Major Roadways Plan

2005

City of Yuma

April 20, 2005

R2005-41

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Section 1

GUIDING POLICY

It is the policy of the City of Yuma to provide a system of roadways, sidewalks and paths for the safe and efficient movement of people, goods and hazardous cargo within the City and areas under the control of the City through accomplishment of the following objectives:

1. Define and implement a cohesive roadway functional classification system to guide roadway development and design. The classification system should define the intended traffic mobility and land access functions for each roadway classification.

2. Define and implement a system of special roadway functions to guide roadway development and design. These functions should include:

    - Gateway routes
    - Scenic/historic routes
    - Truck routes
    - Hazardous cargo routes
    - Pedestrian paths and bikeways

The *Major Roadways Plan – 2005* shall be consistent with the intent of the Arizona Revised Statutes and the *City of Yuma 2002 General Plan (General Plan).*

All the Goals, Objectives and Policies of the General Plan have equal importance but some may have more relevance when reviewing different aspects of development. The following guidelines have come to the fore when developing this Major Roadways Plan.

GOAL: PROVIDE A SAFE AND EFFICIENT SYSTEM FOR TRANSPORTING PERSONS, GOODS, AND HAZARDOUS MATERIALS BY WAY OF AUTOMOBILE, TRUCK, RAIL, AIR, OR PIPELINE MODES.

Objective: Develop and maintain a transportation network that provides reasonable and efficient access throughout the community and supports existing and expanding economic activities.

Policy: The City shall continue to develop a system of streets that meet the transportation needs of neighborhoods, the City, and the region.

Policy: The City shall program its street network extensions and improvements based on the development provisions of the Land Use Element.

Policy: The City shall maintain a hierarchy of principal and minor arterials based principally upon section and mid-section lines.

The planning area boundaries of this *Plan* correspond to the Focus Area boundaries shown on Map 2-1 of the *Land Use Element*, *City of Yuma 2002 General Plan*. The planning area boundaries include incorporated and unincorporated territory from Avenue 10E to one-half mile west of Somerton Avenue (Avenue F) and from the Colorado and Gila Rivers to the Barry M. Goldwater Range and City 80th Street (County 17th Street). Development beyond these boundaries is not expected to become clear for the life of this plan.

The *Major Roadways Plan – 2005* shall be based on the full build-out of the area in accordance with the *Joint Land Use Plan* adopted by the City in September 1996 to a population of about a quarter of a million people. In addition, the *Major Roadways Plan – 2005* shall be closely coordinated with the following:

- *Regional Transportation Plan* of the Yuma Metropolitan Planning Organization (Reference 3); and
- *Bicycle Plan* of the City (Reference 4).

Existing roadways shall not be modified simply to conform to the requirements of this plan, but shall be brought into conformance with this plan to the extent practical whenever changes are necessitated to accommodate traffic or when major work is being performed on the roadways and it would be advantageous and reasonable to bring them into conformance with this plan. Roadways in annexed areas will be annexed as is unless other written agreements bind the City or others to roadway improvements upon or subsequent to annexation.

City staff is directed to acquire or reserve necessary rights-of-way to implement this plan as part of the following processes:

- Rezoning review and approval process
- Plat review and approval process
- Conditional use permit review and approval process
- Development review and approval process (reserve only)
- Plan review and approval process (reserve only)

Exceptions to this directive shall only be permitted with the written approval of the City Engineer, the City's Planning and Zoning Commission or the City Council in cases where implementing this plan *is not practical*. Requests for exceptions based on previously permitted designs for earlier phases of subdivisions and other projects that do not conform to current standards or policies shall be denied.

Section 2
ROADWAY FUNCTIONAL CLASSIFICATION PLAN

This section of the *Major Roadways Plan – 2005* sets forth the general functional classification plan for the City of Yuma. Requirements associated with each roadway classification are also set forth.

This plan specifies the amount of right-of-way required for each roadway classification and the features to be provided by each classification except as noted for constrained roadways. These right-of-ways will be determined on a case-by-case basis. The plan does not mandate specific design details. Such design details are set forth in the City's design standards and construction details as duly adopted by resolution of the City Council and modified as needed. Such design standards and construction details are hereby made a part of this plan by reference.

It is recognized that reduced roadway features and construction requirements are applicable in areas planned for Suburban Density Residential Land Use or Rural Density Residential Land Use as defined in the City's *General Plan*; however, required rights-of-way shall conform to this ***Major*** *Roadways Plan – 2005*. Roadways shall be constructed to conform to the City's design and construction standards; however, until such time as the City adopts design and construction standards for arterials, collectors and local residential streets in areas planned for Suburban Density Residential Land Use or Rural Density Residential Land Use, the requirements of the City's *Growth and Development Policy* (Reference 7) shall apply in these areas. With regard to "residential streets," "residential collector streets," and "arterial streets – residential," as specified in Exhibit A of Resolution R99-30 (Reference 7), Suburban Areas defined in said Exhibit A shall be interpreted to mean areas planned for Suburban Density Residential Land Use and Rural Areas defined in said Exhibit A shall be interpreted to mean areas planned for Rural Density Residential Land Use. Lot size shall *not* be the determining factor.

Any street not otherwise classified in this plan is a local street, except that additional minor arterials and collectors in new developments may be designated by the City as set forth in Section 5.

With the exception of additional arterials and collectors in new developments that may be required by the City, the roadways classified under this plan are listed in Appendix A and depicted on Map 1 in Appendix B. Section 5 notes additional requirements for roadways in new developments.

Map 6 in Appendix D shows how the roadways defined in this *Major Roadways Plan – 2005* at the eastern planning area boundary connect to those roadways defined in the Yuma Metropolitan Planning Organization's *2000 – 2023 Regional Transportation Plan* dated December 2000.

The roadway classifications and general locations shown in Appendix A and on Map 1 in Appendix B are set by City policy. Any changes must be approved as amendments to the *General Plan*.

ROADWAY CHARACTERISTICS AND FEATURES TO BE PROVIDED

Following are features to be provided on roadways in each of the functional classifications. Where roadways of different classifications intersect, the requirements for the higher classification of roadway shall apply to the intersection (interstates/freeways are highest and local streets are lowest).

Principal Arterials

In general conformance with the Arizona Department of Transportation's ***Arizona Functional Classification Guidelines***, 1993, there are three types of principal arterials with the following purposes and characteristics:

1. Interstates;
2. other freeways and expressways; and
3. other principal arterials with limited access.

- *The primary function of these roads is to provide the greatest mobility for through movement. Any direct access to adjacent land is purely incidental.*
- The higher mobility associated with these facilities is associated with higher posted speed limits.
- Partially or fully controlled access facilities are generally principal arterials.
- In larger urban areas the spacing of principal arterials may vary from less than one mile in the highly developed central business areas to five or more miles in the sparsely developed urban fringes.
- Serve the highest traffic volume generators.
- Carry trips of longer length (the principal arterial system distributes traffic to the greatest geographic area.).
- Serve the major centers of activity of a metropolitan area.
- Provide connections between central business districts, between major inner city communities and major suburban centers.
- Carry the major portion of traffic seeking to bypass the central city.
- Frequently carry important intra-urban and inter-city bus routes.

Interstates and Freeways

I-8 is Yuma's only Interstate highway and is likely to remain so. The planned Area Service Highway (ASH) is to be Yuma's only freeway and is likely to remain so. In the event that the Arizona Department of Transportation decides to build additional freeways in Yuma, it will determine the features they should incorporate. Map 1 in Appendix B shows I-8, the ASH and associated existing and planned interchanges.

The East Yuma Freeway shall have a minimum of four travel lanes (two in each direction) with shoulders on both sides of each roadway, shall be median-divided, and shall have no access from local streets or private property, except at grade-separated interchanges. The minimum right-of-way for the East Yuma Freeway shall be 222 feet.

With the exception of the 40th Street interchange, grade-separated interchanges shall generally not be closer than one mile measured from the centerlines of the intersecting roadways. Where appropriate to serve traffic, interchanges with other roadways may be combined to properly serve all required traffic movements.

Pedestrians shall not be permitted access to the East Yuma Freeway except in emergencies unless appropriate paths have been provided. Pedestrians shall only be permitted to cross expressways at grade separations. The rights-of-way shall be designed to control pedestrian crossings.

Pedestrian paths will generally not be provided unless deemed necessary by the City.

Expressways

Expressways shall have a minimum of four travel lanes (two in each direction), shall have shoulders at least on the outsides, shall be median-divided, and shall have full or partial control of access from local streets and private property. Expressways may have frontage roads that serve as collectors and local streets. They may have signal-controlled intersections or intersections controlled by stop signs (yield signs for channelized right-turns) on the intersecting roads. Major road crossings may be grade-separated with or without interchanges.

Grade-separated interchanges shall generally not be closer than one mile measured from the centerlines of the intersecting roadways. Except where existing agreements require otherwise, signalized intersections shall generally not be closer together than one mile.

Where separate right-turn lanes are required at intersections, they shall generally incorporate channelizing islands conforming to City standards for the benefit of pedestrians and traffic signal pole placement.

Turning lanes shall be recessed (by construction or pavement markings) to guide through traffic around them for safety.

Unless otherwise permitted by the City for major traffic generators, driveways shall *not* be permitted on expressways. In no case shall more than one driveway be allowed on an expressway from a given property or from adjacent properties under common or related ownership, development or subdivision. The City will only permit driveways if they are deemed to be in the overall public interest.

Median breaks shall be provided only at intersections with expressways and principal and minor arterials. Median openings will *not* be permitted for collectors, local streets or driveways unless approved by the City as being in the overall public interest.

Provisions shall be made on new expressways and, to the extent practical, on existing expressways, for safely accommodating left turns and U-turns. Where these cannot be safely accommodated, they shall be prohibited. To the extent practical, left turns and U-turns shall be made indirectly so as not to require extra traffic signal phases. Where left turns and U-turns

must cross the median from the expressway roadways, special turning lanes recessed in a median (physical or marked) to shade them from through traffic shall be provided.

Where the spacing between intersections is long, provision shall also be made for intermediate U-turns by emergency vehicles.

Pedestrians shall not be permitted to walk along expressways except in emergencies unless appropriate paths or sidewalks have been provided. Pedestrians shall only be permitted to cross expressways at signalized intersections and grade separations. The rights-of-way shall be designed to control pedestrian and vehicular crossings.

Sidewalks will generally not be provided unless deemed necessary by the City.

Map 1 in Appendix B shows associated existing and planned interchanges and at-grade full intersections. At-grade full intersections will only be permitted where shown to protect the function of the expressways. Medians will be used at all other intersections to prevent left-turning and through movements from the intersecting roadways. In general, left-turning movements from the expressways into the intersecting roadways will also be prevented, but may be permitted at the City's discretion.

Principal Arterials

Two types of principal arterials are hereby defined for the City of Yuma: normal principal arterials (simply called principal arterials) and constrained principal arterials. Normal principal arterials are built on new alignments or are lateral expansions of existing roadways where the land use will permit the full cross-section to be built. Constrained principal arterials are existing roadways where such full build-out would not be in the overall public interest. There may be cases where development to the requirements of the constrained principal arterial will not be possible. In such cases, as approved by the City, the absolute minimum right-of-way requirements specified herein shall be permitted.

Principal arterials shall have a minimum of six travel lanes (three in each direction) and may have full or partial control of access from private property. They may have signal-controlled intersections or intersections controlled by stop signs (yield signs for channelized right-turns) on the intersecting roads. Where left turns and U-turns must cross the median from the principal arterial roadways, special turning lanes recessed in a median (physical or marked) to shade them from through traffic shall be provided. Major road crossings may be grade-separated with or without interchanges.

Where separate right-turn lanes are required at intersections, they shall generally incorporate channelizing islands conforming to City standards for the benefit of pedestrians and traffic signal pole placement.

Turning lanes shall be recessed (by construction or pavement markings) to guide through traffic around them for safety.

Unless otherwise permitted by the City, no more than one driveway will be allowed on a principal arterial from a given property or from adjacent properties under common or related ownership, development or subdivision. The City will only permit additional driveways if they are deemed to be in the overall public interest. No new residential driveways shall be permitted on principal arterials.

Offset intersections shall not be created. Intersecting streets shall line up across the arterial. Closely space T-intersections shall generally not be allowed. Driveways to major traffic generators, and other driveways where feasible, shall line up with intersecting streets to the extent possible.

Sidewalks shall be provided on both sides of the roadway.

Bicycle lanes shall be provided on both sides of the street. Where used, bicycle lanes must be approximately six feet (6') wide.

Normal Principal Arterials

Normal principal arterials shall be median-divided. Median breaks shall be provided only at intersections with expressways, principal arterials, minor arterials and collectors. Median openings will *not* be permitted for local roads or driveways unless approved by the City. Special median openings may be permitted to accommodate U-turning vehicles as deemed appropriate by the City.

Provisions shall be made on principal arterials for safely accommodating left turns and U-turns in accordance with City design standards. U-turns shall also be accommodated at locations other than traffic signals so as not to adversely affect the capacity of signalized intersections. Where these cannot be safely accommodated, they shall be prohibited. To the extent practical, left turns and U-turns at signalized intersections shall be made indirectly so as not to require extra traffic signal phases.

Where the spacing between intersections is long, provision shall also be made for intermediate U-turns by emergency vehicles.

Constrained Principal Arterials

Constrained principal arterials shall have a two-way left-turn lane. They may be median-divided in some segments or at specific locations for improved traffic safety, and may have partial control of access from private property.

No on-street bike lanes will be provided where the absolute minimum cross-section is used. Where bicycle provisions cannot be safely provided, an alternative bike route shall be signed along other roadways serving the same destinations.

Minor Arterials

In general conformance with the Arizona Department of Transportation's ***Arizona Functional Classification Guidelines***, 1993, minor arterials have the following purposes and characteristics:

- Provide trips of moderate length.
- Provide trips of lower travel mobility than principal arterials.
- The speed limit is lower on these roads than on principal arterials.
- Are likely to carry local bus routes.
- Serve to accommodate longer trips within the community.
- Do not usually enter identifiable neighborhoods.
- If an urban connection to a rural collector road is not classified as an principal arterial, it should be classified as an urban minor arterial.
- The spacing of minor arterial streets can vary from less than a half mile in the central business district of large cities to 2-3 miles in the suburban fringe. *In fully developed areas, minor arterials should be no more than one mile apart.*

Two types of minor arterials are hereby defined for the City of Yuma: normal minor arterials (simply called minor arterials) and constrained minor arterials. Normal minor arterials are built on new alignments or are lateral expansions of existing roadways where the land use will permit the full cross-section to be built. Constrained minor arterials are existing or planned roadways where such full build-out would not be in the overall public interest. There may be cases where development to the requirements of the constrained minor arterial will not be possible. In such cases, as approved by the City, the absolute minimum right-of-way requirements specified herein shall be permitted.

Minor arterials shall have a minimum of four travel lanes (two in each direction) and may have full or partial control of access from private property. They may have signal-controlled intersections or intersections controlled by stop signs (yield signs for channelized right-turns) on the intersecting roads. Where left turns and U-turns must cross the median from the minor arterial roadways, special turning lanes recessed in a median (physical or marked) to shade them from through traffic shall be provided. Major road crossings may be grade-separated with or without interchanges.

Where separate right-turn lanes are required at intersections, they shall generally incorporate channelizing islands conforming to City standards for the benefit of pedestrians and traffic signal pole placement.

Turning lanes shall be recessed (by construction or pavement markings) to guide through traffic around them for safety.

Knuckles and sharp bends or curves shall not be permitted on minor arterials and the right-angle intersection of two roadways, at least one of which is a minor arterial, to effectively form a sharp turn or curve shall not be permitted. The design speed shall be maintained.

Unless otherwise permitted by the City, no more than one driveway will be allowed on a minor arterial from a given property or from adjacent properties under common or related ownership, development or subdivision. The City will only permit additional driveways if they are deemed to be in the overall public interest. No new residential driveways shall be permitted on minor arterials unless no other points of access are available to the property owner.

Offset intersections shall not be created. Intersecting streets shall line up across the arterial. Closely space T-intersections shall generally not be allowed. Driveways to major traffic generators, and other driveways where feasible, shall line up with intersecting streets to the extent possible.

Sidewalks shall be provided on both sides of the roadway.

Bicycle lanes shall be provided on both sides of the street. Where used, bicycle lanes must be approximately six feet (6') wide.

Section 5 notes requirements for additional minor arterials not included on Map 1 that may be required in new residential developments.

Normal Minor Arterials

Normal minor arterials shall be median-divided. Median breaks shall be provided only at intersections with expressways, principal arterials, minor arterials, collectors and, as approved by the City, some local streets. Median openings will *not* be permitted for driveways unless approved by the City for large traffic generators. Special median openings may be permitted to accommodate U-turning vehicles as deemed appropriate by the City.

Provisions shall be made on minor arterials for safely accommodating left turns and U-turns in accordance with City design standards. U-turns shall also be accommodated at locations other than traffic signals so as not to adversely affect the capacity of signalized intersections. Where these cannot be safely accommodated, they shall be prohibited. To the extent practical, left turns and U-turns at signalized intersections shall be made indirectly so as not to require extra traffic signal phases.

Where the spacing between intersections is long, provision shall also be made for intermediate U-turns by emergency vehicles.

Constrained Minor Arterials

Constrained minor arterials shall have two-way left-turn lanes. They may be median-divided in some segments or at specific locations for improved traffic safety, and may have partial control of access from private property.

No on-street bike lanes will be provided where the absolute minimum cross-section is used. Where bicycle provisions cannot be safely provided, an alternative bike route shall be signed along other roadways serving the same destinations.

Collectors

In general conformance with the Arizona Department of Transportation's ***Arizona Functional Classification Guidelines***, 1993, collectors have the following purposes and characteristics:

- Distribute traffic from arterials.
- Funnel traffic collected from local streets into the arterial system.
- Collector systems may enter residential neighborhoods.

Collectors shall have a minimum of two travel lanes (one in each direction). They shall also have either a two-way left-turn lane or turn lanes at intersections with other collectors, arterials and local streets as determined by the City. They may be median-divided in some segments or at specific locations for improved traffic safety, and may have partial control of access from private property. They may have signal-controlled intersections and intersections controlled by stop signs (yield signs for channelized right-turns) on the intersecting roads. Where left turns and U-turns must cross a median from the minor arterial, special turning lanes recessed in the median (physical or marked) to shade them from through traffic shall be provided. Major intersections may be grade-separated with or without interchanges.

