CITY OF TUCSON DEPARTMENT OF TRANSPORTATION

ROADWAY DEVELOPMENT POLICIES

Update to Ordinance 6593

Adopted by Mayor and Council
April 6, 1998

CITY OF TUCSON
ROADWAY DEVELOPMENT POLICIES
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CITY OF TUCSON
ROADWAY DEVELOPMENT POLICIES

INTRODUCTION

Historically, the development of roadways has focused on the actual performance of the facility, typically in terms of speed and capacity. Limited funding for major roadway projects led to the development of a roadway system focused primarily on the movement of people and goods. Little attention was paid to the development of roadways that complement, enhance and create a livable urban environment. However, with the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, transportation policy makers signaled an end to the development of roadways built exclusively for the sake of performance. ISTEA establishes transportation policy that recognizes roadways as multi-modal facilities that carry not only automobiles and trucks, but public transit vehicles, bicycles and pedestrians as well. Likewise landscaping, noise abatement, urban design compatibility and other aesthetic and environmental considerations have become essential elements of balanced roadway design.

The development of roadways within urbanized areas has many more constraints and limitations than in rural areas which have large expanses of undeveloped land. In the developed areas of Tucson, the existing grid system of roadways generally dictates the scale and location of improvements. In the past, the City Transportation Department has undertaken a roadway development process that recognizes the limitations of implementing major roadway improvements in highly developed areas. Capacity improvements within the City center on intersection improvements, as to minimize the disruption to the environment and the community while making the roadway system as efficient as possible in the most cost effective manner. However, entire roadway segments may fall below acceptable levels of service or become structurally or geometrically unsafe. As such, the following policies are developed to guide the implementation of the City's major roadway improvement components of the Pima Association of Government's twenty-year Metropolitan Transportation Plan (MTP), five-year Transportation Improvement Plan (TIP) and the City Transportation Department's five-year Capital Improvement Program (CIP).

ORGANIZATION OF THIS ORDINANCE

The organization of this ordinance is designed to serve two distinct purposes: first, it is designed to provide policy and procedural guidance for the planners and implementers of major roadway projects; second it is designed to provide policy makers and citizens with a general overview of the many considerations and requirements associated with the development of the urban roadway system. The technical procedures provide a pre-construction planning framework for the development of major roadway projects, while the public participation, general design criteria and mitigation measures, and alternative modes of transportation sections provide policy guidance throughout the design construction process.

Section 1 PURPOSE

The construction of major roadway projects can greatly impact neighborhoods, the environment, land uses and the overall character of a community. The overall purpose of this ordinance is to ensure that roadway development within the City of Tucson carefully consider all potential impacts and multi-modal accommodations while encouraging a progressive program of public participation. Specifically, the ordinance aims to ensure that proposed major roadway projects:

1) are designed to provide for a cost effective transportation system with proper consideration given to possible social, economic, environmental, transportation and land use effects,

2) provide for the consideration of reasonable alternatives including alternative modes of transportation,

3) afford interested parties and stakeholders an opportunity to provide input throughout the roadway project.

Section 2 APPLICATION

This ordinance shall apply to all major roadway projects constructed by the City of Tucson, and shall serve as a policy guide for roadway improvement projects constructed jointly by the City of Tucson and other jurisdictions. For the purpose of this ordinance "major roadway" refers to a roadway depicted on the City of Tucson Major Streets and Routes Plan, or an extension or new alignment of these designated roadways. The ordinance shall apply to roadway capacity improvements, new key feature roadway construction (such as grade-separated intersections, roadway extensions and new roadway alignments) and major streetscape improvement projects or reconstruction projects that entail a significant amount of community disruption. This ordinance shall not apply to the following:

1) Overlay or maintenance of an existing roadway;

2) Addition of paved shoulder or bike lanes to an existing roadway;

3) Pavement widening of an existing roadway which does not increase the number of through traffic lanes;

4) Traffic control or warning device installation projects;

5) Changes or improvements to the right-of-way area outside of the shoulder of an existing roadway, excluding major streetscape projects which involve significant community impacts;

6) Safety improvements; and

7) Drainage improvements

Section 3 INTERPRETATION AND IMPLEMENTATION

Interpretation and implementation of the policies set forth in this ordinance is the responsibility of the Mayor and Council and the Director of the Department of Transportation unless otherwise delegated.

