additional steps need to be taken to implement the system.

### **Making the System User Friendly**

The new System adjusts design policies for the wide variety of street and land use needs in our City with nearly 900 miles of arterial and minor collector streets. Providing this detail, however, should not complicate the street design program. To provide easy access to this detail, a computer program should be developed which allows access to data that is relevant to a particular need, i.e., design policies for an arterial-suburban core street segment or policies pertaining to driveways.

### Street Environment Database

A database is needed to complete the next phase of this street classification project: assigning streets to one of the new street/land use classes. This street environment database should provide enough background information on existing conditions to determine the appropriate classification for each street in the City.

### Classification Assignments and Producing a New Street Classification Map

Assignments of streets to the various classes should occur through a formal process that includes public participation. Once determinations have been made, a new street classification system map should be produced, approved by City Council, and included in the updated *General Plan*.

### Integration of the Street Classification System into the Surface Transportation Program

The methods for integrating the new Street Classification System into the planning process of the Surface Transportation Capital Improvements Program needs to be outlined. In particular, a transportation team (an interdepartmental group) should develop a process to analyze various tradeoffs among street amenities, level of service standards, urban design, and land use functionality when all design features cannot be accommodated in the right-of-way. This process should be tied to how particular street features will achieve the three goals for streets to be included in the *General Plan* (goals are listed at the beginning of this Guide).

### **Special Street Study**

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A study of streets that would pertain to the "Collector/Low Density Residential-Direct Access" class will be conducted to determine what their future role, both street function and land use, should be. Only in this class are existing streets now identified which would pertain to the class, e.g., 12th Street, 15th Avenue, Osborn Road, Missouri Road. These streets are now classified as collectors, but the volume of traffic and length of trips made on these streets is not consistent with that classification. Furthermore, land uses on these streets are often incompatible with the current street function. Therefore, alternative future scenarios for these streets will be analyzed.

### **Access Control Study**

A study will be conducted to determine ways of improving access control on major arterial and arterial streets that have closely spaced driveways. A variety of access control measures will be reviewed, such as driveway sharing, common ingress/egress easements, frontage roads, etc.

### **Multi-Modal Plan**

A complete multi-modal plan should be developed for the City, as recommended by Street Environment Policy Committee. The City now has plans for streets, transit, bicycles, and multi-use recreational trails (nothing for pedestrians), but those plans are not yet integrated. An integrated multi-modal plan should set goals for the development of each mode of travel in the City (autos, buses, bicycles, pedestrians, etc.) based on approved City priorities for each mode. That Plan would then lead to integrated planning of transportation facilities. This new street classification system is a start toward integrating transportation modes. For each street class, there are policies on pedestrians, bicycles, multi-use recreational trails, and transit. Additional clarification of priorities should be documented, however, apart from the Street Classification System.

### **Easement Dedications**

Refine the procedure to allow property owners to dedicate easements in lieu of right-of-way for streetscape areas that will be developed as landscaping, sidewalk, off street paths, or utilities corridors. The procedure should also clarify the assignment of landscaping maintenance responsibilities in easements.

### E. GOALS AND POLICIES FOR DESIGN FEATURES

The following goals and policies address major arterial, arterial, collector, and minor collector streets. The design of freeways is controlled by Arizona Department of Transportation and design of local streets is regulated by the City's Subdivision Ordinance.

### I. STREET DESIGN

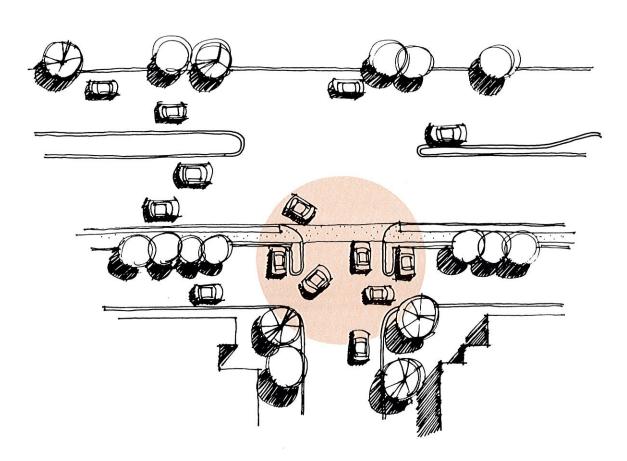
G-1. A functional classification system should group streets according to the type of service they are intended to provide. Each group should establish a different level of mobility (i.e. service to through traffic) versus access to abutting land. The highest group, freeways, should provide maximum mobility with no land access; the lowest group, local streets, should provide maximum access to abutting land with minimum mobility. Arterials should provide more mobility than land access, while collectors should provide approximately equal access and mobility. The design features of each functional classification should reflect the relative emphasis on each of these two services.



### **Driveways:**

- 1.1 A single parcel or contiguous parcels comprising one development should be limited to one driveway, unless traffic volume or street frontage warrant additional driveways.
- Homes with direct access to arterial streets may be allowed to create a circular driveway if the property meets minimum lot requirements.
- On major arterial and arterial streets, the sharing of driveways between adjacent properties and common ingress/egress easements are strongly encouraged. Existing driveways that are unnecessary or substandard should be removed or upgraded in conjunction with any new on-site or street construction.

Figure 9. SHARING OF DRIVEWAYS BETWEEN ADJACENT PROPERTIES



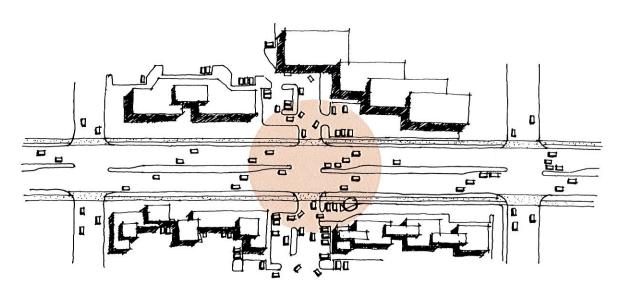
- On major arterial and arterial streets, large developments should consolidate major driveways at 1/4 or 1/8 mile locations and align them with driveways on the opposite side of the street.
- 1.5 Driveways to corner lots should be located as far away from the intersection as is possible.
- Driveways are prohibited within the passenger waiting area of bus stops and should be avoided in bus bays. Driveways should be located so that drivers will be able to see around bus stop improvements, both existing and planned.

### Medians

Medians may be used as a method of achieving any of the following objectives: control access, separate opposing traffic flows, provide for speed changes, store left-turn and u-turning vehicles, provide a landscaped area, or provide a pedestrian refuge.

- 2.1 Raised medians are desired for major arterials. Arterials and collectors may have raised medians, in accordance with circulation and land use needs. However, these objectives may need to be critically examined when the provision of medians detracts from the safety and environment of pedestrian areas including sidewalks.
- 2.2 Openings in raised medians are desired at 1/4 mile intervals (1/8 mile minimum spacing) and major driveways should align with these openings.

Figure 10. MAJOR DRIVEWAYS SHOULD ALIGN WITH MEDIAN OPENINGS



2.3 • Where a raised median is not possible or is inappropriate on major arterials, arterials, or collectors, a two-way left turn lane should be used.

### **Traffic Signals**

Traffic signals regulate the flow of vehicular and pedestrian traffic by alternately assigning right-ofway on intersecting streets. Important objectives of traffic signalization are to reduce the frequency of certain types of accidents, effect orderly traffic movement, provide continuous flow for a platoon of traffic (coordinated signals), and allow other vehicles and pedestrians to cross a heavy traffic stream.

3.1 Coordinated traffic signals to optimize traffic progression on a given route are desirable for major arterials and arterials. To optimize signal coordination on these arterials, the desirable signal spacing is 1 mile and 1/2 mile intervals. Some collectors will have coordinated signals, however, minor collectors' traffic signalization should work to discourage through traffic from using the street.