There are a number of existing residential roadways in the Yuma community that are identified in the plan and function as collector roads. Examples of these include: Palo Verde Street, 14th Avenue, 10th Street, etc. These roadways effectively funnel local traffic from the residential areas to the arterial network, although they may not meet the planned right-of-way standard of eighty (80) feet. Existing roadways shall not be modified simply to conform to the requirements of this plan, but shall be brought into conformance with this plan to the extent practical whenever changes are necessitated to accommodate traffic or when major work is being performed on the roadways and it would be advantageous and reasonable to bring them into conformance with this plan.

Knuckles and sharp bends or curves shall not be permitted on collectors and the right-angle intersection of two roadways, at least one of which is a collector, to effectively form a sharp turn or curve shall not be permitted.

Where right-turn lanes are required at intersections with expressways or arterials, they shall generally incorporate channelizing islands conforming to City standards for the benefit of pedestrians and traffic signal pole placement.

Unless otherwise permitted by the City, no more than two driveways will be allowed on a collector from a given property or from adjacent properties under common or related ownership. The City will only permit additional driveways if they are deemed to be in the overall public interest.

Offset intersections shall not be created. Intersecting streets shall line up across the collector. Closely space T-intersections shall generally not be allowed. Driveways to major traffic generators, and other driveways where feasible, shall line up with intersecting streets to the extent possible.

Sidewalks shall be provided on both sides of the roadway.

Section 5 notes requirements for additional collectors not included on Map 1 that may be required in new residential developments.

Local Streets

Local streets in residential districts (as defined by the City Zoning Code) (Local Residential streets) shall have a minimum of two travel lanes, one in each direction. Local streets in commercial and industrial districts (as defined by the City Zoning Code) (Local Commercial/Industrial streets) shall have a minimum of two travel lanes, one in each direction, and a center two-way left-turn lane.

Local streets may be median-divided in some segments or at specific locations for improved traffic safety. They may have intersections controlled by stop or yield signs. In general, intersections of local streets with other local streets will be uncontrolled unless visibility or actual traffic experience requires control in the judgment of the City.

Unless otherwise permitted by the City, no more than two driveways will be allowed on a local street from a given property or from adjacent properties under common or related ownership. The City will only permit additional driveways if they are deemed to be in the overall public interest.

Sidewalks shall be provided on both sides of the roadway in residential and commercial areas and may be provided in industrial areas.

Alleys

Alleys have been used to provide land access and associated services to property owners and occupants. No new alleys shall be permitted.

Interchanges

As traffic increases, standard at-grade intersections will not be adequate to serve traffic acceptably at a number of locations. At such locations, grade-separated interchanges may be utilized. Where Interstates or freeways intersect each other and, in some cases, where freeways and expressways intersect, high-speed directional interchanges shall be utilized. At other locations where interchanges are needed, they may be single-point urban interchanges (SPUI), although other configurations (diamond, trumpet, Y-type, etc.) may be utilized at some locations where conditions dictate. Figure 1 shows the typical layout for a SPUI.

Existing diamond interchanges will continue to be utilized until traffic conditions require improvements.

Figure 1
Typical Layout
Single-point Urban Interchange

The locations and types of interchanges and urban intersections are shown on Map 1 and listed below:

Interchange Location	Status	Type
I-8 & Giss Parkway/Redondo Center Drive	Existing	Special
I-8 & 16th Street	Existing	Diamond
I-8 & Avenue 3E	Existing	Diamond
I-8 & Avenue 5E	Future	SPUI
I-8 & Araby Road – ASH	Future	Diamond (future – Directional)
I-8 & 32nd Street (Avenue 8½E)	Existing	Special
ASH & 32nd Street	Future	SPUI
ASH & Yuma Expressway/County 14th St.	Future	Planned Diamond (future Directional)
I-8 & Yuma Expressway (Avenue D)	Future	Future
I-8 & Yuma Expressway (Avenue 9E)	Future	Future

The existing Interstate 8 interchange with 32nd Street at Avenue 8½E is to be relocated to the Yuma Expressway (Avenue 9E) at a future date.

Interchange/Intersection Location	Status	Type
Yuma Expressway (Avenue D) & 8th Street	Future	Urban Intersection or SPUI – Type to be determined by appropriate studies
Yuma Expressway (Avenue D) & 16th Street	Future	
Yuma Expressway (Avenue D) & 24th Street	Future	
Yuma Expressway (Avenue D) & 32nd Street	Future	
Yuma Expressway (40th Street) & Avenue C	Future	
Yuma Expressway (40th Street) & Avenue B	Future	
Yuma Expressway (County 14th) & Avenue A	Future	
Yuma Expressway (County 14th) & Avenue 3E	Future	
Yuma Expressway (County 14th) & Avenue 5E	Future	
Yuma Expressway (County 14th) & Avenue 9E	Future	
Yuma Expressway (Avenue 9E) & 40th Street	Future	
Yuma Expressway (Avenue 9E) & Highway 95	Future	

Urban Intersections

Levels of Service at the following intersections are currently not meeting traffic needs or due to future traffic growth will not meet future needs. Additional right-of-way will be required to provide additional turn lanes and travel lanes. Ultimately, these intersections will be redesigned to handle traffic adequately. Final design, whether as an intersection or interchange, will be determined by future studies. Rights-of-way required for urban intersections will generally be greater than those required for other major roadway intersections.

Intersection Location	Status	Type
16th Street & Araby Road	Existing	Urban Intersection or SPUI – Type to be determined by
16th Street & Avenue 5E	Existing	
16th Street & Avenue 3E	Existing	

16th Street & Pacific Avenue	Existing	appropriate studies
16th Street & 4th Avenue	Existing	
24th Street & 4th Avenue	Existing	
32nd Street & Pacific Avenue	Existing	
32nd Street & Avenue 3E	Existing	

Driveways and Circulation

Driveways shall satisfy the spacing and throat length requirements set forth in the City's design standards and construction standards for the associated roadway classifications.

Where a property or group of related properties abuts more than one roadway, the City may deny access to the higher classification roadways and require that all access be limited to the lower classification roadway(s).

All circulation and maneuvering for the benefit of private property shall be handled on the property without using the public street system for circulation. Where possible for commercial and industrial properties, off-street driveways shall be provided between adjacent properties of different ownership to provide connectivity for circulation without necessitating use of the street system. These requirements shall not operate to prohibit normal residential driveways for single-family homes and duplex homes.

RIGHT-OF-WAY REQUIREMENTS

In addition to the definitions of the roadway functional classifications and the required features specified above, it is necessary for planning and design purposes to specify right-of-way requirements for each of the classifications.

Minimum Right-of-Way Requirements - General

The *minimum* right-of-way requirements for the classifications are shown in Table 1.

Table 1
Minimum Right-of-way Requirements by Functional Classification

Functional Roadway Classification	Constrained?	Basic Roadway *Minimum* Right-of-way Requirements
Interstate/Freeway	Not applicable	Determined by ADOT
Expressway	Not applicable	160 feet
Principal arterial	No	124 feet
	Yes	112 feet normally, 98 feet absolute minimum
Minor arterial	No	100 feet
	Yes	88 feet normally, 76 feet absolute minimum

Collector	Not applicable	80 feet
Local street	Not applicable	58 feet

Figure 2 illustrates the right-of-way and *examples* of lanes and amenities that can be accommodated. The actual lane and amenity configurations shall conform to the City design standards.

The following roadways are shown in the Table of Roadway Classifications (Appendix A) and are designated on Map 1 only to specify their functional classification; however, additional right-of-way shall *not* be acquired for them through the processes listed in Section 1, on page 2:

- South 1st Avenue from West 1st Street to West 26th Street
- East 1st Street from 1st Avenue to Penitentiary Avenue
- West 3rd Street from South Avenue B to South 4th Avenue
- West 5th Street from Magnolia Avenue to South 4th Avenue
- South 15th Avenue from West 3rd Street to West 8th Street
- Magnolia Avenue from West 1st Street to West 12th Street
- Gila Street from East 1st Street to Giss Parkway
- Palo Verde Street from Arizona Avenue to Olive Avenue

The right-of-way of a roadway shall be flared at major intersections as shown in Figure 3 to accommodate turn lanes. Flared rights-of-way will be offset from the basic roadway centerline due to actual or potential need for right-turn lanes. Table 2 defines major intersections for purposes of right-of-way flare requirements.

At intersections not defined as major in Table 2 and for those where right-turn channelization cannot be accommodated, corner right-of-way triangles shall be provided in accordance with Table 4. The triangles shall be isosceles triangles having the equal legs along the roadways.

Table 2
Intersections Requiring Right-of-way Flares

Roadway	**Intersecting Road**				
	Expressway	**Principal Arterial**	**Minor Arterial**	**Collector**	**Local Street**
Expressway	Grade separate	X	X	X	If signalized
Principal Arterial		X	X	X	If signalized
Minor Arterial			X	X	If signalized
Collector				If signalized	If signalized
Local Street					If signalized

Design Controls and Criteria

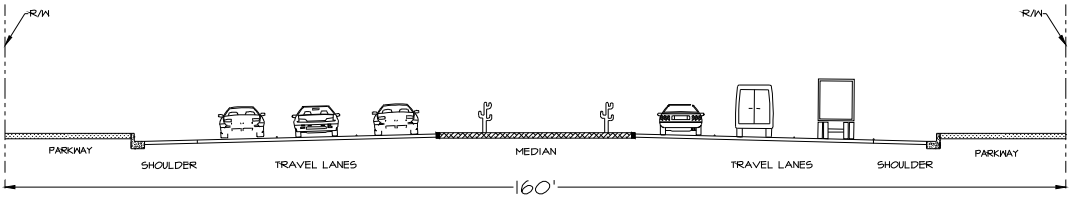
The previous sections have noted road features, characteristics and needed rights-of-way for the different types of road classifications. Each of these types of roadways are designed to serve different types of vehicles at different speeds. Design vehicles, with various lengths and turning capabilities, are noted in the American Association of State Highway and Transportation Officials, 2001, document – *A Policy on Geometric Design of Highways and Streets*. For the purposes of the *Major Roadways Plan - 2005* the following types of Design Vehicles shall be used for street design:

WB-62	Interstate Semitrailer: 68.5 feet in length
WB-50	Intermediate Semitrailer: 55 feet in length
WB-40	Intermediate Semitrailer: 45.5 feet in length
S-BUS 40	Large School Bus (84 passengers): 40 feet in length
SU	Single Unit Truck: 30 feet in length
P	Passenger Vehicle: 19 feet in length

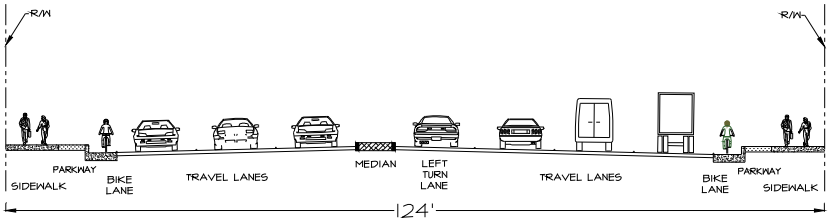
In addition to Design Speed and Design Vehicle type, the ability for appropriate turning movements shall be incorporated into the road design for the consideration of additional right-of-way and pavement needs. Unless otherwise approved by the City, roadway design shall incorporate design vehicle turns from the proper approach lane to the proper departure lane. Additionally, roadways shall be designed to accommodate Intermediate Semitrailer (WB-50) design vehicles without encroaching on the center line of the departure road when turning.

Table 3
Design Controls and Criteria

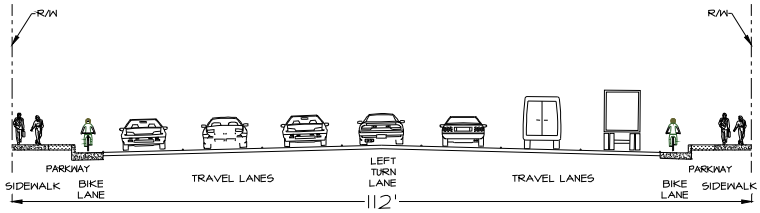
Classification	**Design Speed (miles per hour)**	**Design Vehicles**
Expressway	45-55 mph	WB-50
Principal Arterial	Normal: 45 mph	WB-50
	Constrained: 35-40 mph	
Minor Arterial	Normal: 35 to 45 mph	WB-50
	Constrained: 35-40 mph	
Collector	35 mph	SU and S-BUS 40
	Shall also be designed to accommodate Intermediate Semitrailers (WB-50) design vehicles without encroaching on the center line of the departure road when turning.	
Local	Residential: 25 mph	P
	Commercial/Industrial: 35 mph	WB-40
	Shall also be designed to accommodate SU design vehicles without encroaching on the centerline when turning and to accommodate WB-40 design vehicles without encroaching beyond the far-side curb lines or edges of pavement.	
Classification	**Design Vehicles**	
Interchange	WB-62 shall be utilized for all freeway-to-freeway interchanges.	
	WB-50 shall be used for all other interchanges.	
Signalized Intersection	Designed to properly accommodate Intermediate Semitrailers (WB-50) design vehicles	



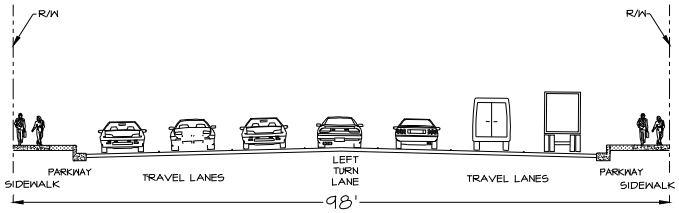
EXPRESSWAY



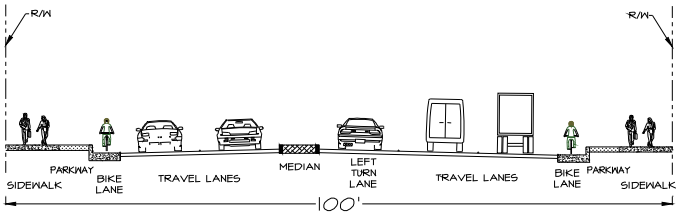
PRINCIPAL ARTERIAL STREET



PRINCIPAL ARTERIAL STREET- CONSTRAINED



PRINCIPAL ARTERIAL STREET- ABSOLUTE MINIMUM

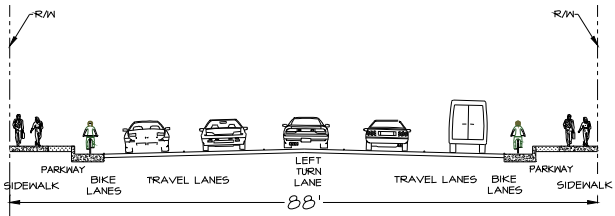


MINOR ARTERIAL STREET

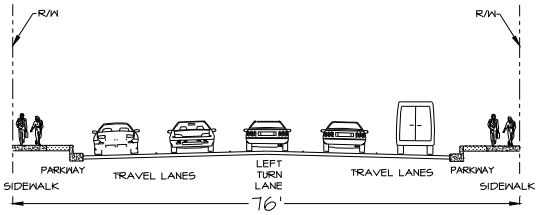
City of Yuma
Major Roadways Plan - 2005

EXAMPLE
ROADWAY
CROSS SECTIONS
Sheet 1 of 2

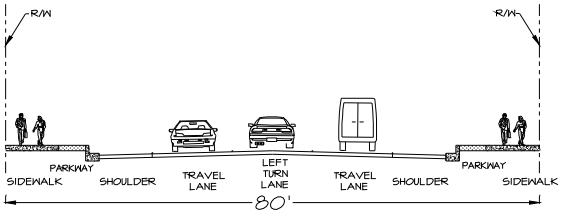
Figure
2



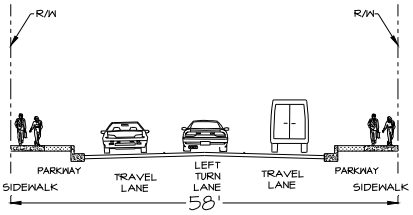
MINOR ARTERIAL STREET- CONSTRAINED



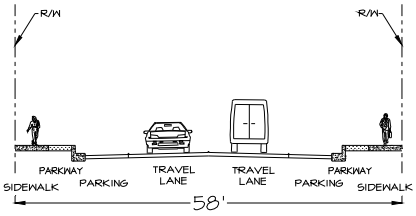
MINOR ARTERIAL STREET- ABSOLUTE MINIMUM



COLLECTOR STREET



LOCAL COMMERCIAL / INDUSTRIAL STREET

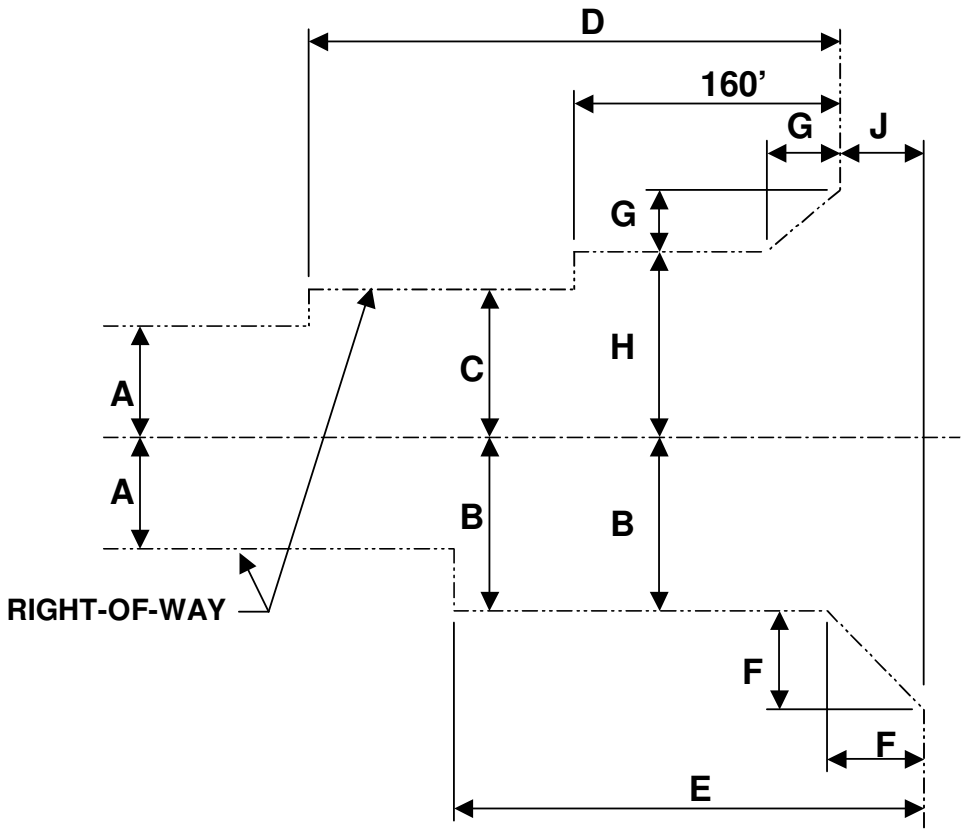


LOCAL STREET- RESIDENTIAL

City of Yuma
Major Roadways Plan - 2005

EXAMPLE
ROADWAY
CROSS SECTIONS
Sheet 2 of 2

Figure
2



MINIMUM RIGHT-OF-WAY REQUIREMENTS AT MAJOR INTERSECTIONS BY ROADWAY CLASSIFICATION

Roadway Classification	Total Basic R/W Needed	Intersection Flare Requirements Dimension (feet) A	B	C	D (minimum)	E (minimum)	F	G	H
Expressway	160	80	92	80	800	500	75	S	85
Principal arterial	124	62	80	68	450	300	75	e	73
Principal arterial - constrained	112	56	74	62	450	300	75	e	67
Principal arterial - absolute minimum	98	49	65.5	54.5	450	300	50		59.5
Minor arterial	100	50	68	56	450	250	75	N	61
Minor arterial - constrained	88	44	62	50	450	250	75	o	55
Minor arterial - absolute minimum	76	38	54.5	43.5	450	250	50	t	48.5
Collector	80	40	64	52	300	200	40	e	57
Local - Commercial/Industrial	58	29	47	35	200	200	50		40
Local - Residential	58	29	40.5	29	N/A	200	25	3	34

NOTES:

1. The lengths shown for Dimension D are minimum. The actual length shall be determined by the expected left-turn queue lengths (95% confidence level) plus taper determined by a traffic analysis.
2. The lengths shown for Dimension E are minimum. The actual length shall be determined by the expected right-turn queue lengths (95% confidence level) plus taper determined by a traffic analysis.
3. Dimension G is equal to Dimension F for the intersecting roadway.