Section 4 POLICY AND PLANNING

This ordinance has been developed within the policy and planning requirements set forth by ISTEA, the Clean Air Act and Amendments, and the Americans with Disabilities Act. The ordinance has also been developed within the policy and planning framework of the following local and regional planning documents that together provide guidance for the development of roadways within the City of Tucson. The intent of this ordinance is to serve as the implementation guide for roadway projects that are planned and programmed through the planning documents listed below:

1) *The Comprehensive Plan* (CP) - Section 10 of the City's *CP* contains policies pertaining to the development of transportation facilities also endorsed by the PAG member jurisdictions in the MTP. Policies include, but are not limited to, including the provision of necessary services and facilities to satisfy travel needs, coordination of land use patterns with transportation plans, the provision of public transportation services, and encouragement of bicycle and pedestrian travel. The *CP* also contains policy on environmental impact, basic street design considerations, and land use that assist in the development of major roadway projects (adopted by Mayor and Council - February 26, 1979).

2) *The Metropolitan Transportation Plan* (MTP) - The PAG *MTP* provides a 20-year vision of a balanced, multi-modal and sustainable transportation system for eastern Pima County. Specific roadway improvement projects are identified for each PAG member jurisdiction (adopted by Regional Council - September 28, 1994).

3) *Regional Transportation Improvement Plan* (TIP) - The *TIP*, updated every one to two years by PAG, is a five-year program of regional transportation improvements, developed within the framework of the *MTP*.

4) *The Major Streets and Routes Plan* (MS&R) - The functional classification of Major Streets and Routes is one of the criteria used by the City to determine the appropriateness for locating uses of varying degrees of intensity. The *MS&R Plan* provides the planning framework for the implementation of improvement plans for arterial and collector streets. As stated in the *MS&R Plan*:

> "The purpose of the *Major Streets and Routes Plan* is to facilitate future street widening, to inform the public about which streets are the main thoroughfares, so that land use decisions can be based accordingly, and to reduce the disruption of existing uses on a property" (*MS&R* page 4).

5) *Priority Index Rating* (PIR) and the *Mobility Management Plan* (MMP) - The City of Tucson and PAG maintain databases which document existing roadway performance data in terms of level of service in the *PIR* (formerly the Street Sufficiency Index) and *MMP* respectively. The *PIR*, which is used for selecting roadway improvement projects for the City's Capital Improvement Program, also takes into consideration pavement conditions and safety concerns.

6) *The Capital Improvement Program* (CIP) - The *CIP*, updated annually by the City, contains a transportation improvement component which details the financial programming for major roadway improvement projects. The transportation component also contains brief descriptions of each major roadway project including cost, number of lanes, other amenities to be provided (such as sidewalks, street lights, bus shelters, etc.), and anticipated scheduling. To minimize future costs, displacements and disruptions associated with roadway development, advance right-of-way acquisition, planning and design receive strong consideration in the development of the *CIP*. The draft *CIP* is typically scheduled for Mayor and Council approval in mid-winter. Prior to this approval the draft transportation component is reviewed by the Citizens Transportation Advisory Committee (CTAC) for consistency with existing transportation plans.

Section 5 TECHNICAL PROCEDURES

The technical procedure for implementation of major roadway development projects shall consist of Project Initiation, the preparation of an Advance Planning Report, an Alternative Alignment Report, an Environmental, Design and Mitigation Report, Mayor and Council and CTAC approval of pertinent reports, and the Design Process. If the project is being financed primarily through federal aid, federal guidelines for drafting an Environmental Assessment or Environmental Impact Statement, as set forth in the joint FHWA/FTA regulations for implementing the National Environmental Policy Act, will supersede local environmental procedure.

An Advance Planning Report shall be prepared for each initiated project. Based upon the recommendations of the Advance Planning Report, the City Engineer, the Project Manager, and CTAC will determine the appropriate technical procedures to apply to the project. Consideration will be given to the project's potential environmental or community impacts and whether or not the project is being constructed in conjunction with the improvement district process. The following criteria will typically prevent a project from advancing from the Advance Planning Report directly to the Design Process.

1) The displacement of residences or businesses
2) A new extension to an existing roadway
3) A new roadway alignment
4) A new key feature project, such as a grade separated intersection

The majority of major roadway projects within the City of Tucson are constructed in conjunction with the improvement district process, along the existing roadway alignment, and do not entail the displacement of residences or businesses. Because of the lack of significant impacts, these projects may typically proceed from the Advance Planning Report to the Design Process. The Design Process will include a Design Concept Report (DCR) that may be integrated into the Advance Planning Report and will include, but not be limited to, design alternatives, archeological and historical research, and environmental clearance.