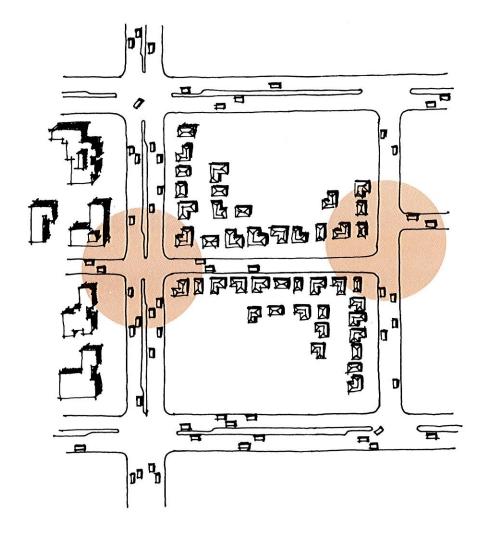


- 3.2 Locations which generate numerous trips may warrant signals at a location other than the 1 or 1/2 mile point.
- 3.3 Actuated traffic signals should include push buttons to signal the need for pedestrians to cross. Actuated traffic signals corresponding with bicycle routes should include bicycle sensitive loop detectors or push buttons adjacent to the curb.
- 3.4 Signals on streets passing through urban cores may be spaced at 1/4 mile intervals, with some instances of more frequent spacing, if the traffic signals are warranted.

### Intersections

- 4.1 Intersections should be spaced consistent with the street classification hierarchy, wherein major arterial and arterial street intersections are spaced at 1 mile section lines and collector and minor collector intersections are spaced at 1/2 mile section lines.
- 4.2 Intersections of major arterials, arterials, and collectors should not be offset. Residential minor collector intersections may be offset within the subdivision to discourage cut-through traffic.

Figure 11. ALIGNED AND OFFSET INTERSECTIONS



- 4.3 Level of Service D (LOS D) should be maintained at signalized intersections during the a.m. and p.m. peak hours. LOS D may be achieved by increasing street capacity and/or reducing vehicular traffic demand. Within urban areas, issues of transportation performance (LOS) may need to be balanced with issues of urban design and land use functionality.
- 4.4 Intersections may be expanded to include additional turning and through lanes to relieve congestion and improve intersection operation, so long as the intersection will accommodate pedestrians and bicyclists. The design of traffic system improvements which facilitate vehicular turning and bus movements should not discourage pedestrian or bicycle movements.
- 4.5 Collectors and minor collectors should intersect with arterial streets at half-mile points, even though the street alignment may be curvilinear.

### Alignment

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- 5.1 Major arterials and arterials should have straight alignments unless topography dictates curves in certain sections. Collectors and minor collectors may have straight or curved alignments.
- 5.2 In open space or developed recreational land use areas, curvilinear alignments are allowed for major arterials and arterials and are encouraged for collectors and minor collectors.
- 5.3 Provision of minimum lane widths is an appropriate traffic calming technique when street character, as defined by land use and street classification, calls for slower speeds and enhanced pedestrian environments.

### **On-Street Parking**

- Parking on public streets is secondary to the street's primary purpose of providing safe and efficient travel for the public. Therefore, parking should be prohibited on major arterial, arterial, and collector streets.
- Parking is normally permitted on minor collector streets, but may be restricted to accommodate transit stops, on-street bicycle lanes, added lanes at intersections, or other operational requirements. Removal of parking to increase capacity should be avoided.
- 6.3 In urban cores, on-street parking may be allowed.

### II. ALTERNATIVE TRAVEL MODES

G-1 Alternative modes of transportation should be expanded and integrated into the City's street system to reduce traffic congestion, improve air quality, conserve energy, and provide better transportation for those who choose not to or are unable to drive.

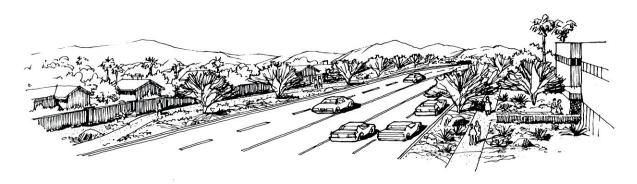
### **Pedestrian System**

The sidewalk should be set back a minimum of 8 feet from the curb on major arterial, arterial, and collector streets to create a landscaped buffer between pedestrians and adjacent automobile traffic. Where trees are planted between the sidewalk and the private property line, the sidewalk setback may be reduced to 5 feet to give additional landscaping space on the other side of the sidewalk. Where bus shelters occur, the sidewalk set back may need to be increased. In urban cores where there is extensive pedestrian movement between the street and the sidewalk, the sidewalk should be adjacent to the curb with landscaping incorporated in the sidewalk.



- 7.2 Sidewalks that are set back from the curb should be a minimum of 5 feet wide, except for sidewalks in developed recreational areas which should be a minimum of 8 feet wide. Sidewalks that are adjacent to the curb should be a minimum of 6 feet wide, except for sidewalks in urban cores which should be a minimum of 8 feet wide or sidewalks along minor collector streets which should be a minimum of 5 feet wide.
- 7.3 Sidewalks should be paved with a hard, all-weather surface, like concrete, that is easy to walk on. Sidewalks and curbs should accommodate pedestrians with disabilities. Areas of open space should have specially paved surfaces or unpaved trails that blend with the surrounding environment.
- 7.4 In general, sidewalks should be straight to provide a direct walking route for short to medium distance pedestrian trips and to facilitate the movement of large numbers of pedestrians. Meandering sidewalks are appropriate in areas where the natural topography or low density land uses lend themselves to informal landscapes.
- 7.5 Appropriate consideration should be given to providing crossings for pedestrians.

Figure 12. SIDEWALK PLACEMENT AND ALIGNMENT

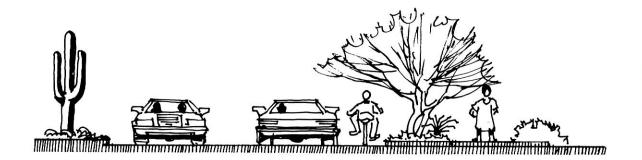


### **Bicycle System**

The adopted Bikeway System Plan shall designate bicycle routes. Many, but not all, of these facilities are part of the street right-of-way.

- Bike routes should be on collector and minor collector streets whenever possible. Where existing and projected traffic volumes are low, the minor collector should be signed as a bike route. On higher volume collectors and minor collectors and/or where bicycle traffic demand is anticipated to be heavy, bicycle lanes are desired. In newer subdivisions with discontinuous collectors, the subdivision should be designed to provide for direct, continuous bikeways.
- Major arterials and arterials should accommodate bicyclists through wider curb lanes. When arterials are integral segments of bicycle routes or bicycle demand warrants, arterials should have bicycle lanes.

### Figure 13. WIDER CURB LANES FOR BICYCLISTS



### **Bus System**

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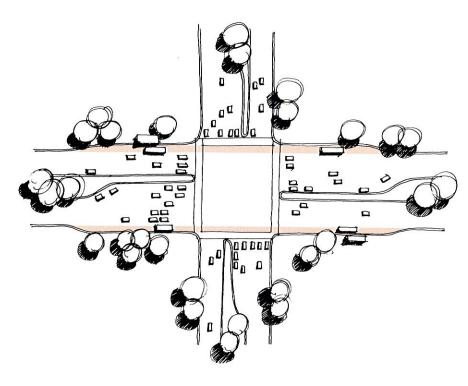
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- 9.1 The standard bus stop spacing is every 1/4 mile. Stops may be as frequent as every 1/8 mile through areas of higher intensity land uses and where special circumstances warrant this spacing.
- 9.2 Bus lanes on streets should be considered when bus volumes reach 30-40 per hour.
  - Queue jumpers (special bus lanes through intersections which are shared with right turning vehicles) are desired at congested intersections along major arterial streets. Queue jumpers may also be used at arterial street intersections where both congestion and bus volumes are high. Queue jumpers should be designed to facilitate pedestrian movements and discourage use for through, non-bus traffic.