DIMENSION J

Intersecting Roadway Classification	J (feet)
Expressway	7
Principal arterial	7
Principal arterial - constrained	7
Principal arterial - absolute minimum	6
Minor arterial	7
Minor arterial - constrained	7
Minor arterial - absolute minimum	6
Collector	7
Local - Commercial/Industrial	7
Local - Residential	6.5

NOTE: Additional right-of-way may be required for those roadways that have special classifications specified in Section 4.

City of Yuma
Major Roadways Plan - 2005

RIGHT-OF-WAY FLARE REQUIREMENTS AT MAJOR INTERSECTIONS

Figure 3

Table 4
Required Corner Right-of-way Triangles
For Normal Intersections

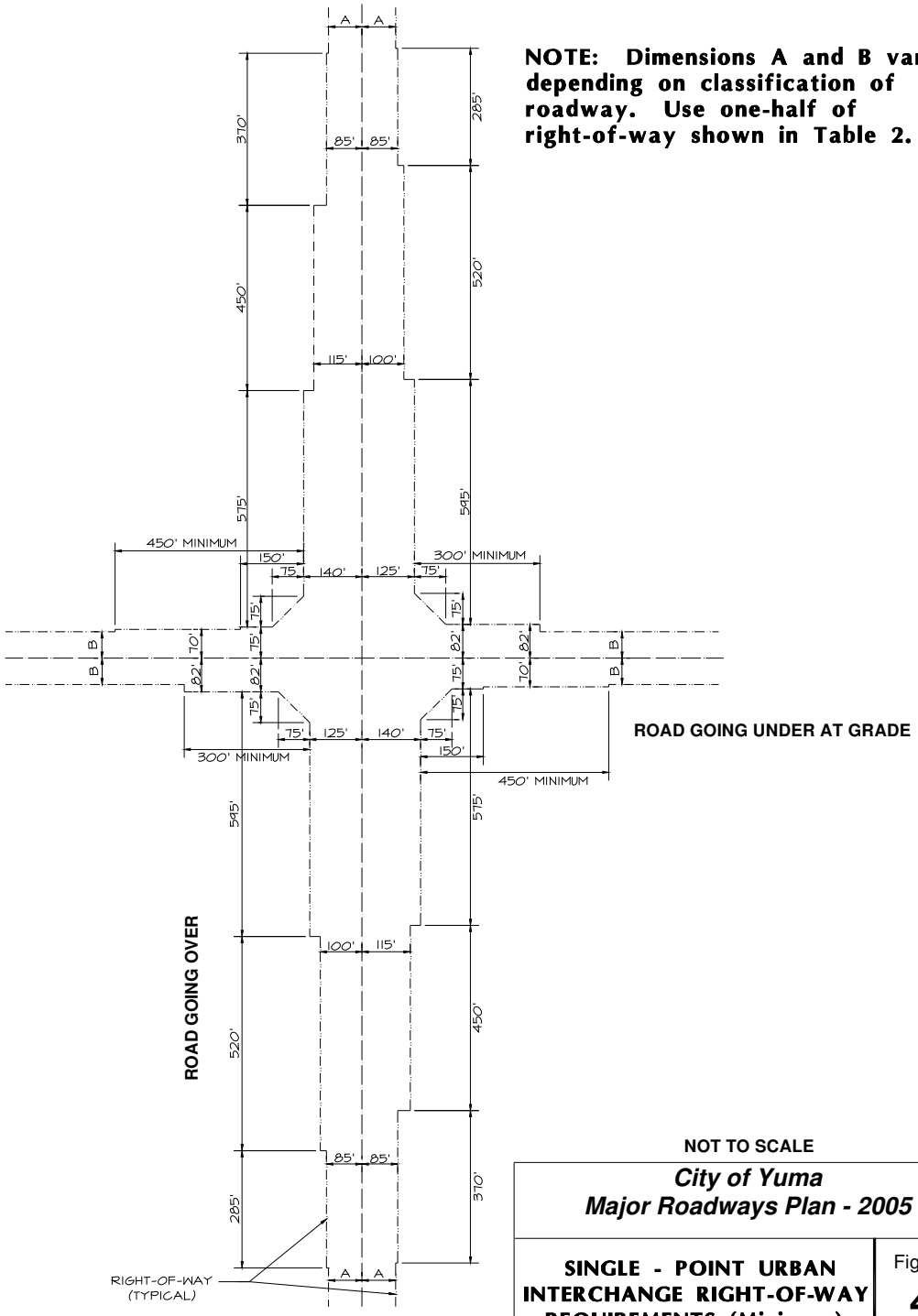
Higher **Classification** **Roadway**	**Lengths of Equal Triangle Sides**
Expressway	N/A
Principal arterial	50 feet
Minor arterial	50 feet
Collector	40 feet
Local (residential)	25 feet
Local (commercial/industrial)	50 feet
Alley	15 feet

All of the right-of-way requirements set forth above are the *minimum acceptable* for the various situations. More right-of-way may be required for special circumstances. One such special circumstance is where the *General Plan* specifies the creation of linear parks or multi-use paths along certain roadway rights-of-way. Following is a listing of those linear parks that are currently defined in the *General Plan*. Others may be added through the General Plan Amendment process.

- 12th Street (south side) from Avenue B to Avenue C
- 16th Street (north side) from Avenue B to Avenue C
- 20th Street (south side) from East Main Canal to Avenue D
- 24th Street Extension from Avenue 3½E to Avenue 3E
- 28th Street from Avenue C½ to Avenue D
- 32nd Street (north side) from Crane Middle School to Avenue D
- 32nd Street (south side) from Pacific Avenue to Avenue 3E
- Avenue 3E (west side) from 32nd Street to 48th Street
- Avenue 4E from B Canal to 40th Street
- Avenue A (west side) from 32nd Street to 40th Street
- 33rd Drive from 24th Street to 36th Street
- Avenue C½ from Central Drain (about 22nd Street) to 28th Street
- Avenue D (east side) from 16th Street to 32nd Street (28th Street to 32nd Street exists, but is not in *General Plan*.)
- Big Curve (west/south side)
- Pacific Avenue from East Wetlands Park to 32nd Street
- Redondo Center Drive (west side) from Giss Parkway to 16th Street

Right-of-Way Requirements for Single-Point Urban Interchanges

Figure 4 shows the right-of-way required for the single-point urban interchanges.


NOTE: Dimensions A and B vary depending on classification of roadway. Use one-half of right-of-way shown in Table 2.
ROAD GOING UNDER AT GRADE
ROAD GOING OVER
RIGHT-OF-WAY (TYPICAL)
450' MINIMUM
300' MINIMUM
NOT TO SCALE
City of Yuma
Major Roadways Plan - 2005
SINGLE - POINT URBAN INTERCHANGE RIGHT-OF-WAY REQUIREMENTS (Minimum)
Figure 4

CLASSIFICATION OF YUMA'S ROADWAYS

With the exception of minor arterials and collectors that may be required by the City in new developments, the roadways classified under this plan are listed in Appendix A and depicted on Map 1 in Section 6.

It is intended that roadways classified be thought of in terms of corridors rather than centerlines. The intent is that the roadways be developed generally where shown and be developed as quickly as practical to best meet the transportation network needs of the community and neighborhoods. Alignments for major roadways may and will vary from section and mid-section lines due to topography, man-made barriers, existing developments and aesthetic development design; however, major roadways shall connect to other major roadways at section and mid-section lines to maintain the potential for good traffic signal coordination.

ROADWAY CONNECTIONS REQUIRED

There are a number of roadways in Yuma that are designated in this plan as arterials and collectors that are discontinuous or terminate prematurely. These anomalies prevent such roadways from serving the necessary traffic and providing relief for other over-capacity roadways and intersections. These discontinuities and premature terminations should be eliminated as soon as practical to provide adequate traffic service. Following is a list of the connections needed:

- 12th Street connector over the East Main Canal
- 20th Street connector over the Union Pacific Railroad between Arizona Avenue and Pacific Avenue
- Arizona Avenue extension from 12th Street to Giss Parkway
- Avenue C½ from 8th Street to 16th Street and 20th Street to 28th Street

It is recognized that some of these recommended improvements will have adverse effects on neighborhoods. All reasonable measures should be taken to mitigate these adverse effects.

In addition to the locations shown above, the intersection of East 8th Street & Pacific Avenue should be given attention. This "intersection" is really a turn in the road with two dirt roads attached: however, one of the dirt roads, the north leg of Pacific Avenue, will provide access to the East Wetlands Park and is classified as a collector. (See Sketch 4 in Appendix B.) This turn should be changed to a curve with a 45 mile-per-hour design speed.

Functional sketches of the connectors and extensions for most of these are provided in Appendix B.

STATE ROUTES

A number of Yuma's roadways are State routes owned and controlled by ADOT. Appendix A also shows current State Route designations.

The following roadways will be turned over to City ownership and control in the indicated year under an agreement (Reference 9) with ADOT related to the phased construction of the Area Service Highway (State Route 195):

- 16th Street (US 95) from the east City limits to Avenue B - 2008
- Avenue B (US 95) from 16th Street to 32nd Street - 2008
- 32nd Street – Big Curve (B-8) from Avenue 7½E to Catalina Drive at 4th Avenue - 2008
- 4th Avenue (B-8) from the north City limit to Catalina Drive - 2008
- Frontage Roads inside the City limits – 2009

As part of the Area Service Highway agreement, Araby Road from I-8 to 16th Street (US 95) will be turned over to ADOT and will become State Route 195 upon completion of the Area Service Highway.

Avenue 3E (SR 280) from Interstate 8 to the south entrance to Marine Corps Air Station – Yuma will also be turned over to the City, but a schedule has not yet been set.

Section 3
SPECIAL CLASSIFICATIONS

There are five special roadway classifications that may be superimposed on any roadway regardless of its functional classification either singularly or in any combination. These are:

- Gateway routes
- Scenic/Historic routes
- Truck routes
- Hazardous cargo routes
- Bikeways

Roadway segments with any of these special classifications are indicated in Appendix A. In the case of any conflict among the functional classifications and any of the special classifications, the most restrictive requirements shall apply. The City shall have authority to resolve any ambiguities on a case-by-case basis.

GATEWAY ROUTE REQUIREMENTS

Gateway routes are roadways in corridors that give first and general impressions of Yuma to visitors. They include, but are not limited to, routes leading to and from major employment centers, shopping areas, recreational areas, and major transportation facilities (e.g., airports, etc.).

These routes should provide travelers with a trouble-free and aesthetically pleasing experience as they arrive in Yuma. These routes should be protected from adjoining land uses that create a negative image of Yuma for the first-time visitor. Generally, heavy industrial and adult entertainment uses are not appropriate for gateway routes. These routes should also be well maintained to assure there pleasing appearance. Gateway routes should be protected through the use of appropriate zoning designations including the aesthetic overlay district and the strict enforcement of sign regulations.

The following criteria have been used to identify the gateway routes in this plan.

- identified on State highway maps often used by tourists.
- an Interstate highway, U.S. highway, or State highway.
- identified as an expressway or principal arterial in this plan.
- identified as a regionally significant route in the *Regional Transportation Plan* of the Yuma Metropolitan Planning Organization (Reference 3).
- used by visitors to reach transportation terminals, hotels, resorts, recreational facilities, or other tourist attractions in the Yuma Area.
- a roadway having an interchange with the Interstate Highway System.

Gateway routes are depicted on Map 2 in Appendix C.

All lands along gateway routes identified in this *Major Roadways Plan – 2005* should be considered as potential locations for the addition of the Aesthetic Overlay Zoning District (Reference 13). The City should apply this zoning overlay district to as many locations along these routes as feasible.

SCENIC/HISTORIC ROUTE REQUIREMENTS

Scenic/historic routes are roadways that have appeal because:

- They approximate the paths taken by significant historic groups that traveled through the Yuma Area;
- They are lined with historic buildings;
- They have a pleasing appearance; or
- They provide views of special attractions.

These routes should be protected through the City Zoning Code from nearby incompatible land uses, visual clutter, and heavy traffic congestion that make it difficult or impossible for motorists to view these routes and access nearby historic areas.

For designation of a roadway as a scenic/historic route, at least two of the following conditions shall apply. The roadway must be:

- a route to recreation areas or a route driven for its own enjoyment.
- a route which provides vistas of nearby mountains, foothills, the City, the sand dunes, prominent water bodies or some other feature which is considered to be scenic or unique to Yuma.
- a route which has a significant quantity or quality of existing native vegetation.
- a route which has significant geological formations.
- a route which closely approximates the path traveled by a significant historic group which is documented to have traveled through the Yuma area.
- a roadway which closely follows a historic trail.
- a route which provides access to historic places.
- a route which provides access to historic river crossing locations.
- a route which has important archaeological, historic, or cultural features.
- a route which is adjacent to at least five historic buildings or sites

Scenic/historic routes are depicted on Map 2 in Appendix C.

All lands along scenic/historic routes identified in this *Major Roadways Plan – 2005* should be considered as potential locations for the addition of the Aesthetic Overlay Zoning District (Reference 13). The City should apply this zoning overlay district to as many locations along these routes as feasible.

TRUCK ROUTES

Roadways that facilitate access to major commercial and industrial clusters in the Yuma area or facilitate the movement of large trucks through the Yuma area are designated as truck routes.

The following types and functional classifications of roadways are designated as truck routes unless trucks are specifically prohibited:

- Interstates/Freeways
- U.S. highways
- State routes, except Hotel Lane (Castle Dome Avenue)
- Expressways
- Principal arterials, both normal and constrained

In addition, the following minor arterials and collectors are designated as truck routes:

- 1st Street from 4th Avenue to Avenue D
- 4th Avenue from 32nd Street to 40th Street
- 4th Avenue (B-8) from Interstate 8 to 16th Street
- 20th Street from Arizona Avenue to Pacific Avenue
- 28th Street from Avenue 3½E to Avenue 5E
- 30th Street from Avenue 5E to North Frontage Road
- 40th Street from Yuma Expressway to Arizona Avenue
- 56th Street from Yuma Expressway to Somerton Avenue
- Arizona Avenue from 32nd to 40th Street
- Arizona Avenue from Giss Parkway to 24th Street
- Avenue 3E from Yuma Expressway to 80th Street
- Avenue 3½E from 32nd Street to 40th Street
- Avenue 7E from North Planning Area Boundary to 16th Street
- Avenue D from 1st Street to 8th Street
- Gila Ridge Road
- Giss Parkway from I-8 Westbound Ramps to 4th Avenue
- North Frontage Road from 32nd Street to Avenue 8½E
- Somerton Avenue from 8th Street to 64th Street

Truck routes are shown on Map 3 in Appendix C.

Additional truck routes may be added as needs develop.

Truck routes shall be constructed appropriately for servicing large, heavy vehicles up to tractor/semi-trailer combinations having wheelbases up to 50 feet long (WB-50)(Reference 8, page 32).

HAZARDOUS CARGO ROUTES

Hazardous cargo routes are specified herein. Appropriate signing shall be maintained on these routes to guide vehicles with hazardous cargo through or around the City. See Map 4 in Appendix C for the locations of hazardous cargo routes.

Transportation of hazardous cargo is permitted on these roadways:

- I-8
- Area Service Highway (SR 195)
- Yuma Expressway
- Avenue 3E from 16th Street to 80th Street
- 16th Street from Avenue B to east planning area boundary (only until the Area Service Highway is fully open to San Luis)
- Avenue B from 16th Street to 64th Street (only until the Area Service Highway is fully open to San Luis)
- US 95 from 64th Street to the west planning area boundary (only until the Area Service Highway is fully open to San Luis)
- 40th Street from the Yuma Expressway to planned air cargo area of the Yuma International Airport (Truck Court just east of 4th Avenue)

BIKEWAYS

Bikeways are specified in the "Bicycle Element" (Reference 4) of the *General Plan*. Roadways shall conform to the Bicycle Plan insofar as bicycles are concerned. Bikeways are shown on Map 5 in Appendix C for information purposes only.

Section 4
DEVELOPMENT ROADWAY REQUIREMENTS

The following requirements apply to new roadways in new developments and developments that are being expanded or undergoing a change of use.

