



Master Street Plan

March 2008

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Connecting Bella Vista to other population centers and providing for circulation within the community requires consistent planning. In the development of this plan, the City of Bella Vista finds itself looking toward the future with an eye on the past. In all likelihood, this is a unique position for a City – forming design and construction standards for in-place infrastructure. The City is best served by expanding of the success of the past – namely preserving the natural character of the City and the infrastructure that supports it. The unique, natural setting of Bella Vista contributed to the development process that was used in the original construction of the City’s infrastructure. This presents the City of Bella Vista exciting challenges that must be addressed when developing a Master Street Plan.

While adjusting to the reality of fixed, in-place infrastructure as well as private and public development pressures, the City will have to prepare for continuing expansion of its population and the resulting demands on infrastructure. New areas will be developed with a goal of improving standards for health, safety, and livability. The primary goal of the Master Street Plan is to maintain the character of the original City and to compliment the natural beauty of the area.

This plan should therefore be viewed with the idea that exceptions to the street standards will be many when dealing with existing in-place infrastructure. However, the long term view of achieving these standards will always be an element in planning for the City. New development should strive to achieve conformity with this plan; today’s standards are not the same as when the City was first developed. As time goes on, fewer exceptions will be needed.

Under the authority of Arkansas Code §14-56-414, the Master Street Plan has been developed to guide the logical and orderly growth of transportation infrastructure for the next 20 years as a complement to the Land Use Plan. Successful implementation of this Plan will be achieved through the consistent application of street requirements throughout the community while taking into consideration the natural character of the City.

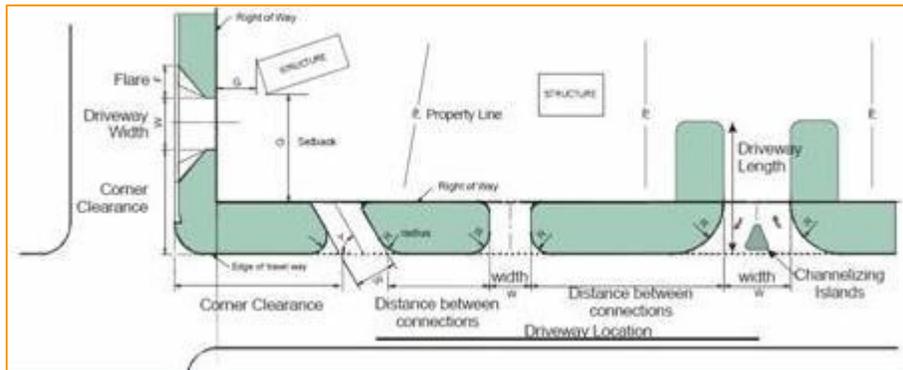


As with any City, Bella Vista has an intrinsic heritage, culture, and life style that have grown into the focus of living in the community. While originally planned as a retirement enclave, a younger population has been drawn to the life style promoted by the City and its natural surroundings. Long term planning needs to take into account the needs of this demographic shift while preserving the City's cultural identity.

The Bella Vista Land Use Plan requires that as higher levels of density and development spread across the City, streets should be improved or constructed to safely accommodate the traffic that naturally comes from such development. More intense land uses will inevitably require thoroughfares with wider rights-of-way and more traffic lanes to serve the volumes of traffic that these uses will generate. Additionally, the Land Use Plan calls for linkages between more intense land uses and residential areas through alternative modes of transportation.

Access Management

Providing access to land development in such a way as to preserve safety and reasonable traffic flow on public streets is important for their efficient operation. There are several measures that may be taken in access management. These include achieving proper signal spacing, minimizing conflicts by proper median treatments, and providing two-way left-turn lanes. In addition, traffic



friction can be minimized by controlling the spacing of street intersections as well as the placement, design, and number of driveways or curb cuts onto streets. Low, moderate and high designations are used for level of access restrictions. A high level of access management uses medians to restrict mid-block turns, consolidates driveways and controls the spacing of intersections. A low level of access management limits full access at some intersections.