Figure 14. BUS QUEUE JUMPERS AT AN INTERSECTION





- 9.4 The siting of bus bays should be done conservatively because they can significantly increase travel times of transit passengers. Bus bays may be used as an initial stage toward developing a queue jumper at an intersection. Bus bays are also acceptable on arterials at bus transfer locations and where boarding time delays are substantial.
- 9.5 The standard bus stop location is the far side of an intersection. Bus stops may be located at the near side of an intersection or midblock depending upon transit demand at a particular site and traffic safety considerations.
- All existing and future bus stop locations should include a passenger waiting area adjacent to, but not interfering with, the sidewalk. The waiting area should be equipped with improvements based on the volume of bus patrons using that stop. The range of bus stop improvements are: (1) a sign only, (2) a bench, (3) a standard shelter, (4) special large shelters, and (5) cool tower shelters. Bus stop waiting areas should include landscaping, handicap accessibility, lighting, and a paved landing area (if the sidewalk is set back from the curb).
- 9.7 Bike racks or lockers are desired at bus stops that coincide with designated bicycle routes and where there is demand for bicycle storage.

### **Future Rail Potential**

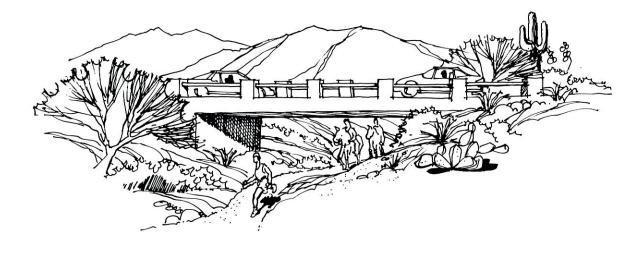
Based on an approved City plan for rail transit, streets designated as having future rail potential should provide maximum flexibility and opportunity for rail. It may be necessary to obtain additional right-of-way or easements along these streets.

### **Multi-Use Recreational Trails (MURT)**

The Comprehensive Recreational Trails Plan shall guide the location of MURTs, under which MURTS may coincide with any street class, but might not be continuous along the entire length of any one street.

- MURTs should be of a natural surface and should accommodate horse riders, mountain bikers (non-motorized), joggers, hikers, and walkers.
- Grade separated crossings are required for freeways and are desirable at major arterials, arterials, and collectors.

Figure 15. GRADE SEPARATED MURT



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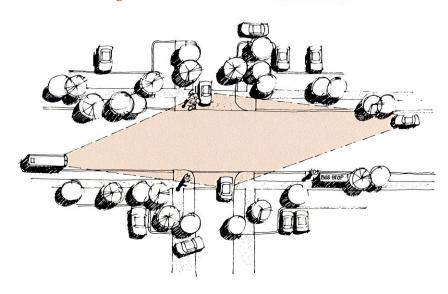
While the streetscape will vary throughout the City, overall streetscape goals are:

- G-1 Provide functional travel routes for pedestrians--and, where designated, bicyclists, horse riders, hikers, joggers--which are buffered from automobile traffic.
- G-2 Use a landscaping buffer of either mediterranean, sonoran desert, or seasonal colors design theme to transition between automobile traffic lanes and developed sites adjacent to the street while maintaining safe sight distances.
- G-3 Provide visually attractive and physically comfortable environments where people pause, gather, wait, meet, and relax that are integrated with similar environments of adjacent private property.
- G-4 Provide visually attractive environments for those who travel through an area in automobiles and buses.
- G-5 Combine plant materials with man-made structures to visually soften the built environment, cleanse the air, and reduce the heat island effect of pavement and concrete.
- G-6 Establish a character or theme for special districts, such as village cores, historic districts, or scenic drives.

### **Plants**

- Plants should provide a variety of different functions: climate and glare control, aesthetics, architectural enhancement, erosion protection, and delineation of space.
- Plants should be low water using as indicated in the State Department of Water Resources plant list. Plant design themes should be mediterranean (emphasizing a green "oasis"), sonoran (desert region), or seasonal colors.
- Cultural, environmental, and historical considerations should be acknowledged when selecting a plant palette for the streetscape.
- Planting designs should account for the mature size of plants, considering conflicts with sight visibility triangles of all modes and conflicts with utilities.

### Figure 16. VISIBILITY TRIANGLES





- Plants should be able to thrive in a roadside environment, with its high levels of reflected heat and glare as well as vehicle fumes.
- Plants selected for use in the streetscape should be easy to maintain and replace.
- Existing mature trees should be retained in roadway design when feasible. If trees must be removed, every attempt should be made to transplant them within the project site.

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- Trees should be used to provide scale; unify unrelated elements; provide overhead and vertical planes to create and articulate space; provide shade; block winds; and screen or enhance views.
- Shrubs should be used to provide midlevel vertical planes for creating space; screen or enhance views; block winds; direct/guide circulation; and provide a protective barrier between pedestrian and vehicular circulation.
- 12.10 Ground covers should be used to provide base plane interest, relief from granite mulch, and direct/guide circulation.

### Figure 17. FUNCTION OF TREES, SHRUBS, AND GROUNDCOVERS IN THE STREET ENVIRONMENT



Street	scape Amenities	
13.1	■ The design and location of streetscape amenities should avoid conflicts with driver sight visibility triangles and utilities.	
13.2	■ Lighting should accommodate night use of streets and promote security while complying with the City's Dark Sky Ordinance. Streetscape areas which are used by pedestrians at night should be well lit.	
13.3	Where the establishment of a distinctive street character is important, such as village cores, the types and colors of lighting fixtures used should contribute to that character. In all other areas of the City, standard lighting fixtures should be used.	
13.4	Pedestrian furniture (benches, planter seating, trash containers, drinking fountains, etc.) should embellish pedestrian gathering places (places for sitting, meeting people, relaxing, people watching, etc.). It should be compatible with the streetscape theme, durable, easily maintained and easily replaced.	1
13.5	As pedestrian furniture is both in the public right-of-way and on private property, the style and placement of furniture should be coordinated on public and private property.	
13.6	Pedestrian furniture should avoid blocking travel on the sidewalk.	
13.7	Benches and planters should provide comfortable and adequate seating.	
13.8	■ Trash containers should be large enough in size and quantity to discourage littering.	
13.9	■ Transportation furniture (bicycle parking, bus shelters, bus benches, pedestrian channelization featuresrailings, bollards) should accommodate and encourage the use of non-automobile travel modes, without blocking sidewalk travel. The placement of transportation furniture should be coordinated with plans for non-automobile travel modes along particular streets.	
13.10	Bus passenger waiting areas should be placed between the sidewalk and the street where adequate space exists. Inadequate space or driveway proximity may necessitate placing the passenger shelter behind the sidewalk.	
13.11	Canopies (arcades, roof overhangs, awnings, trellises, trees, vines) should shade pedestrian places, heavily travelled pedestrian routes, and bus stops to accommodate their use during hot-weather months. Mature shade trees should be located at most bus stops.	
13.12	Focal points (clocks, sculpture, planters) should give a sense of place and identity to important locations in the City, such as village cores. Most focal points will not be in the street right-of-way, but some, usually smaller, focal points will be.	
13.13	Services furniture (information kiosks, display cases, newsracks, mailboxes, phone booths, drinking fountains) may be provided in heavily used pedestrian areas. Services furniture should not block sidewalk travel, conflict with bus stop loading areas, or create a visual eyesore.	
13.14	Utility (fire hydrants, traffic signal boxes, power poles, transformers, underground cables) design should minimize the visual presence of utilities within the streetscape. Utility corridors should be established in the streetscape to avoid conflicts between utilities and sidewalks or planting strips.	大



### Signage

The following policies relate to signage on private property, primarily those areas between the right-of-way and the adjacent development's building edges. They do not include traffic control signs. The focus is on ground mounted signs, which make the major contribution to streetscape. These policies do not amend existing sign regulations which control the number, size, location, and height of signs and, therefore, the policies should not be enforced as regulations. Rather the policies offer recommendations that can be used to link the Street Classification System to Design Review, specific plan development, and to the Sign Regulation update.