"DEVELOPMENT" DEFINED

For purposes of this section of the *Major Roadways Plan – 2005*, development is defined as the land for which any of the following activities or processes over which the City has the right of approval must be completed:

- Rezoning review and approval process
- Plat review and approval process
- Conditional use permit review and approval process
- Development review and approval process
- Plan review and approval process

ROADWAYS DEFINED IN THIS PLAN

When a proposed development of any size includes or abuts any interstate, expressway, principal arterial, minor arterial, or collector alignment as defined by this plan, right-of-way as specified in this *Major Roadways Plan – 2005*, for said roadway(s) shall be dedicated to the City as a condition of approval of development.

RESIDENTIAL DEVELOPMENT ROADWAYS

Residential streets are those roadways within developments in zoning districts that permit residential uses, established by the City's Zoning Code, that are not designated as higher classification roadways.

For developments with an ultimate size of 50 dwelling units or more, collector roadways shall be provided within the development as required by the City. These collectors shall satisfy the requirements of Section 2 of this *Major Roadways Plan – 2005*. In addition, these collector roadways shall provide a route through the development connecting to the arterial/collector system defined in this *Major Roadways Plan – 2005* at a minimum of two points. (Temporary secondary access may be permitted in the initial phases of a multi-phase development.) This route does not have to be along one street. It may have a number of turns in it to discourage through traffic.

For developments with an ultimate size of 1280 acres or more (including the near half-widths of boundary roadways), normal minor arterials shall be provided within the development as required by the City. These arterials shall satisfy the requirements of Section 2 of this *Major*

Roadways Plan – 2005. In addition, these arterials shall provide a route(s) through the development connecting to the arterial system defined in this *Major Roadways Plan – 2005* at a minimum of two points. Each arterial route may be curvilinear but shall be a single street with the appropriate design speed.

The following additional requirements shall apply to all collectors in residential developments:

- Design speeds shall be 30 miles per hour instead of 35 miles per hour stated in Section 3.
- Roundabouts or other physical speed control devices shall be provided at least every 700 feet. These may be at intersections or at mid-block locations. The design speeds for speed control devices shall be 30 miles per hour. Alternatively, curvilinear design using a *tight* 30 mile-per-hour design speed shall be used in lieu of roundabouts. In such cases, tangent sections shall not exceed 700 feet in length.
- Parking prohibitions may be required along all or portions of the roadway as determined by the City.
- Speed limits shall be 30 miles per hour.

The number of local roadways intersecting the arterial/collector system defined in this *Major Roadways Plan – 2005* shall be minimized. Developments shall not have more than two streets intersecting any arterial or collector in any one-mile segment. Additional intersections for larger developments shall be justified on the basis of a traffic study showing that the additional intersections are required to provide adequate capacity.

Developments shall not have single-access (no outlet) streets or street groups where any single access route exceeds 600 feet from the connection (right-of-way line) to the overall street system.

Residential local streets that are longer than 500 feet and have curvilinear design shall have *tight* design speeds of 25 miles per hour. Tangent sections shall not be longer than 500 feet or shall use roundabouts, speed-tables or other physical speed control device to control speed.

It is recognized that reduced roadway construction requirements may be applicable in Rural Density Residential Areas as defined in the *General Plan*; however, required rights-of-way shall conform to this *Major Roadways Plan – 2005*. The roadways shall be constructed to conform to the City's design standards.

RESIDENTIAL PATHS

Where residential subdivisions adjoin each other for 1,000 linear feet or more without connecting roadways, connecting paths shall be provided to facilitate pedestrian and bicycle traffic at intervals not to exceed 500 linear feet. These paths shall be paved and adequately lighted. They shall be wide enough to accommodate emergency vehicles.

COMMERCIAL AND INDUSTRIAL DEVELOPMENT ROADWAYS

Commercial and industrial streets are those roadways within a development in zoning districts that permit commercial or industrial uses, established by the City's Zoning Code, that are not designated as a higher classification roadway.

For developments with an ultimate size of 640 acres or more (including the near half-widths of boundary roadways), collector roadways shall be provided within the development as may be deemed necessary by the City. These collectors shall satisfy the requirements of Section 3 of this *Major Roadways Plan – 2005*. In addition, these collector roadways shall provide a route through the development connecting to the arterial/collector system defined in this *Major Roadways Plan – 2005* at a minimum of two points.

For developments with an ultimate size of 1280 acres or more (including the near half-widths of boundary roadways), minor arterials shall be provided within the development as may be deemed necessary by the City. These arterials shall satisfy the requirements of Section 2 of this *Major Roadways Plan – 2005*. In addition, these arterials shall provide a path(s) through the development connecting to the arterial system defined in this *Major Roadways Plan – 2005* at a minimum of two points. Each arterial route may be curvilinear, but shall be a single street with the appropriate design speed.

Speed limits on collectors in commercial and industrial developments shall be 35 miles per hour.

DEVELOPMENT GUIDELINES FOR PUBLIC STREET IMPROVEMENTS ALONG SCENIC/HISTORIC AND GATEWAY ROUTES

If a development contains a roadway that has been designated as a scenic/historic route or a gateway route, the roadway shall satisfy the requirements for such routes set forth in the appropriate design guideline/requirement documents.

Section 5
ASSOCIATED POLICIES

This section contains statements of City policies related to the roadway system.

USE OF CANAL RIGHTS-OF-WAY

It is the policy of the City to use portions of existing canal rights-of-way to accommodate roadways defined in this *Major Roadways Plan – 2005*, where feasible. It is preferable that the roadways be placed beside the canals, to permit the Water Users' Associations to maintain the canals; however, the canals may be buried and the roadways placed on top of them when necessary. In such cases, the City is required to provide maintenance of the canals. Burying canals is not usually applicable to canals having maximum flow rates above 60 cubic feet of water per second because of the greater expense.

Where canal rights-of-way to be used for roadway purposes have existing or planned linear parks, the roadways shall be designed so as not to degrade the integrity of the parks.

OBTAINING RIGHTS-OF-WAY

It is the City's policy to acquire needed roadway rights-of-way as dedications through the zoning and land development processes to the extend possible. There are, however, instances where roadways must be constructed or improved where dedication is not an option in order to improve capacity or stimulate economic development. In such cases, the City should purchase the needed rights-of-way.

It is important for the City of Yuma to preserve not only historic routes and properties but the historic rights-of-way. The historic rights-of-way, which are significant features of the City of Yuma, tell the story of the community's development over time. The protection of these routes is in keeping with the Secretary of the Interior's Standards for the Treatment of Historic Properties With Guidelines for the Treatment of Cultural Landscapes.

As such, within the City of Yuma's historic districts, rights-of-way shall not be acquired or required to be abandoned when it will have an adverse effect on or underlie an historic structure, nor should rights-of-way be abandoned or acquired if it will have an adverse effect on historic rights-of-way. An adverse effect on historic rights-of-way includes the full abandonment of a street or alley or other action that alters the historic function of a rights-of-way such as expanding an historic alleyway to a standard street width.

DRIVABLE ROADWAYS

It is the City's policy that all roadways shall be designed and maintained to be comfortably driven at the design speeds set forth in this *Major Roadways Plan – 2005.* Drainage and other roadway features shall be designed so as not to restrict traffic flow below the design speeds.

Where T-intersections of local streets with higher classification roadways create offset intersections that result in left-turning conflicts or weaving problems, such intersections shall be eliminated by removing one or both local roadways through the use of *cul-de-sacs*, making the local street one-way, or other appropriate remedial measures.

TRAFFIC SIGNAL COORDINATION

It is the policy of the City that all traffic signals be interconnected with a centrally controlled traffic signal system and timed to provide smooth traffic flow to the extent practical. Each traffic signal installed in the City shall have coordination facilities and shall be connected to adjacent traffic signals via appropriate conduit and cable designated by the City.

In order to maximize green time for progressed movements, the City may require additional lanes on side streets and on minor traffic signal phases beyond those required by this *Major Roadways Plan – 2005*. Such lanes may be in addition to those needed simply to satisfy intersection capacity requirements.

Where traffic control signals are desired by a developer or a property owner, the developer or property owner must conduct a traffic signal needs study to verify the need for the signal. If the need for a signal is indicated, the developer or property owner shall conduct a signal coordination analysis to verify that the signal can be installed between existing signals or major intersections without degrading the coordinated operation that can be provided from that which could be provided without the signal during mid-day off-peak times. No degradation in actual or planned mid-day off-peak coordination shall be permitted. *Note that traffic signals are* not *necessarily required simply because the intersection satisfies one or more of the warrant guidelines set forth in the* Manual on Uniform Traffic Control Devices. *The final decision for the installation of all traffic control signals rests with the City.*

The traffic signal system timing plans shall be updated at least every two years.

ROADWAYS PLAN UPDATES

This *Major Roadways Plan – 2005* should be updated as follows:

- Alignment Determination – Unlike previous versions of this Plan, many of the roadway improvements recommended herein are not along section lines or other regular roadway alignments. In order for the City to properly reserve and acquire needed rights-of-way in the development process, these alignments must be clearly defined by an engineering study. This study should be completed as soon as possible so as not to hamper the development review and approval process. In the interim, alignments shall be as required by the City on a case-by-case basis.

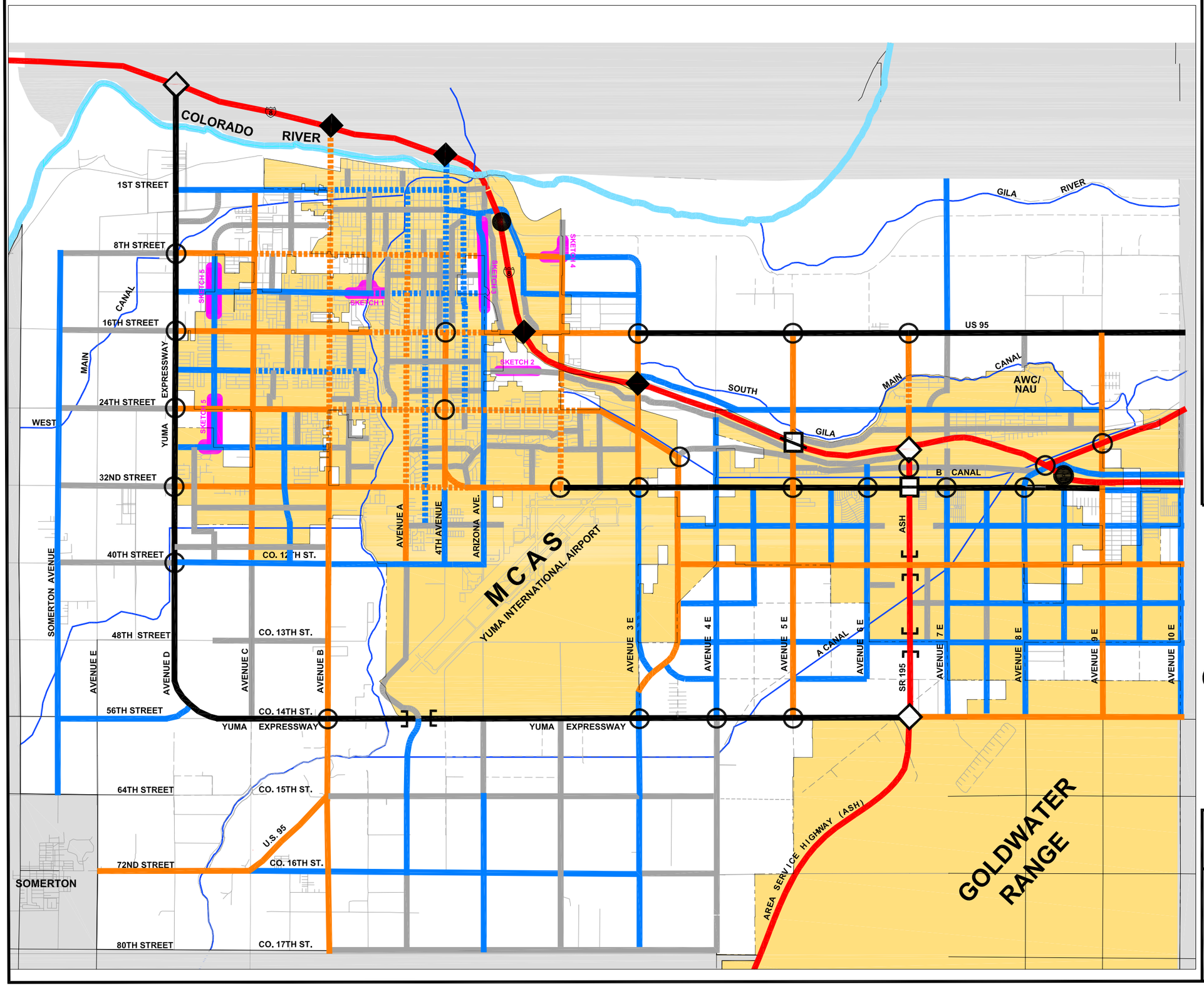
- Plan Update – The *Major Roadways Plan – 2005* will be updated at least every five years. A Citywide traffic modeling study will be conducted prior to the next update.

DEVELOPERS RESPONSIBILITY FOR ARTERIAL, FREEWAY, AND EXPRESSWAY INTERCHANGES

Planned arterial, freeway and expressway interchanges specified herein are based on the need at estimated build-out of Yuma as specified in the "Land Use Element" of the City's *General Plan*, which may be many years in the future. Rights-of-way needed for these facilities shall be secured at the time of development in order to minimize future costs and disruption.

Section 6
ROADWAY CLASSIFICATION MAPS

This section contains maps showing the classifications of Yuma's roadways with the exception of local roads and those future roadways classified as minor arterials and collectors as part of the land development process.



LEGEND

- INTERSTATE / FREEWAY
- EXPRESSWAY
- PRINCIPAL ARTERIAL STREET
- PRINCIPAL ARTERIAL CONSTRAINED
- MINOR ARTERIAL STREET
- MINOR ARTERIAL CONSTRAINED
- COLLECTOR STREET
- CITY OF YUMA
- CANALS
- GRADE SEPARATION, NO INTERCHANGE

INTERCHANGES:

- EXISTING DIAMOND
- EXISTING SPECIAL
- URBAN INTERSECTION
- PLANNED SINGLE-POINT URBAN
- FUTURE
- REFER TO SKETCH

0 2 4

MILES

CITY OF YUMA

MAJOR ROADWAYS PLAN - 2005

ROADWAYS PLAN MAP

Map

1

APPENDIX A
TABLE OF ROADWAY CLASSIFICATIONS

The following table contains the classification of Yuma's roadways with the exception of local roads and those roadways classified as minor arterials and collectors as part of the land development process. Special classifications are also shown.

APPENDIX A
ROADWAY CLASSIFICATIONS

February 7, 2007

NOTE: Principal = Principal Arterial, Minor = Minor Arterial

Street Name	Cardinal Direction Prefix	From	To	2005		State Route	Special Route Classification			
				Classification	Constrained		Gateway	Scenic/Historic	Truck	Hazardous Cargo
1st Avenue	South	1st Street	8th Street	Minor	X			X		
1st Avenue	South	8th Street	24th Street	Minor	X					
1st Avenue	South	24th Street	26th Street	Collector						
1st Street	East	Penitentiary Ave	1st Avenue	Collector				X		
1st Street	West	1st Avenue	4th Avenue (B-8)	Minor	X			X		
1st Street	West	4th Avenue	27th Drive	Minor	X				X	
1st Street	West	27th Drive	Avenue D	Minor					X	
2nd Street	East	1st Avenue	Gila Street	Local				X		
3rd Avenue	South	Orange Avenue	15th Street	Collector						
3rd Street	East	Madison Avenue	Gila Street	Local				X		
3rd Street	West	4th Avenue (B-8)	Avenue B	Collector						
4th Avenue (B-8)	North & South	Interstate 8	16th Street (US 95)	Minor	X	X	X		X	
4th Avenue (B-8)	South	16th Street (US 95)	22nd Street	Principal	X	X	X		X	
4th Avenue (B-8)	South	22nd Street	32nd Street	Principal		X	X		X	
4th Avenue	South	32nd Street	40th Street	Minor					X	
5th Avenue	South	6th Street	16th Street (US 95)	Collector						
5th Street	West	4th Avenue	Magnolia Avenue	Collector						
5th Street	West	Avenue B	Avenue C	Collector						
5th Street	West	Avenue C	8th Street by way of Avenue C½ alignment	Collector						
7th Avenue	South	5th Street	16th Street	Collector						
8th Avenue	South	16th Street	36th Street	Minor	X					
8th Street	East	Avenue 3E	Pacific Avenue	Minor						
8th Street	East	Pacific Avenue	Giss Parkway	Principal					X	
8th Street	East	Arizona Avenue	1st Avenue	Principal	X			X	X	
8th Street	West	1st Avenue	4th Avenue (B-8)	Principal	X			X	X	
8th Street	West	4th Avenue (B-8)	Avenue C	Principal	X		X	X	X	
8th Street	West	Avenue C	Avenue D	Principal			X	X	X	
10th Street	East & West	Arizona Avenue	14th Avenue	Collector						
12th Avenue	North	1st Street	West Wetlands Park	Collector						
12th Place	West	33rd Drive	34th Avenue	Collector						
12th Street	East	Avenue 3E	Castle Dome Avenue	Minor						
12th Street	East & West	Arizona Avenue	East Main Canal	Minor	X					
12th Street	West	East Main Canal	Avenue D	Minor						
14th Avenue	South	8th Street	22nd Street	Collector						
15th Avenue	South	3rd Street	8th Street	Collector						
16th Street (US 95)	East	East Planning Area Boundary	Avenue 3E	Expressway		X	X		X	X
16th Street (US 95)	East	Avenue 3E	I-8 Westbound Ramps	Principal		X	X		X	X
16th Street (US 95)	East	I-8 Westbound Ramps	Arizona Avenue	Principal		X	X		X	X
16th Street (US 95)	East & West	Arizona Avenue	East Main Canal	Principal	X	X	X		X	X
16th Street (US 95)	West	East Main Canal	Avenue B	Principal		X	X		X	X
16th Street	West	Avenue B	Avenue D	Principal			X		X	
16th Street	West	Avenue D	Somerton Avenue	Collector						
18th Drive	South	30th Street	30th Place	Collector						
19th Street		Arizona Avenue	14th Avenue	Collector						
20th Drive	South	20th Street	23rd Street	Collector						
20th Street	East	Pacific Avenue	Letvin Avenue	Collector				X	X	
20th Street	East	Letvin Avenue	Arizona Avenue	Collector					X	
20th Street	West	17th Avenue	Avenue C	Minor	X					
20th Street	West	Avenue C	Avenue D	Minor						
21st Drive	South	24th Street	27th Street	Collector						