Section 5.1 Project Initiation

A project may be initiated after the desirability and necessity for the project is established through the *MTP*, *MMP*, City *PIR*, or Mayor and Council Action. Projects shall be initiated through the City's *CIP*, or the regional *TIP*.

Section 5.2 Advance Planning Report

The Advance Planning Report shall be prepared by Department of Transportation staff and/or a consultant, using an interdisciplinary project development approach. The Advance Planning Report assesses the appropriateness of implementing the proposed major roadway improvement project and provides the basis for determining the appropriate process for implementation of the proposed project. The Advance Planning Report shall: (1) contain the information detailed in Appendix 'A', (2) define the project and its limits, (3) describe the major design features, location, and possible alternatives, (4) include a recommendation of whether or not an Alternative Alignment Report shall be prepared for the project, or if the project can proceed to the Design Process, and (5) make recommendations for project phasing.

A minimum of one report covering the Advance Planning Report shall be given to the Citizens Transportation Advisory Committee (CTAC). The CTAC shall hold a public meeting on the findings and recommendations of the final Advance Planning Report for the purpose of receiving official public comment. Neighborhood associations, homeowners associations, and other stakeholders shall be identified for participation in the review of the Advance Planning Report at this public meeting. Upon considering the public comment received, the CTAC may approve, modify, or reject the report. If approved or modified, the information from further reports and the public comments shall be used to determine the appropriate process for further project implementation.

Section 5.3 Alternative Alignment Report

An Alternative Alignment Report shall be prepared if recommended by the Advance Planning Report. The report documents the environmental constraints and the specific location components of each alternative set forth in the Advance Planning Report. In addition, the report will address general design features related to each alternative alignment and general assessments how these features may impact the community and the environment. The contents of the Alternative Alignment Report are detailed in Exhibit 2.

An Alternative Alignment Report is typically appropriate where (1) the proposed project is a new roadway on a new alignment, (2) the proposed project has virtually no existing right-of-way, or (3) there are significant alignment choices to be made between the identified project limits. The report is not appropriate where (1) the established or existing right-of-way is of adequate width in accordance with the MS&R Plan, (2) the alignment variations are contiguous with the existing road right-of-way and location, (3) additional right-of-way is needed only to accommodate minor alignment alterations or intersection widening, (4) alignments for the roadway were established prior to the initiation of the Advance Planning Report.

Following completion of the Alternative Alignment Report, Mayor and Council shall hold a public hearing on the recommended alignment. At the conclusion of the hearing, Mayor and Council may approve the report and the recommended alignment, may instruct staff to reconsider other alignments, or may recommend that the project be terminated or delayed. The report is essential in the roadway development process as it will guide staff, concerned public and governmental decision makers toward the selection of a preferred, acceptable and cost effective design solution from among several alternatives. Based upon the selected alternative, the Alternative Alignment Report will make a recommendation as to whether or not the project will require an Environmental, Design and Mitigation Report, or if the project may proceed to the Design Process.

Section 5.4 Environmental, Design and Mitigation Report

If recommended, an Environmental, Design and Mitigation Report shall be prepared after completion of the Alternative Alignment Report and Mayor and Council approval of a final right-of-way alignment. The intent of this report is to provide an in-depth analysis of potential environmental impacts, detailed design concepts, and specific mitigation measures against disruptions to the environment and the community. The report shall also contain specific access information for all property adjacent to the proposed project or directly affected by the project. The Environmental, Design and Mitigation Report will be made available for a thirty-day public comment period according to standard City procedure. The suggested contents of the Environmental, Design and Mitigation Report are contained in Exhibit 3.

Section 5.5 Design Process

Projects that have no significant impact on the environment may proceed directly to the design phase after the CTAC approval of this recommendation in the Advance Planning Report. Such projects are primarily comprised of capacity improvement projects that are developed in conjunction with the improvement district process along existing alignments. The minimal environmental and community impacts will be documented by the Advance Planning Report along with comments received prior to and from the public hearing. The hearing record and Advance Planning Report form the basis of an environmental summary document, which may be part of the project's Design Concept Report (DCR). Detailed project plans and specifications shall then be prepared.

Section 6 PUBLIC PARTICIPATION

It is the policy of the City of Tucson to promote public involvement and input in transportation projects. The Citizen Participation Process shall be administered in compliance with Resolution No. 11321 adopted by the Mayor and Council on October 27, 1980 and City of Tucson Administrative Directive 1.06-22. The type of public participation warranted for major roadway projects subject to this ordinance shall be dependent upon the Technical Procedures recommended by the Advance Planning Report. All projects will be subject to the core public notification and participation requirements listed in this section. Projects which require the preparation of the Alternative Alignment Report and/or the Environmental, Design and Mitigation Report will require the formation of a Citizen's Advisory Committee as covered in Section 7.