- Signage should provide identification while not detracting from the desired character of the streetscape.
- Signage shall not block driver sight visibility triangles, block routes of travel, or conflict with utilities.
- 14.3 Wall signs are recommended for urban cores.
- Large, centralized identification signs (monument style) positioned at driveway entrances are recommended for suburban cores, commercial limited access, and industrial park areas.
- Unique sign standards are recommended for special character districts, such as an entertainment district or auto sales/service.
- Signs spaced every 100-200 feet so long as they are small and have a low profile (less than 5 feet tall and 25 square feet in area) are recommended for commercial and industrial free access areas. Larger signs could be allowed when spacing is increased.
- Only small, low-profile signs are recommended in residential areas. Apartments and subdivisions, including any allowed non-residential uses, could have identification signs. Only names and house numbers are recommended for single-family homes.
- One entry ground sign is recommended for open space and developed recreational areas may have one entry ground sign.

### STREET CLASSIFICATION GLOSSARY

### Access Control

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- Measures that regulate vehicular movement between streets and abutting land uses. These measures include vertical curbs; frequency, size and location of curb cuts (driveways) and street intersections; raised medians and raised traffic "islands"; prohibiting left and/or right turns into or out of driveways and/or streets; restriction of curb parking; grade separations; frontage roads.
- Limited access streets have a moderate number of driveways. Each driveway would accommodate a high traffic volume. The low number of driveways is made possible by large parcel development or sharing of driveways between parcels.
- Free access streets have frequent driveways. Each driveway accommodates a low traffic volume. Development is usually in small parcels with one driveway per parcel.
- Direct access refers to low density residential development which is oriented toward the street, i.e., faces on the street. Driveways to the buildings are also on the street.
- Indirect access refers to low density residential development which is oriented away from the street, i.e., back or side on the street. Driveways to the buildings are on a local street or frontage road.

### Continuous Left-Turn Lane

A lane in the center of a two-way street set aside for left turn movements by vehicles travelling in either direction; also called a 2-way left turn lane; designated by yellow pavement markings.

### Core

The central focus of an urban village because of the variety of activities occurring in one location: retail, government services, offices, etc. A core tends to have the greatest density and most intense land uses in a village. The location and area of cores are identified in the General Plan.

### Floor to Area Ratio (FAR)

A measure of building density which is the ratio of the square footage of a building to the square footage of the lot (area) the building sits on.

### Frontage Roads

Roads parallel to a freeway, expressway or arterial street, providing fairly frequent access to abutting land but infrequent access to the freeway, expressway or arterial street.

### **Grade Separation**

Vertical separation of intersecting roadways using an overpass or an underpass.

### Level of Service

A measure of traffic congestion experienced on a segment of roadway or at an intersection controlled by traffic signals. Levels range from A - no congestion to F - extreme congestion or gridlock; each level is defined in terms of average speed (over a roadway segment) or average delay (at an intersection).

### Surface Transportation Program

The program of improving major streets (corresponding to the street classifications major arterial and arterial in this document) through the use of the City's share of state gas tax and other highway-user revenues and Federal highway funds.

### Modes (of Travel)

Refers to the different means of transporting people (or goods) from one point to another; single occupant (driver only) vehicle, carpool, vanpool, bus, bicycle, and walk are considered distinct modes of transporting people.





**Queue Jumper** 

Special bus lanes located at a congested intersection to allow buses to bypass automobile traffic. The queue jumper is an additional right hand lane extending approximately 300 feet on either side of the intersection. The lane can be shared between buses and right turning automobiles.

Section Lines

Section lines divide the City into squares of about one square mile in area. Arterial streets in the City generally follow these sections lines. Sections are subdivisions of townships based on the public land surveys dating back to 1785.

Street Environment-Policy Committee An adhoc Committee established by the City Council in June 1989 to review City policy on streets in terms of the General Plan, design standards, and citizen involvement in street planning. The Committee presented a report to the City Council in July 1990 and the Council accepted the report as providing the general direction in which the City should proceed.

Subdivision-Ordinance A City Ordinance which guides the subdivision of land into parcels or lots. The Ordinance regulates street systems, utilities, health requirements, and the provision of public facilities such as schools within a subdivision.

Traffic Signals-Actuated Signals that allow adjustments in timing based on vehicular, pedestrian, or bicyclist demand. Demand is determined from detectors placed in or near the roadway or pedestrian crossing.

Traffic Signals-Coordination Linking traffic signals located along a street or in a gridiron of streets to maximize the efficiency of vehicular traffic movement; also referred to as signal progression; the purpose is to provide continuous movement through successive traffic signals for groups of vehicles referred to as "platoons"; traffic signals may be linked by wire or radio from a central control point, usually governed by a computer.

Traffic Signals-Warranted The Manual on Uniform Traffic Control Devices (MUTCD) lists the criteria are used to determine if a signal should be placed in a given location. There are eight types of warrants: minimum vehicular volume, interruption of continuous traffic, minimum pedestrian volume, school crossings, progressive movement, accident experience, systems, and a combination of warrants.

## STREET CLASSIFICATION SYSTEM

## TECHNICAL SUPPLEMENT

Approved by City Council July 8, 1992

This Technical Supplement is a companion to the Street Classification System: General Policy Guide. The Supplement contains design policies that relate to four street classes. These policies guide all public and private street designs. Specific information on how to use the Street Classification System is found in the General Policy Guide.

## **Keys to using the Technical Supplement:**

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1. The matrix boxes are filled in with the following symbols:

means the policy applies to the street-land use class.

means the policy does not apply to the street-land use class.

**nv** means the street-land use combination is not valid.

**LOCAL** means the feature is present in the streetscape, but not

constant throughout it.

**AT BUS** means the feature is present at bus stops.

**PASS THR** means bus passes through area but does not stop.

2. Policies are numbered to allow direct cross-referencing between the *General Policy Guide* and the *Technical Supplement*.





								LowDensity LowDensity	LowDensity		Industrial		
			Urhan	Suhurhan	Commercial Commercial Med-fright	Commercial		Direct	Indirect	Industrial	Free	Open	Developed
			Core	Core	Access	Access	Resident.	Access	Access	Park	Access	Space	Recreation
Goal 1	Goal 1 Street Design												
G-1.1	A hierarchical classification system should group streets according to differing levels of mobility versus access to abutting land. The design features of each classification should reflect the relative emphasis on these two services.	Major Arterial Arterial Collector Minor Collector	. ■ ■ ■		■ ■ B 2:	2 ■ ■ ■		2 ■ 2 ■	••••		à ■ ■ ■	••••	
Driveways	vays												
] ] .	A single parcel or contiguous parcels comprising one development should be limited to one driveway, unless traffic volume or street frontage warrant additional driveways.	Major Arterial Arterial Collector Minor Collector	2 ■ ■ ■	••••	■ ■ ■ a	2 ■ ■ ■		21 <b>1</b> 21 <b>1</b>	0000		2	0000	
24	Homes with direct access to arterial streets may be allowed to create a circular driveway if the property meets minimum lot requirements.	Major Arterial Arterial Collector Minor Collector	<u> </u>	0000		2	o <b>=</b> o o	2 ■ 2 □	0000	0000	<u> </u>	0000	0000
1.3	The sharing of driveways between adjacent properties and common ingress/egress easements are strongly encouraged.  Existing driveways that are unnecessary or substandard should be removed or upgraded in conjunction with any new onsite or street construction.	Major Arterial Arterial Collector Minor Collector	à ■ □ □		■ ■ □ }	A ■ □ □		2 ■ 3 □	0000	■ ■ □ □	} ■ □ □	0000	
4.1	Large developments should consolidate major driveways at 1/4 or 1/8 mile locations and align them with driveways on the opposite side of the street.	Major Arterial Arterial Collector Minor Collector	≥ ■ □	■■□□	■ ■ □ 2:	à <b>■</b> □ □	■■□□	<u> </u>	0000		≥ ■ □ □	0000	
1.5.1	Driveways to corner lots should be located as far from the intersections as possible.	Major Arterial Arterial Collector Minor Collector	≩ ■ □ □		■ ■ □ ≥	} ■ □ □		2 ■ 3 □	0000		≩ ■ □ □	0000	■■□□