APPENDIX A
ROADWAY CLASSIFICATIONS

February 7, 2007

NOTE: Principal = Principal Arterial, Minor = Minor Arterial

Street Name	Cardinal Direction Prefix	From	To	2005		State Route	Special Route Classification			
				Classification	Constrained		Gateway	Scenic/Historic	Truck	Hazardous Cargo
21st Drive	South	27th Street	28th Street	Collector						
21st Drive	South	28th Street	32nd Street	Collector						
22nd Avenue	North	1st Street	West Wetlands Park	Collector						
22nd Drive	South	23rd Street	24th Street	Collector						
22nd Lane	West	36th Drive	37th Avenue	Collector						
22nd Street	East & West	Arizona Avenue	Avenue A	Collector						
23rd Street	West	20th Drive	Avenue B	Collector						
24th Street	East	Avenue 9E	Avenue 4E	Minor				X		
24th Street - North Frontage Road	East	Avenue 4E	Avenue 3E	Minor				X		
24th Street Extension	East	32nd Street	Avenue 3E	Principal					X	
24th Street	East	Avenue 3E	Engler Avenue	Principal					X	
24th Street	East & West	Engler Avenue	Avenue B	Principal	X				X	
24th Street	West	Avenue B	Avenue D	Principal					X	
24th Street	West	Avenue D	Somerton Avenue	Collector						
26th Place	East	San Marcos Drive	Arizona Avenue	Collector						
26th Street	East	Avenue 5E	Araby Road	Collector				X		
26th Street	East	Araby Road	24th Street at Yuma Schools Transportation Center entrance	Collector						
27th Street	West	18th Avenue	21st Drive	Collector						
28th Street	East	Avenue 5E	Avenue 3½E	Collector					X	
28th Street	East & West	Palo Verde Street	Avenue A	Collector						
28th Street	West	21st Drive	Avenue B	Collector						
28th Street	West	Avenue B	Avenue D	Minor						
30th Place	West	21st Drive	East Main Canal	Collector						
30th Street	East	Avenue 5E	North Frontage Road	Collector					X	
31st Avenue	South	24th Street	28th Street	Collector						
32nd Street (South Frontage Road)	East	Avenue 10E	Avenue 9E	Minor						
32nd Street (B-8)	East	Avenue 9E	Pacific Avenue (2E)	Expressway		X	X		X	
32nd Street (B-8)	East	Pacific Avenue	Big Curve	Principal		X	X		X	
32nd Street	West	Big Curve	Avenue A	Principal	X		X		X	
32nd Street	West	Avenue A	Avenue B	Principal			X		X	
32nd Street	West	Avenue B	Avenue D	Principal					X	
32nd Street	West	Avenue D	Somerton Avenue	Collector						
33rd Drive	South	12th Place	20th Street	Collector						
33rd Drive	South	24th Street	36th Street	Minor						
34th Avenue	South	12th Street	12th Place	Collector						
36th Drive	South	20th Street	22nd Lane	Collector						
36th Street	East	Avenue 3½E	Avenue 6E	Minor						
36th Street	East	Avenue 6E	Avenue 6¼E	Collector						
36th Street	East	Avenue 6¾E	Avenue 7E	Collector						
36th Street	East	Avenue 7E	Avenue 10E	Minor						
36th Street	East & West	Burch Way	Arizona Avenue	Collector			X			
36th Street	West	Arizona Avenue	4th Avenue	Collector						
36th Street	West	4th Avenue	Avenue A	Collector						
34th Street	West	Avenue B (US 95)	Avenue C 3/4	Collector						
38th Street	West	Avenue B (US 95)	Avenue D	Collector						
37th Avenue	South	22nd Lane	24th Street	Collector						
40th Street	East	Avenue 10E	Avenue 5E	Principal					X	
40th Street	East	Avenue 5E	Avenue 3E	Principal					X	
40th Street	East & West	Yuma Expressway	Airport Truck Court (east of 4th Ave)	Minor					X	X

APPENDIX A
ROADWAY CLASSIFICATIONS

February 7, 2007

NOTE: Principal = Principal Arterial, Minor = Minor Arterial

Street Name	Cardinal Direction Prefix	From	To	2005		State Route	Special Route Classification			
				Classification	Constrained		Gateway	Scenic/Historic	Truck	Hazardous Cargo
40th Street	East & West	Airport Truck Court (just east of 4th Avenue)	Arizona Avenue	Minor					X	
40th Street	West	Avenue D	Somerton Avenue	Collector						
42nd Street	East	Avenue 6E	Avenue 6½E	Collector						
44th Street	West	Avenue 6½E	Avenue 7E	Collector						
44th Street	West	Avenue 7E	Avenue 10E	Minor						
44th Street	West	Avenue 4½E	Avenue 3E	Minor						
45th Avenue	South	16th Street	20th Street	Minor						
46th Drive	South	32nd Street	36th Street	Collector						
48th Street	East	Avenue 10E	Avenue 3E	Minor						
48th Street	West	Avenue B (US 95)	45th Avenue	Collector						
52nd Street	East	Avenue 6E	Avenue 5E	Minor						
52nd Street	East	Avenue 4E	Avenue 3E	Minor						
56th Street	East	Avenue 10E	Area Service Highway	Principal						
56th Street	West	Yuma Expressway	Somerton Avenue	Minor					X	
64th Street	East	Avenue 4E	Avenue B	Collector						
72nd Street	East	Avenue 4E	Avenue 3E	Collector						
72nd Street	East & West	Avenue 3E	US 95	Minor						
80th Street	East & West	Avenue 4E	Avenue B	Collector						
Araby Road - Avenue 6 1/2E		16th Street (US 95)	Gila Valley Main Canal	Principal				X	X	
Araby Road		Gila Valley Main Canal	24th Street	Principal	X			X	X	
Araby Road		24th Street	Interstate 8	Principal					X	
Area Service Highway (SR 195)		Interstate 8	32nd Street (B-8)	Expressway		X	X		X	X
Area Service Highway (SR 195)		32nd Street (B-8)	Yuma Expressway (56th St)	Freeway		X	X		X	X
Arizona Avenue	South	Giss Parkway	8th Street	Minor				X	X	
Arizona Avenue	South	8th Street	16th Street	Minor					X	
Arizona Avenue	South	16th Street	24th Street	Minor	X				X	
Arizona Avenue	South	24th Street	32nd Street	Minor	X					
Arizona Avenue	South	32nd Street	40th Street	Minor					X	
Arizona Avenue	South	58th Street	64th Street	Collector						
Arizona Avenue	South	64th Street	80th Street	Minor						
Avenue 2½E		24th Street	32nd Street	Collector						
Avenue 3E		8th Street	16th Street (US 95)	Minor						
Avenue 3E		16th Street (US 95)	I-8 Westbound Ramps	Principal					X	X
Avenue 3E		I-8 Westbound Ramps	Gila Ridge Road	Principal			X		X	X
Avenue 3E		Gila Ridge Road	24th Street	Principal			X		X	X
Avenue 3E		24th Street	32nd Street	Principal			X		X	X
Avenue 3E		32nd Street	40th Street	Minor			X		X	X
Avenue 3E		40th Street	Avenue 3½E	Minor					X	X
Avenue 3E		72nd Street	80th Street	Minor					X	X
Avenue 3½E		24th Street Extension	32nd Street (B-8)	Principal					X	X
Avenue 3½E		32nd Street (B-8)	40th Street	Principal					X	X
Avenue 3½E		40th Street	44th Street	Principal					X	X
Avenue 3½E		44th Street	Avenue 3E	Principal					X	X
Avenue 4E		Gila Ridge Road	Yuma Expressway (56th S)	Minor						
Avenue 4½E		32nd Street	44th Street	Minor						
Avenue 5E		16th Street (US 95)	48th Street	Principal					X	
Avenue 5E		48th Street	Yuma Expressway (56th S)	Principal					X	
Avenue 5½E		32nd Street	40th Street	Minor						
Avenue 6E		Gila Ridge Road	52nd Street	Minor						
Avenue 63/4E		40th Street	48th Street	Collector						

APPENDIX A
ROADWAY CLASSIFICATIONS

February 7, 2007

NOTE: Principal = Principal Arterial, Minor = Minor Arterial

Street Name	Cardinal Direction Prefix	From	To	2005		State Route	Special Route Classification			
				Classification	Constrained		Gateway	Scenic/Historic	Truck	Hazardous Cargo
Avenue 7E		North Planning Area Boundary	8th Street	Minor				X	X	
Avenue 7E		8th Street	16th Street	Minor				X	X	
Avenue 7E		16th Street	24th Street	Collector						
Avenue 7E		24th Street	26th Place	Collector						
Avenue 7E		Union Pacific Railroad right-of-way	32nd Street	Collector					X	
Avenue 7E		32nd Street	48th Street	Minor						
Avenue 7E		48th Street	56th Street	Minor						
Avenue 7½E		32nd Street	56th Street	Minor						
Avenue 8E (AWC Access Road)		16th Street (US 95)	AWC Loop Road	Collector						
Avenue 8E		32nd Street	48th Street	Minor						
Avenue 8E		48th Street	56th Street	Minor						
Avenue 8½E		32nd Street (B-8)	48th Street	Minor						
Avenue 9E		16th Street (US 95)	North Frontage Road	Principal						
Avenue 9E		32nd Street	56th Street	Principal						
Avenue 9½E		32nd Street	48th Street	Minor						
Avenue 10E		24th Street	North Frontage Road	Collector						
Avenue 10E		32nd Street	56th Street	Minor						
Avenue A		1st Street	8th Street	Minor	X					
Avenue A		8th Street	32nd Street	Principal	X				X	
Avenue A		32nd Street	40th Street	Principal					X	
Avenue A		Yuma Expressway (56th St)	64th Street	Minor						
Avenue A		64th Street	72nd Street	Minor						
Avenue A		72nd Street	80th Street	Collector						
Avenue B		Interstate 8	1st Street	Principal					X	
Avenue B		1st Street	8th Street	Principal	X				X	
Avenue B		8th Street	16th Street (US 95)	Principal	X		X		X	
Avenue B (US 95)		16th Street (US 95)	28th Street	Principal	X	X	X		X	X
Avenue B (US 95)		28th Street	64th Street	Principal		X	X		X	X
Avenue B		64th Street	72nd Street	Principal			X		X	
Avenue B		72nd Street	80th Street	Principal					X	
Avenue B½	South	1st Street	West Main Canal	Collector						
Avenue B½	South	36th Street	40th Street	Minor						
Avenue C		1st Street	40th Street	Principal					X	
Avenue C		40th Street	54th Street	Collector						
Avenue C		54th Street	56th Street	Collector						
Avenue C½	South	1st Street	Avenue D by way of 5th Street alignment	Collector						
Avenue C½	South	8th Street	16th Street	Minor						
Avenue C½	South	20th Street	28th Street	Minor						
Avenue C½	South	36th Street	40th Street	Collector						
Barkley Ranch Avenue	South	28th Street	32nd Street	Collector						
Castle Dome Avenue		8th Street	Hotel Lane	Minor						
Catalina Drive		8th Avenue	32nd Street	Collector						
East Yuma Freeway		Interstate 8	Highway 95	Freeway					X	X
Elks Lane		22nd Street	24th Street	Collector						
Engler Avenue		24th Street	Palo Verde Street	Collector						
Gila Ridge Road		Area Service Highway (Araby Road)	Avenue 3E	Collector					X	
Gila Ridge Road		Avenue 3E	Pacific Avenue	Collector				X	X	
Gila Street		1st Street	Giss Parkway	Collector				X		

APPENDIX A
ROADWAY CLASSIFICATIONS

February 7, 2007

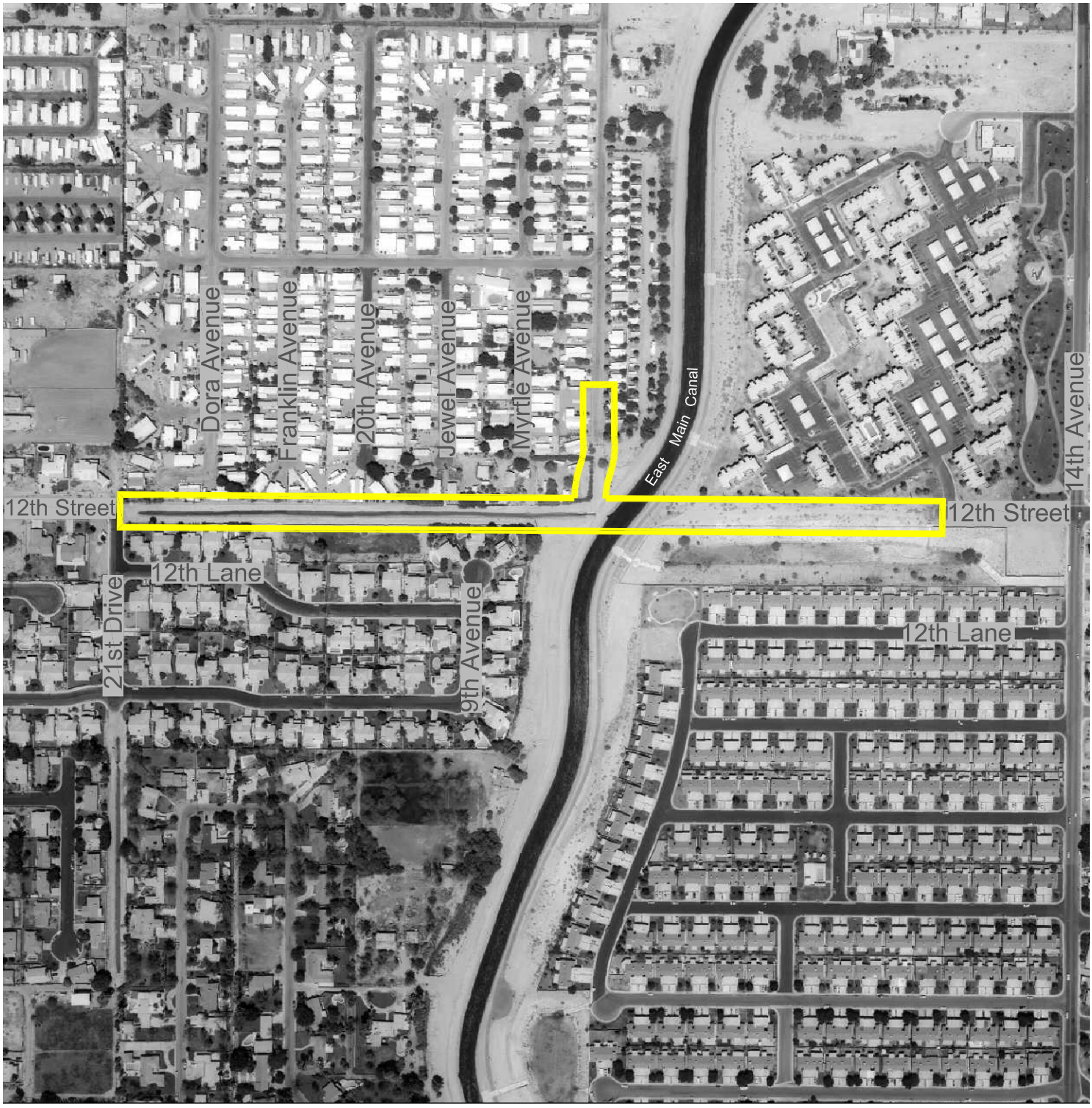
NOTE: Principal = Principal Arterial, Minor = Minor Arterial

Street Name	Cardinal Direction Prefix	From	To	2005		State Route	Special Route Classification			
				Classification	Constrained		Gateway	Scenic/Historic	Truck	Hazardous Cargo
Giss Parkway		8th Street	Interstate 8	Principal					X	
Giss Parkway		Interstate 8	4th Avenue (B-8)	Minor				X	X	
Hotel Lane (realigned)		Castle Dome Avenue	Sunridge Drive	Minor		X				
Interstate 8		Avenue 10E	California State Line	Interstate		X	X	X	X	X
Madison Avenue		Colorado River	8th Street	Local				X		
Magnolia Avenue		1st Street	12th Street	Collector						
Main Street		Colorado River	5th Street	Local				X		
May Avenue		West Main Canal	8th Street	Collector						
Mesa Avenue (Avenue 9½E)		32nd Street	56th Street	Minor						
Naples Avenue		16th Street	20th Street	Collector						
North Frontage Road		Avenue 10E	Avenue 9E	Minor						
North Frontage Road		Avenue 9E	Avenue 8½E	Minor						
North Frontage Road		Avenue 8½E	32nd Street	Minor					X	
Orange Avenue		1st Avenue	3rd Avenue (south)	Collector				X		
Pacific Avenue (Avenue 2E)		East Wetlands Park	8th Street	Collector						
Pacific Avenue		8th Street	Gila Ridge Road	Principal					X	
Pacific Avenue		Gila Ridge Road	32nd Street (B-8)	Principal	X				X	
Pacific Avenue		58th Street	80th Street	Collector						
Palm Avenue		8th Street	12th Street	Collector						
Palo Verde Street		Avenue 3E	Catalina Drive	Collector						
Pendergast Avenue/22nd Avenue		16th Street (US 95)	20th Street	Collector						
Penitentiary Avenue	East	1st Street	Ocean-to-Ocean Highway Bridge	Collector				X		
Redondo Center Drive		Giss Parkway	16th Street	Collector				X		
San Marcos Drive		Engler Avenue	26th Place	Collector						
Sunridge Drive		Hotel Lane (realigned)	16th Street (US 95)	Minor						
Somerton Avenue		8th Street	64th Street	Minor					X	
US 95		64th Street	West Planning Area Boundary	Principal		X	X		X	X
Winsor Avenue		Palo Verde Street	32nd Street	Collector						
Yuma Expressway (Avenue D)	North	Interstate 8	8th Street	Expressway			X		X	X
Yuma Expressway (Avenue D)	South	8th Street	16th Street	Expressway			X		X	X
Yuma Expressway (Avenue D)	South	16th Street	56th Street	Expressway					X	X
Yuma Expressway (56th Street)	East & West	Avenue D	Area Service Highway	Expressway					X	X

APPENDIX B

CLARIFYING SKETCHES

This section contains sketches of roadway alignments where clarifications of roadway alignment are needed.