Section 6.1 Project Notification and Mailing List

The City of Tucson Department of Transportation shall prepare a public notification plan as set forth in City of Tucson Administrative Directive 1.07-8. A project mailing list will be maintained for each project subject to this ordinance. The mailing list shall be used for all mailed notifications required to be made under this ordinance. At minimum, the project mailing list shall consist 1) all owners of properties and residents located within a one-half mile wide corridor along the alignment of the proposed project, based on the latest available records of the Pima County Assessor's Office, and 2) the names of all businesses and the president or secretary of each homeowner association officially registered with the City of Tucson adjacent to the project corridor. The one-half mile corridor minimum may be extended to include additional territory if warranted by neighborhood boundaries, or project impacts.

Section 6.2 Public Input

The development of all major roadway projects will include public participation and input in the design phase to ensure that the project is consistent with community goals. The Department of Transportation shall hold a minimum of two meetings during the design phase of the project. One meeting shall be held at the beginning of the design process, typically at the thirty (30) percent design phase and another meeting shall be held near the end of the design phase, typically at the ninety-five (95) percent design phase.

Section 6.3 Pre-Construction Meeting

The Department of Transportation shall hold a neighborhood pre-construction meeting at least one week prior to the commencement of construction activities for any major roadway project. The purpose of this meeting will be to provide the interested public with an overview of the project schedule, potential disruptions caused by project construction, and the mitigation measures to be employed by the Department of Transportation. All council ward offices and interested internal staff will be notified of the pre-construction meeting.

Section 6.4 Citizens Transportation and Bicycle Advisory Committees

The City's Citizens Transportation Advisory Committee (CTAC) and the joint City of Tucson/Pima County Bicycle Advisory Committee (TPBAC) will be involved through their advisory and advocacy role in all transportation projects and programs.

Section 7 CITIZEN ADVISORY COMMITTEE

A Citizens Advisory Committee (CAC) shall be formed for all projects which require the Alternative Alignment Report and/or the Environmental, Design and Mitigation Report. The CAC will be formed to provide guidance, review, and evaluation of the specific project proposal, reports, and documents, so that ample consideration is given to the concerns of those who are most directly affected by a project. The CAC shall not be formed for projects that proceed from the Advance Planning Report to the Design Process. Public participation in such projects will be provided through CTAC during the Advance Planning stage, and at public meetings during the design, construction, and post construction phases of the project.

Section 7.1 Committee Membership

The specific project CAC shall consist of seven to eleven members: four to five members shall own property or reside immediately adjacent to the proposed improvement, three to four members may own property or reside within the designated mailing list area, but not immediately adjacent to the proposed improvement. Up to two members may own property or reside outside of the designated mailing list area. Preference will be given to property owners and representatives of homeowners' and merchants' associations.

Section 7.2 Committee Formation

To solicit volunteers for membership on a project's CAC, notices shall be mailed to all whose names appear on the project mailing list, and an advertisement shall be published at least once in a newspaper of general circulation in Pima County not less than fifteen days before appointment of members. The notice shall contain a brief description of the project and information on obtaining an application for membership on the CAC. The notice shall specify the maximum number and composition of the CAC, along with a deadline for receiving applications. The Director of Transportation shall appoint each CAC.

Section 7.3 Committee Functions and Duties

1) The CAC shall elect a chairperson, who shall conduct meetings and supervise the preparation of the CAC Report.

2) CAC members shall attend meetings as called by either the Department of Transportation or the chair, generally at regular intervals during project development through the end of construction.

3) The Department of Transportation shall provide CAC members with all appropriate project materials including, but not limited to, training materials, copies of reports, construction documents, and copies of this ordinance, and shall explain operating procedures, duties and responsibilities of membership.

4) The CAC shall review the Alternative Alignment Report, the Environmental, Design and Mitigation Report, and the construction documents based on the meeting schedule as set forth in Section 7.5 below. The CAC shall prepare a report containing the Committee's opinions, requests and suggestions concerning the Alternative Alignment Report, the Environmental, Design and Mitigation Report, or any other item listed in Section 7.4 below. The CAC Report may suggest a priority for elements of the proposed improvements, including the Committee's priorities for allocation of mitigation resources available to the project.