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	Developed Recreation					O <b>B</b> B	0000		0000
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LowDensity	Indirect Access	0000	000				0000		0000
LowDensity LowDensity	Direct Access	à □ à <b>■</b>	2 🖩 2 🖷		2	2 ■ 2 □	<u>a</u> 🗆 a 🗆	2 1 2 -	a - a -
Mad_High	Density Resident.	0088	164 169 164 164				0000		0000
Commercial Commercial Med-High	Free	n 🗆 🔳	2 <b>10 10 10</b>		ž 🗆 🗆 🗆	ли <b>М</b> П	<u> 2</u>	vn <b>(8)</b>	3
Commercial	Limited	□ <b>□ ■</b> }	<b>II II</b> 16		■ □ □ A	□ <b>■ ■</b> 2:		Nu Vu	<u>}</u>
	Suburban Core								<b></b>
	Urban Core	S	2 11 11 11		} 🗆 🗆 🗆	2 <b>11 11</b> []	S 🗆 🗆 🔳	S	≩ □ □ <b>■</b>
		Major Arterial Arterial Collector Minor Collector	Major Arterial Arterial Collector Minor Collector		Major Arterial Arterial Collector Minor Collector	Major Arterial Arterial Collector Minor Collector	Major Arterial Arterial Collector Minor Collector	Major Arterial Arterial Collector Minor Collector	Major Arterial Arterial Collector Minor Collector
	Goal 1 Street Design (continued) Driveways (continued)	Driveways should be located no closer than 200 feet from arterial intersections 100 feet from collector intersections, and 50 feet from local intersection.	Driveways are prohibited within the passenger waiting area of bus stops and should be avoided in bus bays. Driveways should be located so that drivers can see around bus stop improvements, both existing and planned.	18	Raised medians should be used for ultimate improvements.	Raised medians may be used for ultimate improvements.	A raised median may be used under special circumstances that do not adversely affect safety or operational efficiency.	Openings in raised medians are desired at 1/4 mile intervals (1/8 mile minimum spacing) and major driveways should align with those openings.	Openings in raised medians may be located as needed.
	Goal 1 Drivew	1.5.2	1.6	Medians	2.1.1	2.1.2	2.1.3	2.2.1	2.2.2





								LowDensity LowDensity	LowDensity				
100	Soul I Stead Design (continued)		7.1	)	Commercial Commercial Med-High	Commercial	Med-High	Resident.	Resident.	Tachara	Industrial	,	Control
Media	Medians (continued)		Core	Core	Access	Access	Resident.	Access	Access	Park	Access	Space	Recreation
2.3.1	A painted median or two-way left-turn lane may be used as interim or less than ultimate improvements.	Major Arterial Arterial Collector Minor Collector	<u> </u>	■ 0 0 0	■ □ □ ≥	ž 🗆 🗆 🗆		a 🗆 a 🗆		■000	<u> 2</u>	■000	
2.3.2	A painted median or two-way left-turn lane should be used if a raised median is not feasible or desirable.	Major Arterial Arterial Collector Minor Collector	≥ ■ □		_ ■ ■ £	8 ■ ■ □	□■■□	2 ■ 2 □	□■■□	□■■□	3 ■ ■ □	□■■□	□■□
2.3.3	A painted median or two-way left turn lane may be used under special circumstances.	Major Arterial Arterial Collector Minor Collector	<u>2</u> □ □ ■	000		} □ □ <b>■</b>	000	<u> </u>	0000		2 □ □ ■	□□□■	□□□■
Traffic	raffic Signals				¥3								
3.1.1	Traffic signals should be coordinated to optimize traffic progression; 1 and 1/2 mile signal spacing is encouraged to maintain coordination.	Major Arterial Arterial Collector Minor Collector	≥ ■ □		■ ■ □ ¿	≧ ■ □ □		2 ■ 2 □		■■□□	2 ■ □ □		
3.1.2	Traffic signals may be located at intersections with arterials, other collectors or minor collectors, normally occuring at 1 mile and 1/2 mile intervals respectively. Signal coordination is desired to optimize traffic progression.	Major Arterial Arterial Collector Minor Collector	} □ ■ □	■	□ □ ■ ≥	} □ ■ □		<u>}</u> □ <u>}</u> □	□ □ ■ □	_ <b>_</b>	8 □ ■ □		□□■□
3.1.3	Traffic signals may be located at intersections with arterials or with other collectors or minor collectors, normally occuring at 1 mile and 1/2 mile intervals respectively.	Major Arterial Arterial Collector Minor Collector	≥ □ □ ■	□□□■	<u>}</u>	} □ □ ■	□□□■	} □ } ■	□□□■	□□□■	≩ □ □ <b>■</b>	□ □ □ ■	□□□■
3.2	Development sites that generate numerous trips may warrant signals at a location other than the 1 or 1/2 mile point.	Major Arterial Arterial Collector Minor Collector	≥ ■ ■ □		<b>II II I</b>	a <b>s</b> •		} \  \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0000		a <b>m</b> 🗆		

Commercial Commercial Med-High Resident. Resident. Industrial Free Open Developed	Recreation	0000
Open	Space	0000
Industrial Free	Access	<u>}</u>
Industrial	Park	
ow Density Resident. Indirect	Access	0000
LowDensity LowDensity Resident. Resident. Direct Indirect	Access	₹ □ ₹ □
Med-High Density	Resident.	0000
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Urban	Core	e <b>11 11</b>
	Major Arterial Arterial Collector Minor Collector	Major Arterial Arterial Collector Minor Collector
	ld include ed for ed traffic icycle routes ive loop acent to the	y be located sired: intervals but table.
Goal I Street Design (continued)	Actuated traffic signals should include push buttons to signal the need for pedestrians to cross. Actuated traffic signals corresponding with bicycle routes should include bicycle sensitive loop detectors or push buttons adjacent to the curb.	Warranted traffic signals may be located at other intersections; the desired minimum spacing is 1/4 mile intervals but other intervals may be acceptable.
Goal I Street D	3.3 Actuated traffic signals (continued) 3.3 Actuated traffic signals buttons to signals correspond should include bic detectors or push t curb.	3.4 Warran at other minimu other it

								]	)	)	]	]	)
Intersections	ctions												
1.1.4	Intersections with major arterials and arterials should be at 1 mile section lines and with both collector classes at 1/2 mile section lines.	Major Arterial Arterial Collector Minor Collector	§ 🗆 🗆		■ □ □ ≥	ł 🗆 🗆	■ □ □ □	<u> </u>			š 🗆 🗆		
4.1.2	Intersections with major or other arterials should be at one mile section lines and with both collector classes at 1/2 mile section lines.	Major Arterial Arterial Collector Minor Collector	≥ <b>■</b> □ □	0	_ <b>M</b> _ §	a <b>11</b> 🗆 🗆	□■□□	a ■ a □	0 • 0 0		<u>2</u> ■ □ □		□ ■ □ □
4.1.3	Intersections with local streets should be spaced at 1/4 and 1/8 mile section lines.	Major Arterial Arterial Collector Minor Collector	ş 🗌 🚺			A: 🗆 🖪 🖪		8 □ 8 ■			2 <b>- 11 11</b>		<b></b>
4.2.1	4.2.1 Intersections should not be offset.	Major Arterial Arterial Collector Minor Collector	5 <b>10</b> 10		1	vi 👩 🗖 🗌		2 ■ 2 □		-	2 <b>M M</b>		
4.2.2	Intersections within a residential subdivision may be offset to discourage cutthrough traffic.	Major Arterial Arterial Collector Minor Collector	§ [] []	0000		å 🗆 🗆	<b>-</b>	∄ □ ₽ <b>■</b>		0000	ž 🗆 🗆	0000	0000