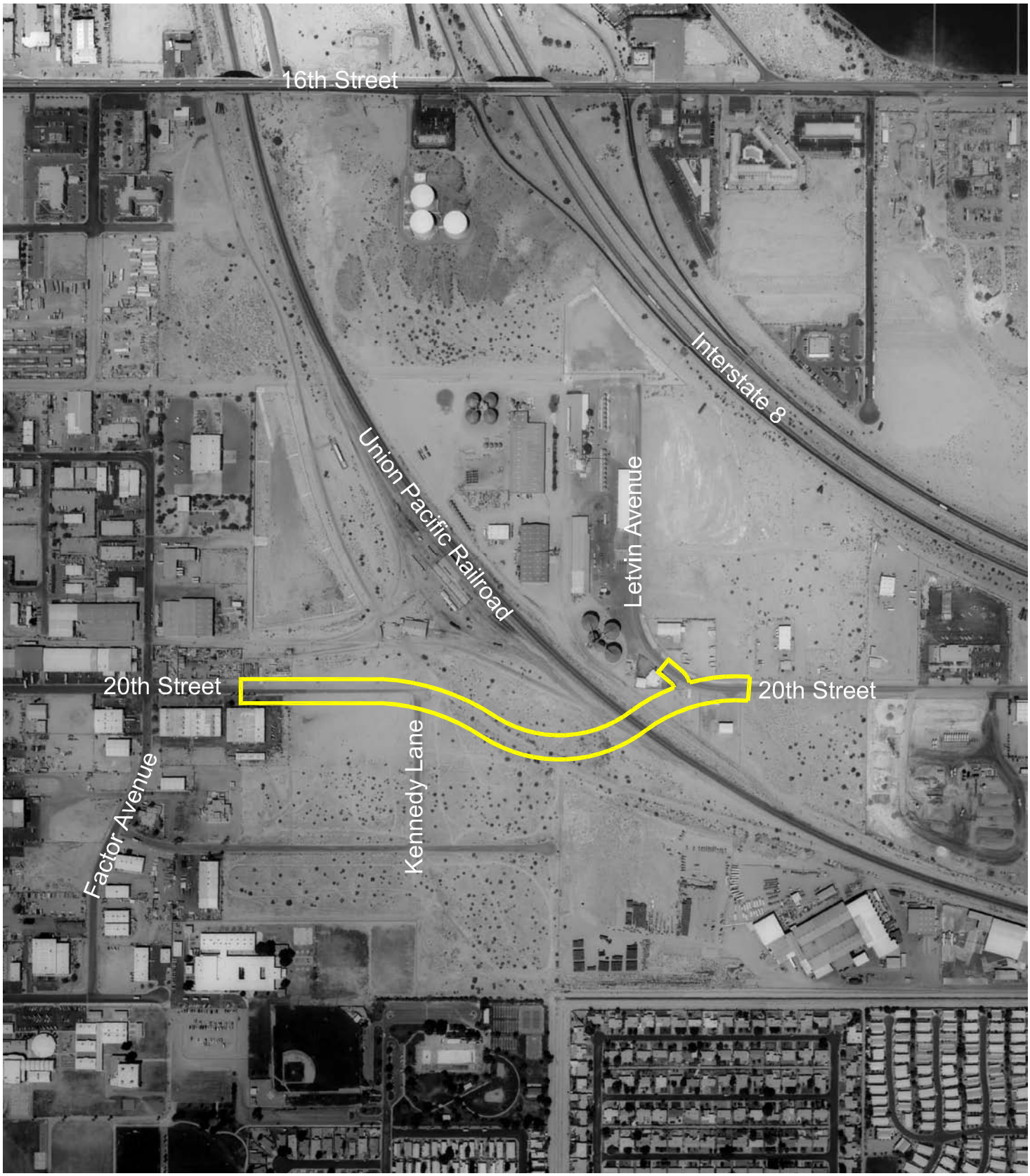
N

SCALE: 400' 0' 400'

CITY OF YUMA
MAJOR ROADWAYS PLAN - 2005

12th Street Connector
over the East Main Canal

Sketch
1



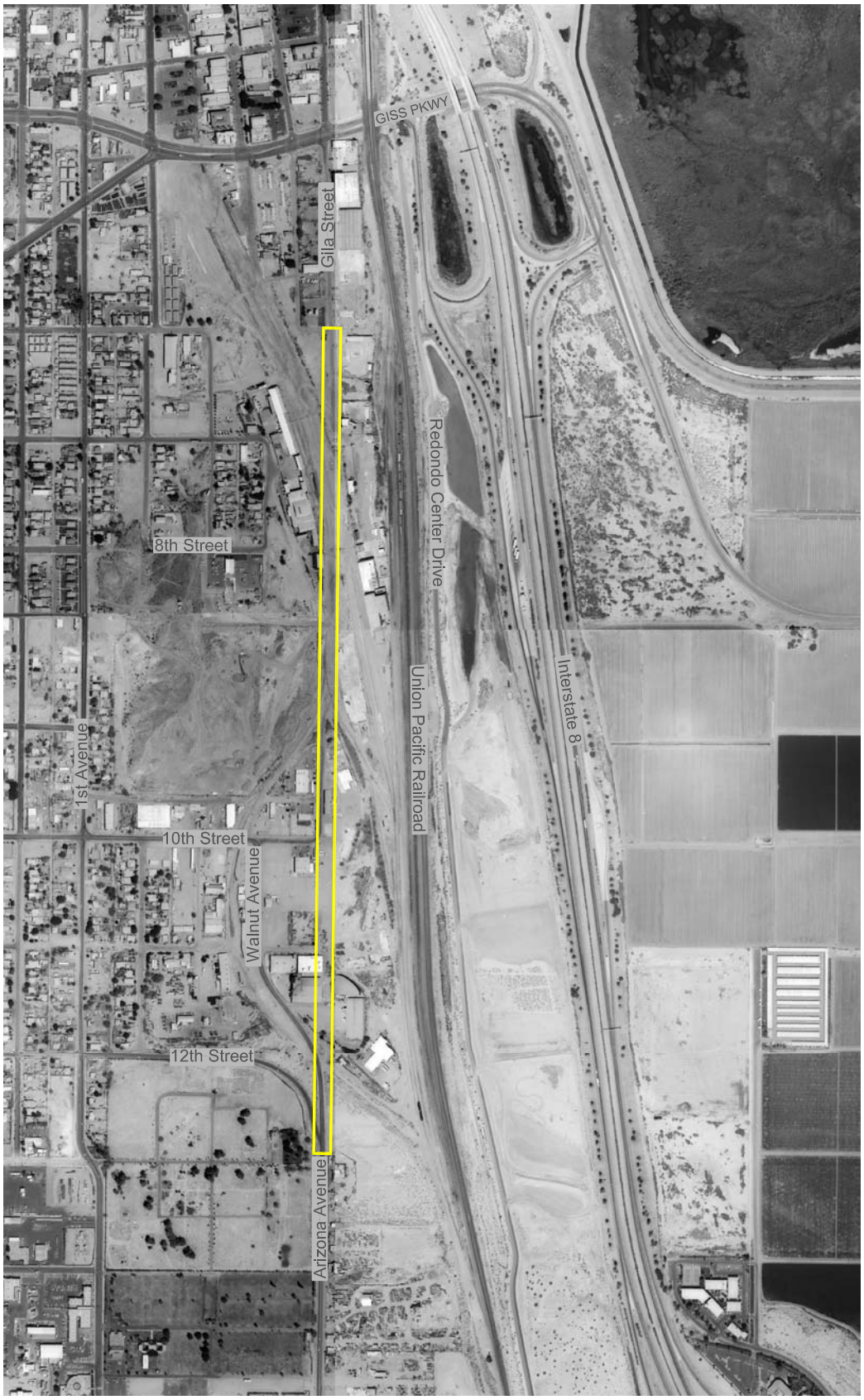
N

SCALE: 600' 0' 600'

CITY OF YUMA
MAJOR ROADWAYS PLAN - 2005

20th Street Connector
over Union Pacific Railroad
between Arizona Avenue
and Pacific Avenue

Sketch
2



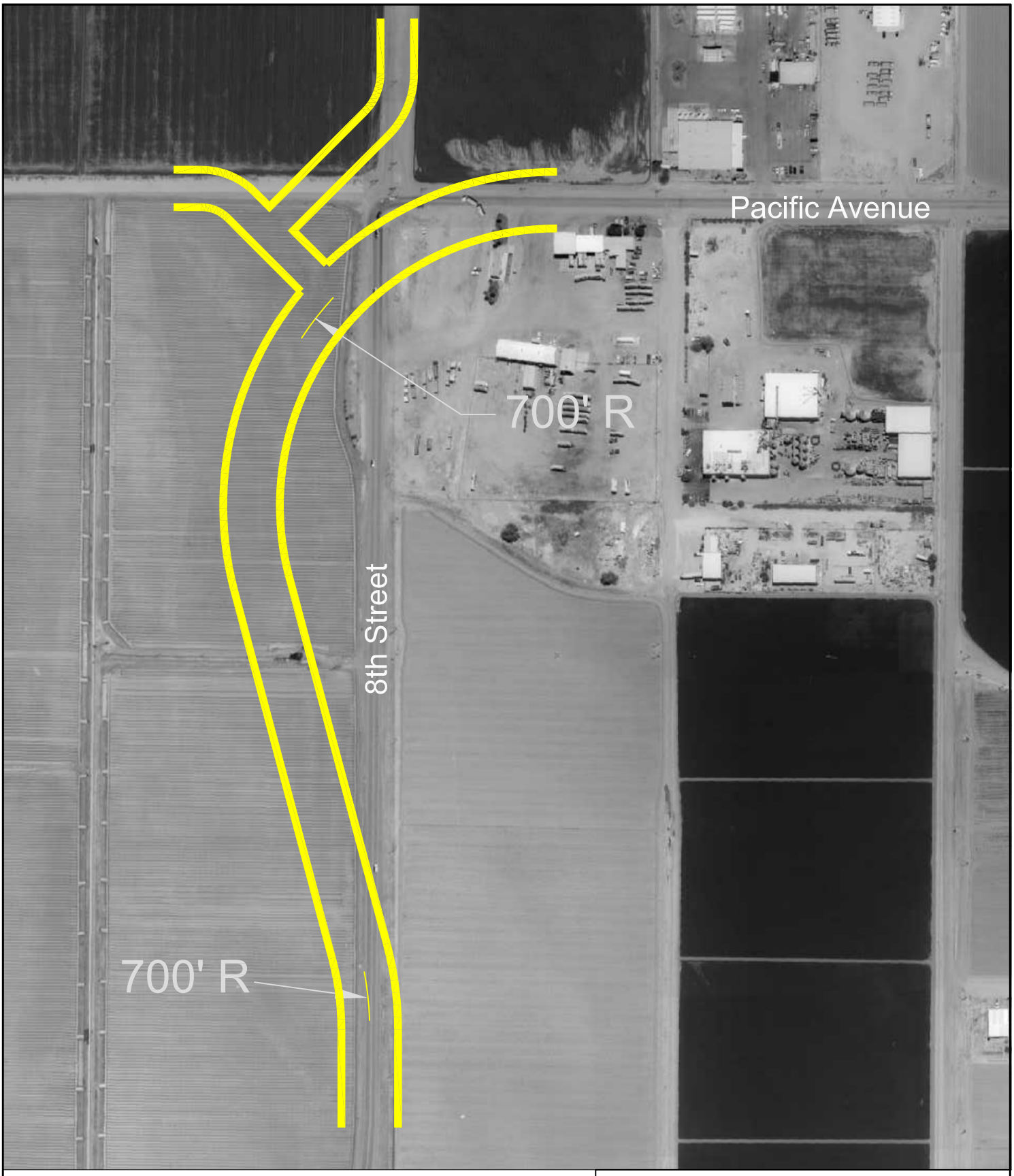
N

SCALE: 1000' 0' 1000'

CITY OF YUMA
MAJOR ROADWAYS PLAN - 2005

Arizona Avenue Extension
from 12th Street to
Giss Parkway

Sketch
3



SCALE: 300' 0' 300'

CITY OF YUMA
MAJOR ROADWAYS PLAN - 2005

East 8th Street
and Pacific Avenue

Sketch
4

N

SCALE: 800' 0' 800'

CITY OF YUMA
MAJOR ROADWAYS PLAN - 2005

Avenue C ½
Connections

Sketch 5
Page 1 of 4

N

SCALE: 800' 0' 800'

CITY OF YUMA
MAJOR ROADWAYS PLAN - 2005

Avenue C ½
Connections

Sketch 5
Page 1 of 4

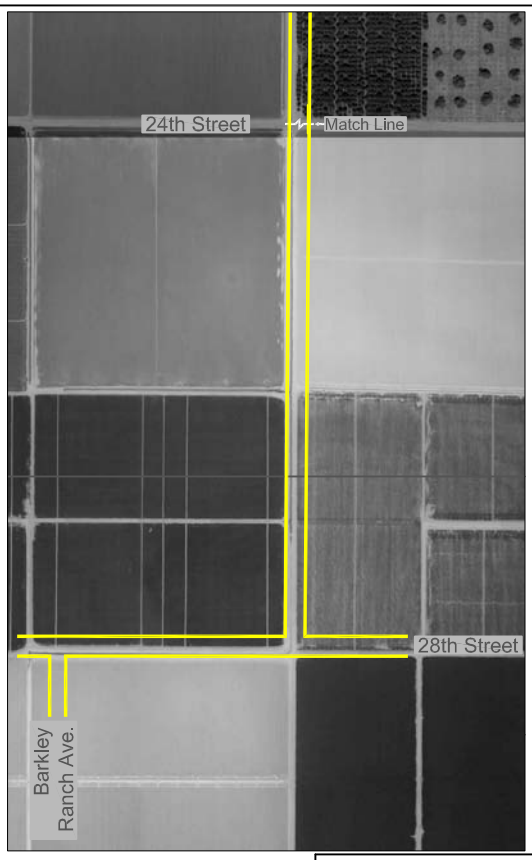
N

SCALE: 800' 0' 800'

CITY OF YUMA
MAJOR ROADWAYS PLAN - 2005

Avenue C ½
Connections

Sketch 5
Page 1 of 4



N

SCALE: 1000' 0' 1000'

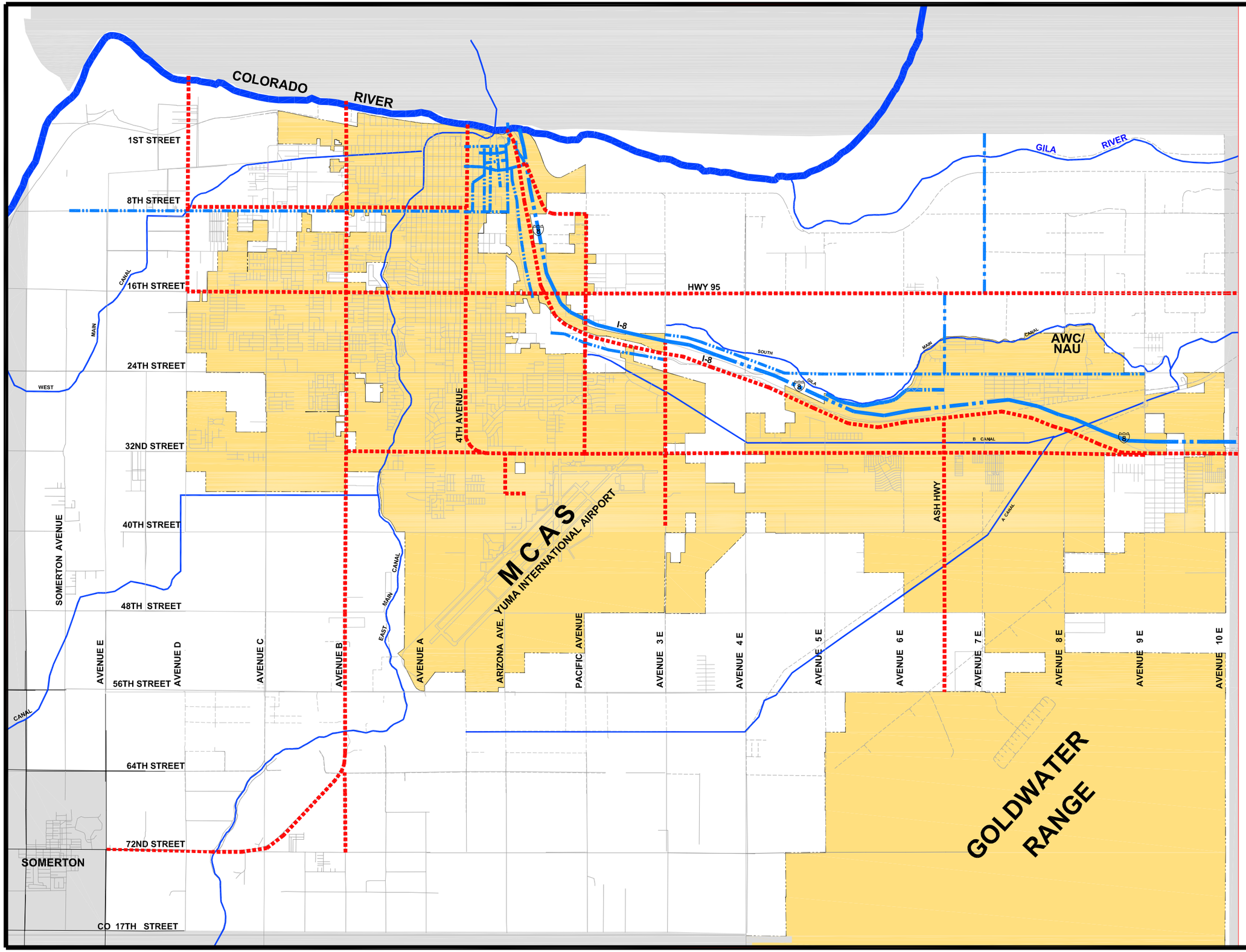
CITY OF YUMA
MAJOR ROADWAYS PLAN - 2005

Avenue C ½
Connections

Sketch 5

APPENDIX C
SPECIAL CLASSIFICATION MAPS

This section contains maps showing those roadways in Yuma that have special classifications. Special classifications include scenic/historic routes, gateway routes, truck routes, hazardous cargo routes and bikeways.