5) The CAC Report shall be presented to the Department of Transportation at least forty-five (45) days before the Mayor and Council public hearing on the Alternative Alignment Report or Environmental, Design and Mitigation Report. A copy of the CAC Report shall be presented to each Council Member and the Mayor with the Alternative Alignment Report and Environmental, Design and Mitigation Report.

6) Following construction, the CAC shall provide a post-construction evaluation of the project. The evaluation shall analyze whether the construction has achieved the mitigation goals identified in the Alternative Alignment Report and Environmental, Design and Mitigation Report. The evaluation methodology will be at the discretion of the Project Manager and the CAC chairperson.

Section 7.4 Permitted Scope of Review

The CAC may review any aspect of the following items, including mitigation measures:

1) The Alternative Alignment Report, which identifies the roadway location within the corridor identified by the Advance Planning Report.

2) The Environmental, Design and Mitigation Report, including

   (a) Neighborhood factors, such as

      (i) Noise abatement methods,
      (ii) Streetscape themes,
      (iii) Architectural treatments,
      (iv) Street lighting,
      (v) Access control and mitigation, and
      (vi) Other neighborhood impacts;

(b) Environmental factors, such as

(i) View shed treatments,
(ii) Landscaping theme, and
(iii) Cultural resources, and
(iv) Stormwater and drainage;

(c) Alternative modes considerations, such as

(i) Pedestrian facilities,
(ii) Bicycling facilities, and
(iii) Public transit facilities

(d) Cost Considerations

Section 7.5 CAC Meetings

The following meeting schedule is recommended for each CAC. Progress drafts of the report or documents under consideration shall be available prior to each respective meeting:

Item under consideration	Suggested number of meetings	CAC Meeting Schedule
Alternative Alignment Report	3	A meeting when the draft report is initiated, one when it is completed, and one when the final report is completed.
Environmental, Design, and Mitigation Report	3	A meeting when the draft report is initiated, one when it is completed, and one when the final report is completed.
Construction Documents	Optional	As the Construction Documents are being prepared, the project team shall provide the CAC with reports identifying deviations from the approved Environmental, Design and Mitigation Report. The CAC may meet as its deems necessary to review the Construction Documents based upon this report.
Post-Construction	Optional	Upon completion of the project

Section 8 GENERAL MITIGATION MEASURES AND DESIGN CRITERIA

Specific impact mitigation measures and design criteria as set forth by American Association of State Highway Transportation Officials (AASHTO), Manual of Uniform Traffic Control Devices (MUTCD), FHWA and the City of Tucson Development Standards and City of Tucson/Pima County Standard Specifications and Details will be taken as recommended for major roadway projects as applicable. However, the following *general* mitigation measures and design criteria will be employed during the construction of all roadway projects subject to this ordinance.

Section 8.1 Mitigation Measures

The following mitigation measures shall be considered for each project subject to this ordinance:

1) **Neighborhood**

(a) *Area Adjoining Roadway* - The primary purpose of the area between the roadway improvements and the right-of-way line shall be to mitigate adverse effects of roadway development on adjacent land uses and to provide an aesthetically pleasing environment. Therefore, the following uses are permitted: installation of noise walls, screens or berms; landscaping facilities for public transit, pedestrian and/or bicycle use; underground utilities; drainage system components, safety equipment, and environmental mitigation measures. Overhead utilities are permitted only when the cost of placing the utilities underground causes the project budget to be exceeded or when the voltage exceeds 14,000 volts. Where native vegetation exists, native vegetation shall be conserved and incorporated into the mitigation plan as set forth in the Native Plant Ordinance of the Tucson Land Use Code. All reasonable steps shall be taken to assure appropriate continued access to adjacent properties during construction.

(b) *Neighborhood Traffic Intrusion* - All major roadway projects shall be designed to prohibit, where possible, neighborhood traffic intrusion. Neighborhood traffic intrusion shall be managed in accordance with the procedures set forth in the *Neighborhood Traffic Management Program*. Where local streets connect to collectors and/or arterials and a bypass or shortcut between roadways carrying high volumes of traffic exists, traffic diverters and/or traffic calming techniques may be used to reduce: (1) the average speed of traffic, (2) nuisance factors associated with cut-through traffic, and (3) hazards to neighborhood bicyclists and pedestrians, neighborhood traffic conflicts. The issue of neighborhood traffic intrusion shall be addressed by the Advance Planning Report required for each project.