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Goal 1	Goal 1 Street Design (continued) Intersections (continued)		Urban	Suburban	Commercial Commercial Med-High Limited Free Density Access Access Resident.	Commercial Free Access		LowDensity LowDensity Resident. Resident. Direct Indirect Access Access	LowDensity Resident. Indirect Access	Industrial Park	Industrial Free Access	Open Space	Developed Recreation
4.3.1	ED (LOS D) should be gnalized intersections and p.m. peak hours. LOS ved by increasing street reducing vehicular	Major Arterial Arterial Collector Minor Collector	à ■ ■ □		■■■ 6	} ■ ■ □		2 ■ 2 □			2 ■ □		
4.3.2	Issues of transportation performance (LOS) may need to be balanced with issues of urban form and land use functionality.	Major Arterial Arterial Collector Minor Collector	2 ■ ■ □	0000	£	<u> </u>	0000	}	0000	0000	ž 🗆 🗆		0000
4.	Intersections may be expanded to include additional turning and through lanes to relieve congestion and improve intersection operation, so long as the intersection will accommodate pedestrians and bicyclists.	Major Arterial Arterial Collector Minor Collector	2 ■ □		■ ■ £	2 ■ ■ □		2 ■ 2 □			à ■ ■ □		
4.5	Intersections with major arterial and arterial streets should be at half-mile points, even though the street alignment may be curvilinear.	Major Arterial Arterial Collector Minor Collector	2 □ ■ ■	□□■■	□ □ ■ ≩	≧ □ ■ ■	□□■■	2 □ 2 ■	□□■■	□□■■	2 □ ■ ■	□ □ ■ ■	□□■■
Street	Street Alignment												
5.1.1	Alignment should be straight unless topography dictates curves in certain sections.	Major Arterial Arterial Collector Minor Collector	2 ■ □ □		■ ■ □ £	2 ■ □ □		2 ■ 3 □			à ■ □ □	0000	0000
5.1.2	Alignment may be straight or curvilinear.	Major Arterial Arterial Collector Minor Collector	2 □ ■ ■	■■	□ □ ■ ≥	2 □ ■ ■	□ □ ■ ■	2 □ 3 ■	□□■■	□□■■	≩ □ ■ ■	□ □ ■ ■	■■

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Major Arterial Arterial Collector Minor Collector

Alignment should be straight (preferred) but may be curvilinear.

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5 0	Goal I Street Design (continued)		Urban	Suburban	Limited	Free	Density	Direct	Indirect	Industrial	Free	Open	Developed
7	street Angument (continued)	And the second s	Core	Core	Access	Access	Resident.	Access	Access	Park	Access	Space	Recreation
5.3		Major Arterial	νu	- 50	80	Ži.	90	NI.	50	50	VI.	09	50
	may be increased or decreased in specific	Arterial	45	50	20	50	50	90	50	20	50	09	50
	locations based on unique land use or	Collector	40	45	45	45	40	à	40	45	45	45	40
	traffic conditions. Posted speed limits are typically 5-10 mph less than design speed.	Minor Collector	35	40	NI .	04	35	35	35	40	40	40	35
O	On Street Parking												
9	6.1.1 On-street parking is not desired.	Major Arterial	SI SI		•	'n		a			ì		
		Arterial		=		=							
		Collector						'n					
I		Minor Collector			'n								
9	6.1.2 On-street parking is usually not desired.	Major Arterial	ŽI.			Λu		n			2		
		Arterial											
		Collector Minor Collector			<b>II</b>			<u>a</u> [					<b>=</b> [
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6.2	Parking is normally permitted, but may be restricted to accommodate transit stops,	Major Arterial Arterial	<u> </u>			a 🗆		à 🗆			≥ □		
	on-street bicycle lanes, added lanes at	Collector						N.					] 🗆
1	intersections, or other operational requirements. Removal of parking to increase capacity should be avoided.	Minor Collector	•		vi	-		•		•		•	•
6.3	On-street parking may be allowed downtown. Major Arterial	.Major Arterial	ŽI.			2	С	Ę			i		
		Arterial Collector						; 🗆 }					) () ()
ı		Minor Collector			] 2		) []		] []	) []			] []



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							1	LowDensity LowDensity	LowDensity				
					Commercial Commercial Med-High	ommercial.		Resident.	Resident.		Industrial		
			Urban	Suburban	Limited	Free	Density	Direct	Indirect	Industrial Park	Free	Open	Developed Recreation
			Core	Core	Access	Access	Residelli.	Access	Access	Lain	Vecess	Space	Topicalion
Goal 2	Goal 2 Alternative Travel Modes												
G-2.1		Major Arterial Arterial	2 ■			a <b>=</b>		2 <b>=</b>			A <b>I</b>		
	the City's street system to reduce traffic congestion, improve air quality, conserve energy, and provide better transportation for those who choose not to or are unable to drive.	Collector Minor Collector		• •	<b>■</b> 2:	••		2 ■	•		•	• •	•
Pedest	Pedestrian Provision												
7.1	The sidewalk should be set back 8 feet (minimum) from the curb. Setback may be: (1) reduced to 5 ft. where trees are planted between the sidewalk and the private property line or (2) increased in bus shelter area.	Major Arterial : Arterial Collector Minor Collector	ž 🗆 🗆 🗆		<b>■ ■ ■</b> At	A ■ ■ □		2 ■ 2 □			A ■ ■ □		□■■□
0 7.2.1	The minimum width of the sidewalk if setback should be: (in feet)	Major Arterial Arterial Collector Minor Collector	<u>}</u> 🗆 🗆 🗆	8 8 8 🗆	8 5 5 5	§ ~ ~ □	~ ~ ~ _	2 × E	s s c	5 0	n 5 □	s s c	□∞∞□
7.2.2	The minimum width of the sidewalk if adjacent to curb should be: (in feet)	Major Arterial Arterial Collector Minor Collector	2 & & &	0009		\$ \  \  \cdot \	000%	3	000%		# 5	0008	0 0 0 9
7.3.1	Sidewalk pavement may be concrete.	Major Arterial Arterial Collector Minor Collector	21 ■ ■ ■		■ ■ ava	ли <b>Ш Ш Ш</b>		vi 🔳 vi			л 🔳 🖿 🗖	0000	
7.3.2	Sidewalk pavement may be a special hard- surface material.	Major Arterial Arterial Collector Minor Collector	a <b>     </b>			<u>}</u> 🗆 🗆		a - a -	0000	0000	<u> </u>		

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Goal	Goal 2 Aiternative Travel Modes (continued)		Urban	Suburban	Commercial Commercial Med-High Limited Free Density	Commercial	Med-High Density	Resident. Direct	Resident. Indirect	Industrial	Industrial Free	Open	Developed	
Pedes	Pedestrian Provision (continued)		Core	Core	Access	Access	Resident.	Access	Access	Park	Access	Space	Recreation	
7.3.3		Major Arterial Arterial	à 🗆	00		à 🗆	00	2 <u> </u>			3	m m		
	decomposed granite.	Collector Minor Collector		00	_ s	00		<u> </u>		00		11 11	00	
7.4.1	Sidewalk alignment should be straight if the sidewalk provides a direct walking route or accommodates large numbers of pedestrians.	Major Arterial Arterial Collector Minor Collector	21 11 11	N 14 16 16	<b>10 10</b> 2	2		vn vn			A <b>II II II</b>			ı
7.4.2	Sidewalk alignment may meander to provide Major Arterial a visually interesting, recreational Arterial walking route. Meanders should be used Collector where natural topography lends itself or Minor Collect to imitate natural terrain. Flexibility in sidewalk setback is allowed.	Major Arterial Arterial Collector Minor Collector	è 🗆 🗆 .	000	<b>.</b>	ž 🗆 🗆	000	ž 🗆 ž 🗆			<u> </u>			1
S:	Appropriate consideration should be given to providing crossings for pedestrians.	Major Arterial Arterial Collector Minor Collector	2		M M W VI	2: 🔳 🔳		vn vn			2 11 11 11			r
Bicycl	Bicycle Provision													
8.1.1	Bike lanes are desired.	Major Arterial Arterial Collector Minor Collector	≧ □ ■ □	□□■□	_	à □ ■ □		<u> </u>	00 • 0		} □ ■ □	00 • 0		
8.1.2	Streets should be designated as bike routes. Bicycle lanes are desired on higher volume streets or streets anticipated to have heavy bicycle demand.	Major Arterial Arterial Collector Minor Collector	≩ □ □ ■		a	a 🗆 🗖	000	2: □ 2: ■	000		ê □ □ ■	000		
8.2.1	A 14' wide curb lane is desired as the standard.	Major Arterial Arterial Collector Minor Collector	a ■ □ □		■ ■ □ ≥	2 ■ □ □		2 ■ 2 □			2 ■ □ □			