LEGEND

- GATEWAY ROUTE
- SCENIC / HISTORIC ROUTE
- CANALS
- CITY OF YUMA

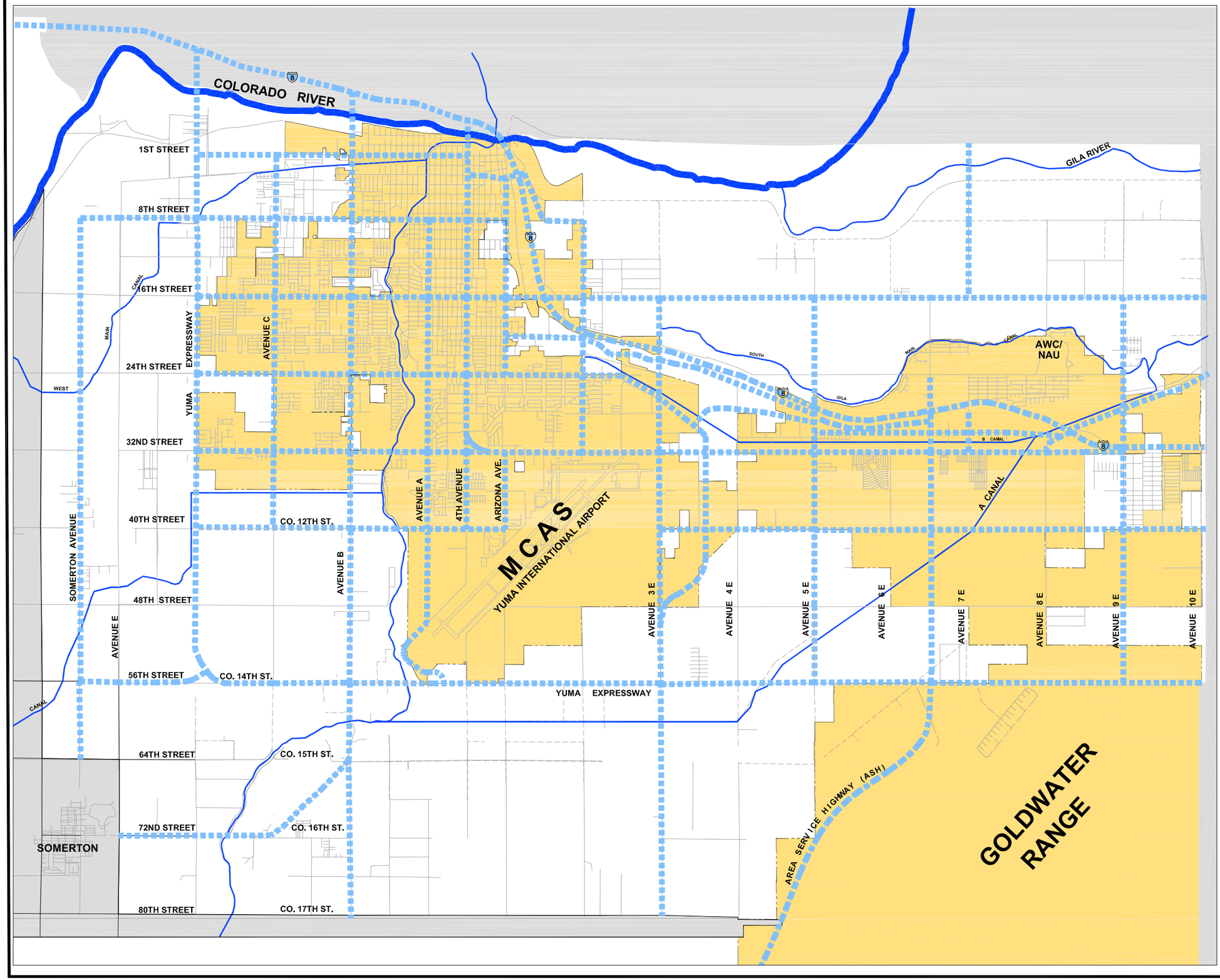
0 1 2

MILES

CITY OF YUMA
MAJOR ROADWAYS PLAN
2005

GATEWAY AND SCENIC/HISTORIC ROUTES

Map 2



LEGEND

- TRUCK ROUTE
- CITY OF YUMA
- CANALS

0 2 4

MILES

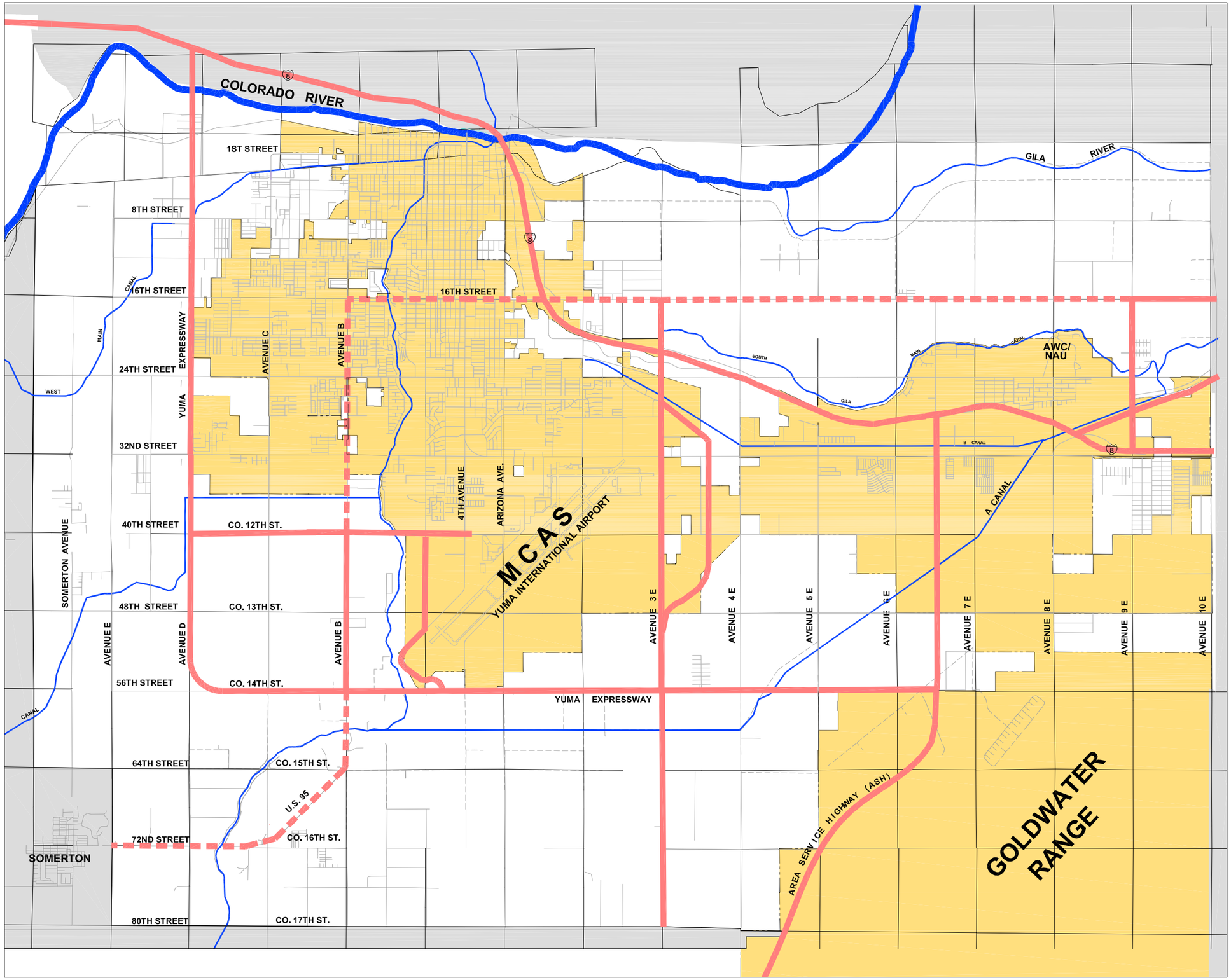
CITY OF YUMA

MAJOR ROADWAYS PLAN - 2005

TRUCK ROUTES

Map

3



LEGEND

- HAZARDOUS CARGO ROUTE
- TEMPORARY HAZARDOUS CARGO ROUTE
- CITY OF YUMA
- CANALS

0 2 4

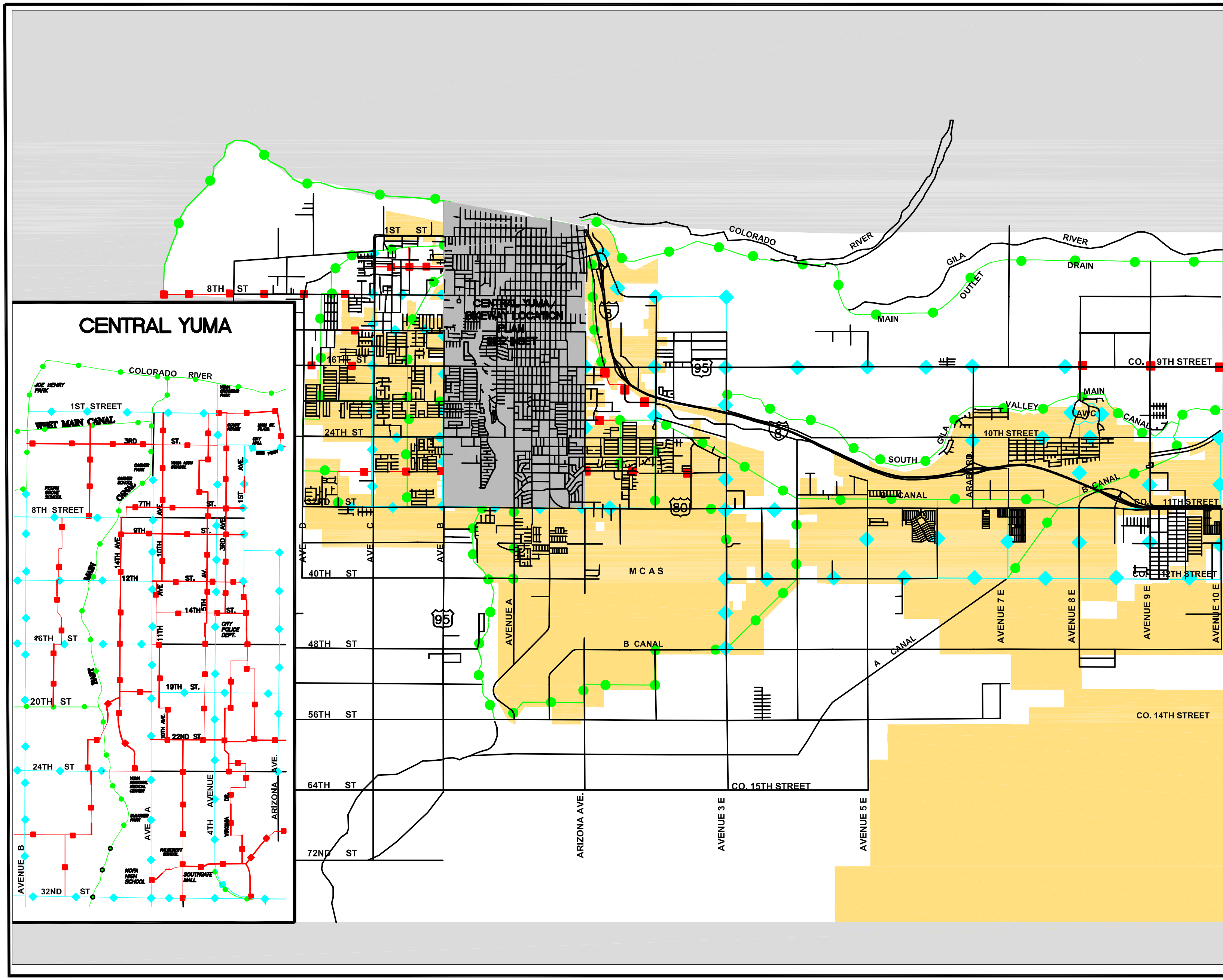
MILES

CITY OF YUMA

MAJOR ROADWAYS PLAN - 2005

HAZARDOUS CARGO ROUTES

Map **4**



LEGEND

- BIKE PATHS
- BIKE LANES
- BIKE ROUTES
- CITY OF YUMA

Note: See Map 3 - 5 in City of Yuma 2002 General Plan

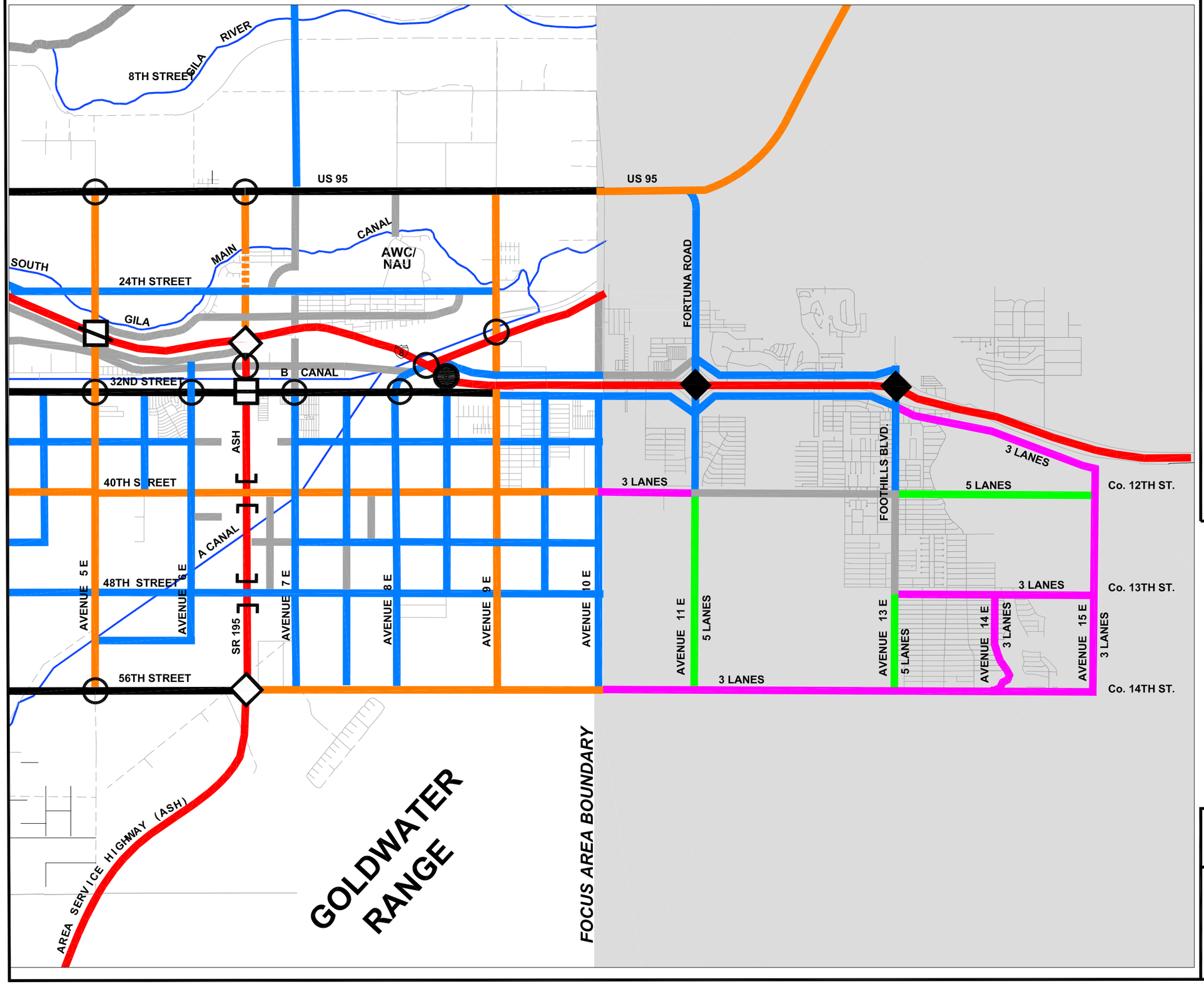
CITY OF YUMA
MAJOR ROADWAYS PLAN - 2005

BIKEWAY LOCATION PLAN

Map 5

APPENDIX D
EAST SIDE CONNECTION MAP

Map 6 shows how the roadways defined in this *Major Roadways Plan – 2005* at the eastern planning area boundary connect to those roadways defined in the Yuma Metropolitan Planning Organization's *2000 – 2023 Regional Transportation Plan* dated December 2000.



LEGEND

- INTERSTATE / FREEWAY
- EXPRESSWAY
- PRINCIPAL ARTERIAL STREET
- PRINCIPAL ARTERIAL CONSTRAINED
- MINOR ARTERIAL STREET
- COLLECTOR STREET
- PLANNED 3 LANES
- PLANNED 5 LANES
- CITY OF YUMA
- CANALS
- GRADE SEPARATION, NO INTERCHANGE

INTERCHANGES:

- EXISTING DIAMOND
- EXISTING SPECIAL
- FULL EXPRESSWAY INTERSECTION
- PLANNED SINGLE-POINT URBAN
- PLANNED DIRECTIONAL
- EXISTING DIAMOND PLANNED DIRECTIONAL
- FUTURE

0 1 2

MILES

NOTE: ROADWAYS EAST OF AVENUE 10E DEFINED IN THE YMPO REGIONAL TRANSPORTATION PLAN

CITY OF YUMA

MAJOR ROADWAYS PLAN - 2005

EAST SIDE CONNECTION MAP

Map **6**

APPENDIX E
POSSIBLE FUTURE NEEDS

The projects listed below hold the promise of significant benefit to the citizens of Yuma; however, additional consideration needs to be given to them before they are included in the Plan. These projects should be included in a traffic modeling study and included in the next update of the plan if found to be viable.