(c) *Traffic Calming Techniques* - Traffic calming techniques may be considered as an alternative mitigation strategy in the improvement of specified collector street projects when approved by Mayor and Council through the *Neighborhood Traffic Management Program*. Traffic calming techniques may be developed by the Department of

Transportation with the assistance and guidance of neighborhoods impacted by the roadway improvement.

2) **Environmental**

(a) *Preservation of Environmentally, Ecologically, or Historically Sensitive Areas* - Where possible, the location of major route improvements shall avoid areas of significant environmental, cultural, historical and ecological sensitivity. Where major route improvements are adjacent to areas of unique environmental, cultural or ecological sensitivity, and/or designated historic districts and properties, acquisition of development rights or conservation easements may be proposed by the appropriate Environmental, Design and Mitigation Report.

(b) *Native Plant Preservation* - All major roadway projects will be subject to the *Native Plant Preservation Ordinance* (No. 8845) of the Tucson Land Use Code.

(c) *Dust Abatement* - Curbs or paved roadway shoulders shall be provided adjacent to through traffic lanes to minimize air borne dust generated by vehicular traffic.

(d) *Noise Abatement* - Noise abatement shall be incorporated into the project design to protect inhabited residential or other sensitive land uses from roadway traffic noise. Noise abatement measures shall be considered for these land uses when existing or design year projection of exterior traffic noise exceed an hourly A-weighted sound level of 67 dBA. The preferred method of noise abatement shall be the construction of noise barrier walls. Other methods may be utilized if the cost to the City does not exceed the cost of the noise barrier walls.

(e) *Visual Enhancement* - Signs and billboards within or encroaching the right-of-way shall be removed in their entirety except those signs specifically exempted by code. Non-conforming signs and billboards may be relocated to private property only if they can be modified to conform to all applicable code provisions.

Section 8.2 General Design Criteria

The following design concepts shall be implemented for each major roadway project covered by this ordinance:

1) Mid-block cross sections for arterial and collector streets shall consist of variations of those shown in the MS&R or variations as approved by the Department of Transportation. The actual design and right-of-way requirements of arterial and collector streets shall be sensitive to and compatible with all Neighborhood, Area, and Specific Plans, and the land uses they pass through and serve.

2) The maximum width of an arterial street shall be no more than six (6) lanes at the mid-block, except where the additional lanes are designated for buses, bicycles, and high-occupancy vehicles. Where traffic volumes create the need for additional capacity, intersection modifications should be pursued prior to further widening.

3) A curbed median typically twenty (20) feet in width shall be included in the design of all arterial streets where the curb to curb width exceeds seventy-five (75) feet. Street landscaping shall consist of drought-tolerant vegetation as regulated in the City Land Use Code and Development Standards. Landscaped medians may also be considered in the design of collector streets in order to improve the overall aesthetic of the project.

4) Median openings shall be spaced to match collector and arterial intersections. Requests for additional median openings may be considered only if conforming to standard minimum spacing requirements. No median openings shall be allowed in the storage area of turn bays.

5) Access points to arterial and collector streets shall be limited in accordance with the City Land Use Code and Development Standards. Individual driveway openings onto arterials and collectors shall be designed to eliminate backing movements onto the street. Driveway and local street connections shall be minimized wherever possible by reorienting access, closing local streets and/or providing frontage roads

6) Projects shall adhere to applicable nationally recognized traffic signal warrants and alternatives to traffic control, and support designs that minimize traffic flow interruptions on arterial and collector streets. Installation of traffic signals shall be limited to regularly spaced intervals of at least one-half mile. Customized traffic signal design to accommodate bicycle and pedestrian travel may be considered at specific locations within the half-mile interval with the approval of the City Traffic Engineer. Where accident or traffic volume warrants require signals at other than the minimum spacing, other methods, such as traffic interception and channelization, shall be pursued.

7) Signal timing shall be instituted which allows for permitted - protected left turn arrow operations to improve traffic flow, total intersection operations, and safety.

8) If changes in traffic patterns eliminate the need for a traffic control signal and/or the spacing disrupts progressive traffic flow, consideration must be given to removing the signal and replacing it with an appropriate alternative traffic control device.

9) The Pima County *Major Streets and Routes Plan* shall be used to determine right-of-way requirements where the City limits do not extend to the centerline of the boundary streets, in areas where annexation has occurred, or where Pima County has adopted conflicting right-of-way requirements.

Section 9 ALTERNATIVE MODES OF TRANSPORTATION

All roadway projects subject to this ordinance shall hold, as a primary consideration, the inclusion of appropriate infrastructure and design treatments to accommodate, promote and integrate alternative modes of transportation.