								LowDensity LowDensity	LowDensity					
Goal 2	Goal 2 Alternative Travel Modes (continued)		Urban	Suburban	Commercial Commercial Med-High Limited Free Density	Sommercial Free	Med-High Density	Resident. Direct	Resident. Indirect	Industrial	Industrial Free	Open	Developed	
Bicycle	Bicycle Provision (continued)	200.5	Core	Core	Access	Access	Resident.	Access	Access	Park	Access	Space	Recreation	ı
8.2.2	The street may be striped for a bike lane	Major Anerial	И			ě		ď			'n			
	where demand warrants it or for bike	Arterial			=	-	•	-	•			<b>=</b> (	<b>=</b> (	
	route continuity.	Collector Minor Collector			_		00	à 🗆	00					ì
Bus System	stem													1
9.1.1	The standard bus stop spacing is every:	Major Arterial	š	1/8-1/4	1/4	NI.	1/8-1/4	ΛU	1/4	1/4	ă	PASSTHR	1/4	
	(fraction of 1 mile)	Anerial	1/8-1/4	1/4	1/4	1/4	1/8-1/4	1/4	1/4	1/4	1,4	PASSTHR	1,4	
		Collector Minor Collector			<u> </u>	00	00	a 🗆				] [		1
9.1.2	Bus service may be provided with standard	Major Arterial	'n			VI.	0	VI.			A			
	bus stop spacing every: (fraction of 1	Arterial							<u> </u>	o ;	o :	- CTTT2		
	mile)	Collector Minor Collector	1/8-1/4	<u> </u>	1/4 n	1/4	1/8-1/4	à 🗆	1 <sub>4</sub> □	4 🗆	<b>1</b> /4	PASSI HK	1/4	3
0 1 3	If his service is provided, standard hus	Major Arterial	, NI			NI.		NI NI			VII			
10	stop spacing is every: (fraction of 1	Arterial												
7	mile)	Collector Minor Collector	□ 1/8-1/4	□ <b>½</b>	_ F	□ ½	□ 1/t	n 1/4	□ <b>½</b>	□ <b>½</b>	□ 4/1	1/4	1/4	·
9.2	Bus lanes on streets should be considered	Major Arterial	FI	•		NI.	•	ă	-	=	ا يد	•		
	when bus volumes reach 30-40 per hour.	Arterial						<b>a</b>			<b>-</b> 0			
		Minor Collector		ם ו	NI NI									Ĭ
9.3.1	Queue jumpers are desired at congested	Major Arterial	2 (		<b>I</b>	3 [	<b>I</b>	] 5	<b>=</b> [	<b>=</b> 0	<u>a</u> C	<b>I</b>		
	intersections.	Arterial Collector Minor Collector			]	000				000	000		0 0	
9.3.2	Oueue jumpers may be used at	Major Arterial	S			à		'n			NI.			
		Arterial Collector Minor Collector			■ □ ≧			■ 2 □			■ □ □			
	[c]	Maior Autorial	i			ì	•	ş		•	à	-	=	ľ
9.4.1		Arterial						i 🗆 🛔				00		
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proved City presignated as ntial should publity and opp necessary to co-of-way or eases.		
Based on an approved City plan for rail transit, streets designated as having future rail potential should provide maximum flexibility and opportunity for rail. It may be necessary to obtain additional right-of-way or easements along these streets.		
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	communication (communication)		Urban	Suburban	Limited	Free	Density	Direct	Indirect	Industrial	Free	Open	Developed
Mult-	Mult-Use Recreational Trail		Core	Core	Access	Access	Resident.	Access	Access	Park	Access	Space	Recreation
Ξ	A MURT may be provided.	Major Arterial Arterial Collector	≥ <b>■ ■</b> 1		•••	a <b>= =</b> 1		nu III			v		
11.2	A MURT should be of a natural surface.	Minor Collector Major Arterial Arterial Collector	a <b>= =</b> 1		₽ ■ ■	2 <b>2 1</b>		<b>■</b> 2 ■ 2 ■			2 ■ ■ 1		
11.3	A grade separated crossing may be provided.	Major Arterial Arterial Collector Minor Collector	4 ■ ■ ■		2 2	2		vı ■ vı ■			2		
11.4	A trailhead may be required.	Major Arterial Arterial Collector Minor Collector	<u> </u>		}	ž 🗆 🗆	0000	š 🗆 š 🗆	0000	0000	3		••••
11.5	Exercise course may be combined with trail system.	Major Arterial Arterial Collector Minor Collector	2	0000	£	ē	0000	₽ □ ₽ □	0000	0000	<u> 2</u>	□□■■	

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Goal 3 Plants	Goal 3 Streetscape (continued) Plants		Urban Core	Suburban	Commercial Commercial Med-High Limited Free Density Access Access Resident.	Commercial Free Access		LowDensity LowDensity Resident. Resident. Direct Indirect Access Access	LowDensity Resident. Indirect Access	Industrial Park	Industrial Free Access	Open Space	Developed Recreation
12.1	Plants should provide a variety of M different functions: climate and glare A control, aesthetics, architectural C enhancement, erosion protection, and M delineation of space.	Major Arterial Arterial Collector Minor Collector	<b>≧</b> ■ ■	••••	<b>.</b>	2	••••	2 = 2 =			a ■ ■ ■		
12.2	Plants should be low water using as indicated in Appendix 1. Plant design A themes should be mediterranean ( C emphasizing a green "oasis"), sonoran ( M desert region), or seasonal colors.	Major Arterial Arterial Collector Minor Collector	2 ■ ■ ■		■ ■ ■ ≥	≥ ■ ■		2. ■ 2: ■			<b>₽ ■ ■</b>		••••
12.3	Cultural, environmental, and historical N considerations should be acknowledged A when selecting a plant palette.	Major Arterial Arterial Collector Minor Collector	2 <b>4 4 4</b>	••••	<b>II II</b> A	2		A ■ A ■	••••		A <b>= =</b>		
] 12.4	Plant designs should account for the mature size of plants, considering A conflicts with sight visibility triangles C of all modes and conflicts with utilities.	Major Arterial Arterial Collector Minor Collector	2	••••	<b>II II</b> A	2: <b>     </b>		N ■ N ■			2: <b>= =</b>		••••
12.5	Plants should be able to thrive in a roadside environment, with its high A levels of reflected heat and glare as C well as vehicle fumes.	Major Arterial Arterial Collector Minor Collector	2		<b>III</b>	2		2			2 -		••••
12.6	Plants should be easy to maintain and A replace.	Major Arterial Arterial Collector Minor Collector	à <b>= =</b> =		н н н	a ■ ■ ■		2 ■ 2 ■			A <b>I</b> I		
12.7	Existing mature trees should be retained in roadway design when feasible. If trees A must be removed, every attempt should be C made to transplant them within the project site.	Major Arterial Arterial Collector Minor Collector	2		H H A	≧ <b>■ ■ ■</b>		2 ■ 2 ■			a <b>m m</b>		