- Extension of 8th Street from Arizona Avenue to Giss Parkway
- Extension of 12th Street from Arizona Avenue to Castle Dome Avenue
- Connection of 19th Street to 20th Street over the East Main Canal
- Connection of 19th Street to 20th Street east of 4th Avenue
- Extend 1st Avenue from 26th Street to 28th Street and reconfigure the area of Catalina Drive, 1st Avenue and Palo Verde Street to provide a smooth path along Catalina Drive and 1st Avenue from 32nd Street to 1st Street. Improve 1st Avenue as needed.
- Avenue B½ from 8th Street to 24th Street

APPENDIX F
UNDERSTANDING ROADWAY CLASSIFICATIONS

GUIDANCE FROM ADOT

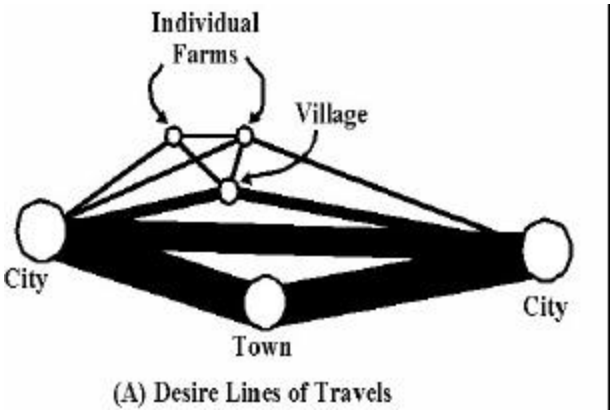
This section is derived from the Federal Highway Administration's ***Highway Functional Classification: Concepts, Criteria, and Procedures***, revised March 1989 (Reference 5), and the Arizona Department of Transportation's ***Arizona Functional Classification Guidelines***, 1993 (Reference 6). The ADOT terminology will be used throughout this *Roadways Plan – 2003* unless otherwise indicated. Occasionally, local streets will be referred to as either residential or commercial/industrial.

The Concept of Functional Classification

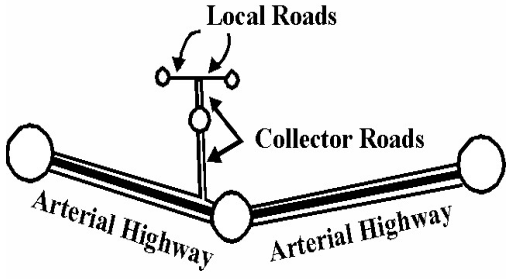
Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide. Basic to this process is the recognition that individual roads and streets do not serve travel independently in any major way. Rather, most travel involves movement through a network of roads. It becomes necessary then to determine how this travel can be channelized within the network in a logical and efficient manner. Functional classification defines the nature of this channelization process by defining the part that any particular road or street should play in serving the flow of trips through a highway network.

A schematic illustration of this basic idea is provided in Figure 1 (next page). In the upper diagram, lines of travel desire are shown as straight lines connecting trip origins and destinations. Relative widths of lines indicate relative amounts of travel desire. Relative sizes of circles indicate relative trip generating or attracting power of the places shown. Since it is impractical to provide direct-line connections for every desire line, trips must be channelized on a limited road network in a logical and efficient manner. This can be done as shown in the lower diagram of Figure 1. Note that the heavy travel movements are directly served or nearly so and that the lesser ones are channeled into somewhat indirect paths. The facilities shown in the diagram have been labeled local, collector and arterial, terms that are descriptive of their functional relationships. Note particularly that this hierarchy of functional types relates directly to the hierarchy of travel distances that they serve.

Figure 1
Channelization of Trips



(A) Desire Lines of Travels



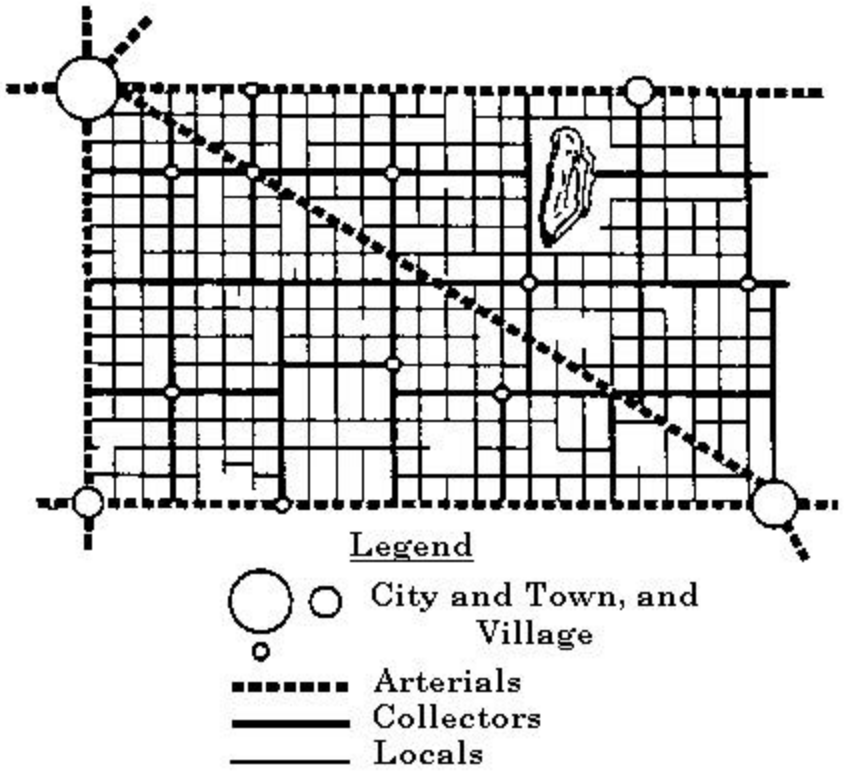
(B) Road Network Provided

A more complete (though still schematic) illustration of a functionally classified rural network is shown in Figure 2 (next page). Since the cities and larger towns generate and attract a large proportion of the relatively longer trips, the arterial highways generally provide direct service for such travel. The intermediate functional category, the collectors, serves small towns directly, connects them to the arterial network, and collects traffic from the bottom-level system of local roads, which serves individual farms and other rural land uses.

Although the [Figure 2] example has a rural setting, the same basic concepts apply in urban areas as well. A similar hierarchy of systems can be defined; however, because of the high intensity of land use and travel throughout an urban area, specific travel generation centers are more difficult to identify. In urban areas additional considerations, such as spacing, become more important in defining a logical and efficient network. A schematic illustration of a functionally classified urban street network is shown in Figure 3 (page 6).

Figure 2

Schematic Illustration of a Functionally Classified Rural Highway Network

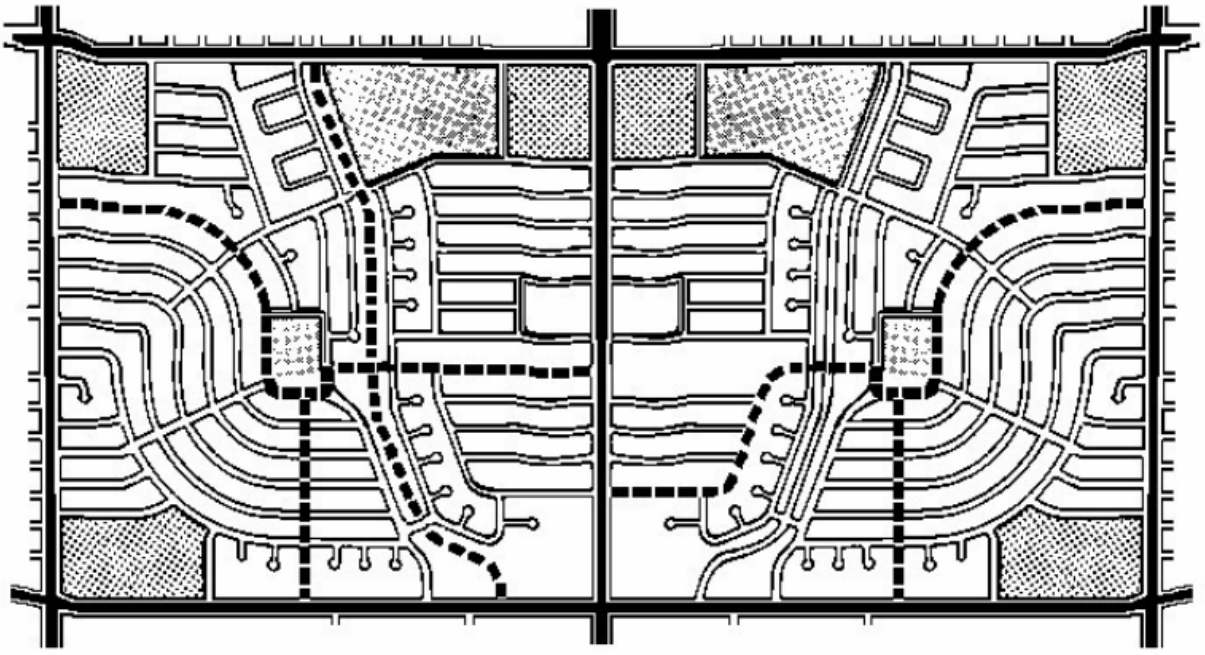


Allied to the idea of traffic channelization is the dual role the highway network plays in providing (1) access to property, and (2) travel mobility. Access is a fixed requirement, necessary at both ends of any trip. Mobility, along the path of such trips, can be provided at varying levels, usually referred to as "level of service." It can incorporate a wide range of elements (e.g., riding comfort and freedom from speed changes) but the most basic is operating speed or trip travel time.

It was pointed out in the discussion of Figure 1 that the concept of traffic channelization leads logically not only to a functional hierarchy of systems, but also to a parallel hierarchy of relative travel distances served by those systems. This hierarchy of travel distances can be related logically to a desirable functional specialization in meeting the access and mobility requirements. Local facilities emphasize the land access function. Arterials emphasize a high level of mobility for through movement. Collectors offer a compromise between both functions. This is illustrated conceptually in Figure 4 (page 7).

Figure 3

Schematic of a Portion
of an
Urban Street Network



Legend

Arterial street
Collector street
Commercial
Public

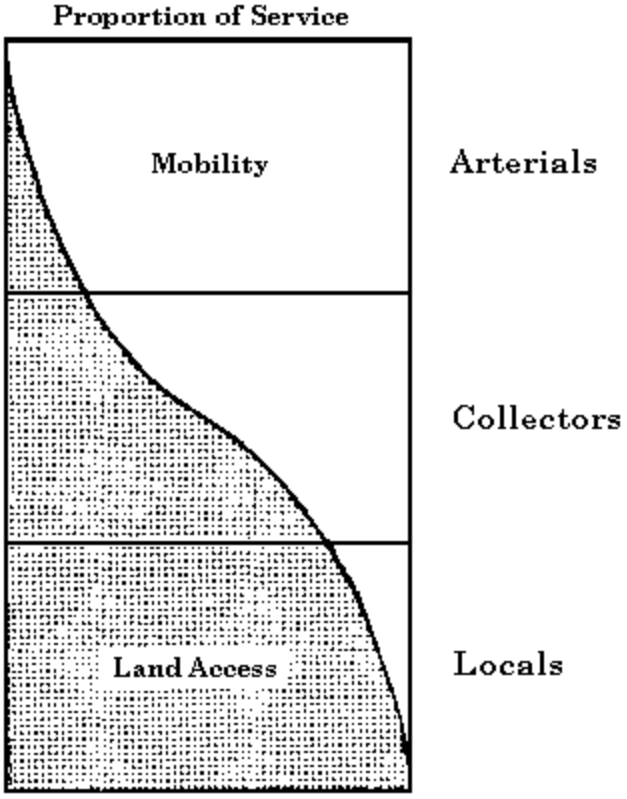
Functional classification can be applied in planning highway system development, determining the jurisdictional responsibility for particular systems, and in fiscal planning. These applications of functional classification are discussed in "A Guide for Functional Highway Classification."

Urban Functional Classification

What roads are a part of the urban functional reclassification process?
All public roads that are within the small urban and urbanized boundaries.

Figure II-4

Relationship of functionally Classified Systems in Serving Traffic Mobility and Land Access



What Direction Does the FHWA Provide Regarding Distribution of Urban Roadway Mileage Distributed to Each Urban Functional Classification System?

The guidelines are presented in the following table. Note that the urban collector and local street systems combined should account for between 70% and 90% of total urban mileage, with the collector system contributing no more than 10% of this total.

Table 1
FHWA Guidelines Regarding the Extent of Urban Systems

Urban System	Percentage of Total Urban Mileage
Principal arterial system	5% to 10%
Principal plus minor arterial system	15% to 25%
Collector street system	5% to 10%
Local street system	65% to 80%

Criteria Used to Functionally Classify
Urban Arizona Roads and Streets

Urban Principal Arterials

- There are three types of urban principal arterials:
  - Interstate;
  - other freeways and expressways; and
  - other principal arterials with no or little control of limited access.
- *The primary function of these roads is to provide the greatest mobility for through movement. Any direct access to adjacent land is purely incidental.*
- The higher mobility associated with these facilities is associated with higher posted speed limits.
- Partially or fully controlled access facilities are generally urban principal arterials.
- In larger urban areas the spacing of principal arterials may vary from less than one mile in the highly developed central business areas to five or more miles in the sparsely developed urban fringes.

In both small urban and urbanized areas, the principal arterial system should:

- serve the highest traffic volume generators;
- carry trips of longer length (the principal arterial system distributes traffic to the greatest geographic area.);
- have a high proportion of the urban area travel on a minimum of mileage;
- be integrated, internally and between major rural connections;
- carry the major portion of the trips entering and leaving the urban area.; and
- provide continuity for all rural arterials that intercept the urban boundary (of both small urban and urbanized areas).

For urbanized areas, urban principal arterials should also:

- serve the major centers of activity of a metropolitan area;
- provide connections between central business districts, between major inner city communities and major suburban centers;
- carry the major portion of traffic seeking to bypass the central city; and
- frequently carry important intra-urban and inter-city bus routes.

Urban Minor Arterials

- If an urban connection to a rural collector road is not classified as an urban principal arterial, it should be classified as an urban minor arterial.
- The spacing of minor arterial streets can vary from less than a half mile in the central business district of large cities to 2-3 miles in the suburban fringe. *In fully developed areas, minor arterials should be no more than one mile apart.*

In small urban and urbanized areas, the minor arterial system should:

- provide trips of moderate length; and
- provide trips of lower travel mobility than urban principal arterials
- Consequently, the speed limit is lower on these roads than on urban principal arterials.

In urbanized areas, urban minor arterials:

- are likely to carry local bus routes;
- serve to accommodate longer trips within the community; and
- do not usually penetrate identifiable neighborhoods.

Urban Collectors

- distribute traffic from arterials; and
- funnel traffic collected from local streets into the arterial system.
- collector systems may penetrate residential neighborhoods.
- frontage roads should be classified as collector or local roads. (Frontage roads are to be classified independently of the controlled access facility they abut.)

Urban Local Streets

- The primary function of the urban local street system is to provide direct access to abutting land.
- Urban local streets provide access to higher functional systems.
- Typically, service to through traffic movement is deliberately discouraged via the low posted speed limit, the use of stop signs, etc.
- Thus, urban local streets provide the lowest travel mobility.
- These streets have the lowest posted speed limits.
- Generally, bus routes do not use urban local streets.
- Urban local streets comprise all streets not on one of the higher systems.

Continuity for Rural Routes Through Urban Areas

- Urban principal arterials provide continuity for rural principal and minor arterial routes.
- The routing of the urban link connecting a rural principal arterial should normally be fairly direct.
- The routing of the urban link connecting a rural minor arterial may be somewhat less direct.
- *Urban Interstate routes* provide continuity for the rural Interstate system.
- *Other freeways and expressways* provide connecting links for either non-Interstate rural principal arterials or rural minor arterials.
- *Other urban principal arterials* provide connecting links for either non-Interstate rural principal arterials or rural minor arterials.

YUMA FUNCTIONAL CLASSIFICATIONS

The functional classifications used in this plan are:

- Principal arterials. Principal arterials will have the following sub-classifications:
  - Interstates and freeways
  - Expressways
  - Other principal arterials (hereafter referred to generally as principal arterials)
- Minor arterials
- Collector streets (collectors)
- Local streets, both residential and commercial/industrial

The definitions of the character and role of each of these functional classifications shall be those set forth above under “Criteria Used to Functionally Classify Urban Arizona Roads and Streets.”

APPENDIX G
REFERENCES

1. *Resolution No. R2002-34, City of Yuma 2002 General Plan, July 2002*
2. *Resolution No. R96-38, Joint Land Use Plan, September 1996*
3. *2000 – 2023 Regional Transportation Plan*, Yuma Metropolitan Planning Organization, December 2000
4. *Resolution R95-010, Bicycle Element*, City of Yuma – General Plan, February 1995.
5. *Highway Functional Classification: Concepts, Criteria, and Procedures*, Federal Highway Administration, U.S. Department of Transportation, March 1989.
6. *Arizona Functional Classification Guidelines*, Arizona Department of Transportation, 1993.
7. *Resolution R99-30, A Resolution of the City Council of the City of Yuma, Arizona, Amending and Adopting a Growth and Development Policy to Serve as a Guide for Staff, Advisory Boards and Commissions, and Council Actions with Regard to Growth and Development Decisions; and Superceding Resolution No. R98-32, Relating to a Growth and Development Policy.*
8. *A Policy on Geometric Design for Highways and Streets*, Federal Highway Administration, U.S. Department of Transportation, 2001
9. Area Service Highway Project Agreement, *Intergovernmental Agreement Among the State of Arizona and Yuma County, the City of Yuma, the City of San Luis, the Town of Wellton, and the Cocopah Indian Tribe*, 7 January 1999, as amended.
10. *Resolution No. R2002-13, A Resolution of the City Council of the City of Yuma, Arizona, Authorizing an Intergovernmental Agreement Between the City of Yuma and the State of Arizona, Regarding the transfer of Certain Business 8 and Interstate 8 Frontage Road Jurisdictions and Responsibilities.*
11. "Crime Prevention Through Environmental Design," City of Yuma, May 17-19, 1996.
12. Yuma City Code, Title 15 Land Usage, Chapter 153 Subdivisions.
13. Yuma City Code, Title 15 Land Usage, Chapter 154 Zoning.
14. Yuma City Code, Title 21 Streets and Traffic Code.
15. Deardorff Design Resources, Inc., *City of Yuma Downtown Transportation Action Framework Plan*, July 7, 2000.
16. Deardorff Design Resources, Inc., *City of Yuma Downtown Kit of Parts*, July 7, 2000.
17. Deardorff Design Resources, Inc., *Management Plan for the Yuma Crossing National Heritage Area*, prepared for Yuma Crossing National Heritage Area Corporation, Heritage Area Partners, and the National Park Service, Inter-Mountain Region, July 2002.