Section 9.1 Bicycle Considerations

1) Bicycle facility improvements on major roadway projects shall utilize all appropriate AASHTO design guidelines, Arizona Bicycle Facility Design Guidelines MUTCD, City of Tucson Development Standards, and City of Tucson/Pima County Standard Specifications and Details.

2) To promote the use of the bicycle as an alternate mode of transportation, and to provide for bicyclist safety, major roadway projects shall be designed with outside vehicle lanes that accommodate five (5) foot wide on-street bicycle routes with painted edgelines when adequate right-of-way is available.

3) All major roadway projects involving the reconstruction of intersections shall provide for painted edgeline bicycle routes or additional outside vehicle lane width as a part of the intersection improvement when adequate right-of-way is available. Actuated signal detection or video camera detection will be provided so the bicyclist can actuate the traffic signal.

4) To provide bicyclists with safe and efficient access over or under major transportation corridors, all new or reconstructed roadway bridges and underpasses shall include bicycle routes with painted edgelines or multi-use emergency breakdown lanes to improve bicyclist as well as motorist safety. All bike routes and lanes that are located within a roadway underpass shall have adequate lighting for bicyclists.

5) Major roadway projects that will not provide additional vehicular capacity may utilize a reconfiguration of vehicle lanes to accommodate bicycle routes with painted edgelines. When average daily traffic does not warrant current vehicle lane configurations and bicycle traffic is heavy, consideration may be given to reducing the number of vehicle lanes to allow for the striping of bicycle routes with painted edgelines. Any reduction in roadway capacity as a result of a major roadway project shall be carefully studied as to the impacts on other roadways and adjacent neighborhoods.

6) In order to provide continuity within the regional bikeway system, major roadway projects that intersect one or more of the four established regional bikeways (Mountain Avenue, Third Street, Liberty Avenue, and Arroyo Chico), future bikeways, or other designated bike routes, shall incorporate all available design techniques to ensure that bicyclists are able to effectively and safely cross through, over, or under the newly constructed or reconstructed roadway.

Section 9.2 Pedestrian Considerations

1) Pedestrian facility improvements on major roadway projects shall utilize all applicable City of Tucson Development Standards, City of Tucson/Pima County Standards and Details, and shall be compliant with the transportation and public accommodation provisions of the ADA.

2) All major roadway projects shall include sidewalks on both sides of the improved roadway section. When adequate right-of-way is available, consideration shall be given to providing sidewalks of greater width than minimum Development Standard specifications. Consideration shall be given to extending sidewalks to local and regional activity centers up to one-quarter mile beyond the project limit, in order to create a convenient, safe, and attractive pedestrian network. In order to provide convenient pedestrian access between the improved roadway section and adjacent residential areas, isolation of pedestrians by cul-de-sacs shall be discouraged and separate path or trail access shall be considered. Consideration may also be given to the utilization of alternative paving materials and designs, such as brick pavers and meandering sidewalks, that enhance the overall aesthetic value of the project and complement existing urban design.

3) All major roadway projects involving the reconstruction of intersections shall include striped crosswalks and refuge islands to provide for safe and effective pedestrian travel. Design treatments such as textured crosswalks or raised crosswalks may also be considered for lower volume intersections to enhance pedestrian safety and increase motorist awareness of pedestrian activity. Pedestrian signal clearance timing shall be provided that allows the pedestrian to travel to a safe haven (refuge island or sidewalk) at four (4) feet per second, or less in areas of intense pedestrian activity or elderly population. Push buttons for pedestrian signal actuation shall be conveniently located at the intersection to allow for efficient and accessible operation. At intersections located on roadways with on-street parking, curb extensions may also be considered in order to reduce pedestrian crossing distance.

4) Mid-block pedestrian crossing facilities may also be considered in major roadway projects when major pedestrian trip generators are located adjacent to the roadway, or to provide a safe and visible connection between bus stops or a bus stop and residential or commercial areas. Mid-block crossings shall include crosswalks, refuge islands, and appropriate signage or pavement marking to clearly announce the upcoming crossing to motorists. Consideration shall be given to signalization or grade separation when warranted by safety or demand.

5) All new or reconstructed roadway bridges and underpasses shall include sidewalks or other pedestrian ways to provide pedestrian access over or under major transportation corridors.

6) In order to provide for pedestrian safety, promote walking as an alternate mode of transportation, and increase motorist awareness of pedestrian travel, consideration shall be given to extending sidewalks through intersection-style access driveways to adjacent private properties.