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Goal 3	Goal 3 Streetscape (continued)		Urban	Suburban	Commercial Commercial Med-High Limited Free Density	Commercial Free	Med-High Density	Resident. Direct	Resident. Indirect	Industrial	Free	Open	Developed
Plants (	Plants (continued)	1000	Core	Core	Access	Access	Resident.	Access	Access	Park	Access	Space	Worldano.
12.16	Shrubs and groundcovers are recommended Major Arterial to direct pedestrians and/or provide Arterial seasonal color.  Minor Collector	Major Arterial Arterial Collector Minor Collector	à 🗆 🗆 🗆			2 <b>2 2</b>	0000	2 ■ 2 ■		0000	ž 🗆 🗆 🗆	0000	
12.17	Repetition should be used in plant compositions to unify unrelated elements.	Major Arterial Arterial Collector Minor Collector	<u>a</u>		<b>■ ■ ■</b> A	2 -	0000	2	0000	0000	<u> </u>	0000	0000
12.18	Access points and corners should be enhanced by using form, color and texture.	Major Arterial Arterial Collector Minor Collector	à	0000	<b>■ ■ </b> ≥	<u> 2</u>		<u> </u>	0000	0000	<u> </u>	0000	■□□■
12.19	Indigenous plants should be used to recreate the natural landscape.	Major Arterial Arterial Collector Minor Collector	<u> </u>	0000		<u> </u>	0000	à 🗆 à 🗆	0000	0000	<u>2</u>		
12.20	Good views should be created or maintained.	Major Arterial Arterial Collector Minor Collector	<u>}</u>	0000		<u> </u>	0000	<u> </u>	0000	0000	<u> </u>	••••	••••
Street	Streetscape Amenities												
13.1	The design and location of streetscape amenities should avoid conflicts with driver visibility triangles and utilities.	Major Arterial Arterial Collector Minor Collector	2 2 2 2		■ ■ a	2 ■ ■ ■		n ■ n ■			A: ■ ■ ■		
13.2	Lighting should accommodate night use of streets and promote security while complying with the City's Dark Sky	Major Arterial Arterial Collector	2 -			va 🔳 🖿		4 ■ 4 ■	••••	••••	2 2 11 11		

Minor Collector Collector

> Ordinance. Streetscape areas which are used by pedestrians at night should be well lit.

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Goal 3 Streetscape (continued) Streetscape Amenities (continued)	13.3.1 Lighting fixtures should be standard.	Lighting fixtures should be of a distinct type or color to contribute to a unique character.	Pedestrian furniture (benches, planter seating, trash containers, drinking fountains) should embellish pedestrian gathering places. It should be compatible with the streetscape theme, durable, easily maintained, and easily replaced.	As pedestrian furniture is both in the public right-of-way and on private property, the style and placement of furniture should be coordinated on public and private property.	Pedestrian furniture should avoid blocking travel on the sidewalk.	Benches and planters should provide comfortable and adequate seating.	Trash containers should be large enough in size and quantity to discourage littering.
Goal 3 Streetsc	13.3.1	13.3.2	13.4	13.5	13.6	13.7	13.8



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				Commercial Commercial Med-High	Commercial		LowDensity LowDensity Resident. Resident.	Low Density Resident.		Industrial		
(p		Urban	Suburban	Limited	Free	Density	Direct	Indirect	Industrial	Free	Open	Developed
Streetscape Amenities (continued)		Core	Core	Access	Access	Resident.	Access	Access	Park	Access	Space	Recreation
Transportation furniture (bicycle parking, bus shelters, bus benches, pedestrian channelization features-railings, bollards) should accommodate and encourage the use of alternative travel modes, without blocking sidewalk travel. The placement of transportation furniture should be coordinated with plans for alternative travel modes along particular streets.	Major Arterial Arterial Collector Minor Collector	A ■ ■ ■		■ ■ ■ At	2 ■ ■ ■	****	2 ■ 2 ■			<b>₽ ■ ■</b>	0000	
Bus passenger waiting areas should be placed between the sidewalk and the street where adequate space exists. Inadequate space or driveway proximity may necessitate placing the passenger shelter behind the sidewalk.	Major Arterial Arterial Collector Minor Collector	a <b>m m</b>	****	<b>■ ■ ■</b> à	2 ■ ■ ■		2 ■ 2 ■			n ■ ■ ■	0000	
Canopies (arcades, roof overhangs, awnings, trellises, trees, vines) should shade pedestrian places, heavily travelled pedestrian routes, and bus stops to accommodate their use during hotweather months.	Major Arterial Arterial Collector Minor Collector	₽ ■ ■	LOCAL LOCAL LOCAL LOCAL	LOCAL LOCAL LOCAL no	LOCAL LOCAL LOCAL LOCAL	LOCAL LOCAL LOCAL LOCAL	AT BUS	AT BUS AT BUS AT BUS AT BUS	AT BUS AT BUS AT BUS AT BUS	AT BUS AT BUS AT BUS	0000	LOCAL LOCAL LOCAL LOCAL
Focal points (clocks, sculpture, planters) should give a sense of place and identity to important locations. Most focal points will not be in the street right-of-way, but some, usually smaller, focal points will be.	Major Arterial Arterial Collector Minor Collector	LOCAL LOCAL LOCAL	LOCAL LOCAL LOCAL LOCAL	ž	3	0000	<u> </u>	0000		<u>2</u>	0000	LOCAL
Services furniture (information kiosks, display cases, newsracks, mailboxes, phone booths) may be provided in heavily used pedestrian areas. Services furniture should not block sidewalk travel, or create a visual eyesore.	Major Arterial Arterial Collector Minor Collector	2 ■ ■ ■	****	■ ■ ■ å	à ■ ■ ■	••••	<u> </u>	0000		à ■ ■ ■	0000	

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,	Major Arterial Arterial Collector Minor Collector	Major Arterial Arterial Collector Minor Collector	Major Arterial Arterial Collector Minor Collector	Major Arterial Arterial Collector Minor Collector	Major Arterial Arterial Collector Minor Collector	or Major Arterial Arterial Collector Minor Collector
Goal 3 Streetscape (continued) Streetscape Amenities (continued)	Utility (fre hydrants, traffic signal boxes, power poles, transformers, underground cables) design should minimize the visual presence of utilities within the streetscape. Utility corridors should be established in the streetscape to avoid conflicts between utilities and sidewalks or planting strips.	Signage should provide identification while not detracting from the desired character of the streetscape.	Signage shall not block driver sight visibility triangles, block routes of travel, or conflict with utilities.	Wall signs are recommended.	A large, centralized ground sign is recommended for center and tenant identification.	Unique sign standards are recommended for Major Arterial special character districts, such as Arterial entertainment district, or auto sales/ Collector service.
Goal 3 Streetsc	13.14	Signage 14.1	14.2	14.3	14.4	14.5



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					Commercial	Commercial	Commercial Commercial Med-High	Resident. Resident.	Resident.		Industrial		
Gos	Goal 3 Streetscape (continued)		Urban	Suburban	Limited	Free	Density	Direct	Indirect	Industrial	Free	Open	Developed
Sign	Signage (continued)		Core	Core	Access	Access	Resident.	Access	Access	Park	Access	Space	Kecreation
14.6	Signs spaced every 100-200 feet are Major A recommended so long as they are small and Arterial have a low profile (less than 5 feet tall Collecto and 25 square feet in area). Larger Minor C signs could be allowed when spacing is increased.	Major Arterial Arterial Collector Minor Collector	à 🗆 🗆 🗆	0000		a <b>= =</b>		3 🗆 3	0000	0000	A <b>II II</b>	0000	0000
14.7		Major Arterial Arterial Collector Minor Collector	\$	0000		<u> 2</u>	••••	a <b>=</b> a <b>=</b>	••••	0000	<u>}</u>	0000	0000
52	14.8 One entry ground sign is recommended.	Major Arterial Arterial Collector Minor Collector	à 🗆 🗆 🗆	0000		ž 🗆 🗆	0000	B	0000	0000	<u> 2</u>		• • • •