7) In consideration of Tucson's summer climate and the distances pedestrians must travel between land uses and bus stops, major roadway projects shall include pedestrian amenities. Such amenities may include, but not be limited to, benches, trashcans, bus shelters, drought tolerant landscaping, shade trees, awnings, and water fountains.

Section 9.3 Public Transit Considerations

1) To assist in the design and location of transit facilities in major roadway projects, major roadway projects shall utilize the Federal Transit Administration's (FTA) Guidelines for the Location and Design of Bus Stops (Transit Cooperative Research Report 19), applicable sections of the Metropolitan Short Range Transit Plan, and shall be compliant with the transportation and public accommodation provisions of the ADA.

2) In order to provide convenient access to public transit, bus stops shall be placed every one-quarter mile on major roadway projects located along existing local transit routes, and every one-half to one mile along express or limited routes. Additional stops may be considered to serve major trip generators. Unless otherwise warranted by overriding safety concerns or passenger convenience issues, bus stops shall be located on the far-side of intersections.

3) Bus shelters shall be provided at all bus stops located along major roadway projects to provide for passenger comfort and safety.

4) Major roadway projects shall include bus pullouts at high activity bus stops when warranted by peak hour traffic, peak hour bus frequency, passenger safety concerns, and when adequate right-of-way is available. Bus pullouts shall be located on the far-side of intersections in order to utilize signal protection for re-entry into the stream of traffic. Consideration shall be given to far-side open bus bays, coupled with a permitted through movement for buses in the right-turn lane. This bus bay design enables transit vehicles to by-pass traffic queues at intersections thus assisting in on-time performance and providing additional passenger convenience. Bus pullouts shall be carefully planned and designed to minimize transit vehicle delay in re-entering the stream of traffic. Bus pullouts shall include shelters and other passenger amenities to provide for customer safety and convenience

5) Major roadway projects involving lower volume collector streets with on-street parking may utilize bulbed curb extensions, or "bus bulbs", as a bus stop alternative. Bus bulbs extend from the curb to the vehicle lane, allowing the bus to remain in the stream of traffic and allowing for the placement of additional passenger amenities on the extra area provided by the extension

6) High occupancy and/or dedicated transit vehicle lanes shall be considered as design features in major roadway projects in order to provide public transit with travel-time savings over the single occupancy vehicle. If determined feasible by appropriate transportation studies, major roadway projects may allow for the re-configuration of vehicle lanes within the existing right-of-way to support high occupancy and/or dedicated transit vehicle lanes

7) To facilitate carpooling, ridesharing, and to encourage the use of public transit by discretionary riders, additional right-of-way shall be considered in the vicinity of major intersections of transit routes for the development of future park-and-ride facilities and transit and pedestrian networks. Park-and-ride facilities shall be convenient, integrated with the transit network, screened with appropriate landscaping per the City of Tucson Land Use Code, and shall contain ample Class 1 and Class 2 Bicycle Parking for customers.

Section 10 ADVANCE RIGHT-OF-WAY ACQUISITION

To minimize displacement, disruption, and right-of-way costs, and to maximize the effectiveness of mitigation measures, advance right-of-way acquisition may be proposed in the Advance Planning Report or the Environmental, Design and Mitigation Report. Where funding is available, priority for consideration of advance acquisition shall be given to single family residences with sole, direct access to major routes, to non-conforming billboards or the future leasing rights of the property underlying non-conforming billboards, and to real property for which the inevitability of acquisition.

Section 11 EXEMPTIONS AND VARIANCES

At any time before or during the consideration of a proposed roadway improvement, Mayor and Council may exempt the project or any portion of it from any or all procedural or substantive requirements of this ordinance. The Mayor and Council may grant a variance from the specific application of any substantive requirement of this ordinance where the application of the provision will impose an unnecessary hardship on a property owner or on the general public.

The Mayor and Council may grant an exemption or variance as part of the approval of the final road alignment (see Section 5.3) or the mitigation components to be incorporated into the project (see Section 5.4). In that case, the public hearing notice required for consideration of the Alternative Alignment Report or the Environmental, Design, and Mitigation Report shall identify each recommended alternative that constitutes an exemption or waiver from the requirements of this ordinance. No further notice shall be required.

If not granted as part of the approval of the final road alignment or the mitigation components to be incorporated into the project, an exemption or variance may be granted after a public hearing by the Mayor and Council, at least one notice of which shall be published no less than fifteen days before the hearing in a newspaper of general circulation in Pima County.

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*An executive summary should be prepared and inserted in the beginning of the report

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