Multimodal Transportation Network

A multimodal approach to traveling helps overcome congestion on streets. In addition to cars, other vehicular modes of travel, such as truck and transit services, should be considered within the network. Also, non-automotive modes of transit, including bicycles and walking, should be addressed to provide a livable community.





Level of Service

The operating conditions at an intersection are graded by the level of service (LOS) experienced by drivers. LOS describes the quality of traffic operating conditions and is rated from “A” to “F”. The Highway Capacity Manual, 2000 edition, published by the Transportation Research Board provides detailed information about LOS criteria for both unsignalized and signalized intersections. Generally, LOS “A” represents the most desirable condition with free flow of traffic movement with minimal delays. LOS “F” indicates severely congested conditions with excessive delays to motorists. Gradations of “B”, “C”, “D”, and “E” reflect a gradation of increases in the average delay experienced by motorists.

Land use and associated development are dependent on transportation infrastructure. The Master Street Plan provides a framework for developing goals and objectives to improve the existing street system and to provide for multimodal transportation as the community grows. The goals of the Master Street Plan are arranged into three broad categories for mobility, livability and safety, and administration.

Mobility

Mobility is achieved through the efficient movement of vehicular traffic. In addition, roads must be designed properly and well maintained once built. To best achieve this goal, the City will:

- Adopt the Master Street Plan design guidelines as a minimum standard to accommodate future traffic needs and access management. The Plan will be utilized as guidance for functional classification and design standards.
- Consider the impact of land use decisions on the transportation network, supporting the land use policies for growth in the City.
- Develop operational standards for periodic congestion performance measures at intersections and roadway segments. The City will require all future developments to meet Level of Service Standards depending on facility type.
- Seek to achieve timely repair and improvement to existing transportation infrastructure.

In addition, the City should:

- Develop access management standards that are integrated into Zoning and Subdivision ordinances. These standards should include, but not be limited to, driveway spacing, traffic signal installation, signage, median standards, turn lanes, and safe sight distances.



Livability and Safety

The City is mandated to protect the health, safety, and welfare of its citizens through its transportation network and in other ways. To best implement this goal, the City will:

Low Impact Development (LID) uses various land planning and design practices and technologies to simultaneously conserve and protect natural resource systems and reduce infrastructure costs. LID still allows land to be developed, but in a cost-effective manner that helps mitigate potential environmental impacts. LID emphasizes natural and engineered infiltration and storage techniques to control storm water where it is generated.

- Support regional transit plans as part of its ongoing planning efforts.
- Maintain street maps with accident and crash statistics in order to locate high accident prone areas. A priority list of intersections and/or roadway segments should be developed to address pertinent safety issues.
- Utilize Low Impact Development (LID) as a design strategy in roadway implementation..

In addition, the City should:

- Endorse the construction of a trail network through the City by commissioning and adopting a Master Trail Plan. This work should be coordinated with the Bella Vista Property Owner’s Association and other entities surrounding the City to ensure connections to the regional trail system. Pedestrian, bicycle, roller-skating, and skate-boarding facilities should be planned and integrated with the Master Street Plan.
- Encourage pedestrians and bicyclists by providing multi-use trail connections among residential area, recreational facilities, schools, shopping centers, and business districts in City controlled rights-of-way.



Traffic Calming is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users.

Traffic calming goals include:

- increasing the quality of life;
- incorporating the preferences and requirements of the people using the along the street or at intersection(s);
- creating safe and attractive streets;
- helping to reduce the negative effects of motor vehicles on the environment (e.g., pollution, sprawl);
- promoting pedestrian, cycle and transit use.

- Support streetscapes to safely accommodate vehicular and pedestrian traffic while enhancing aesthetics through trees, landscaping, street furniture, and lighting.
- Implement elements of traffic calming in all instances of street construction.
- Promote good lighting, covered seating areas, and other amenities at transit stations and on multi-use paths leading to them as they are developed.





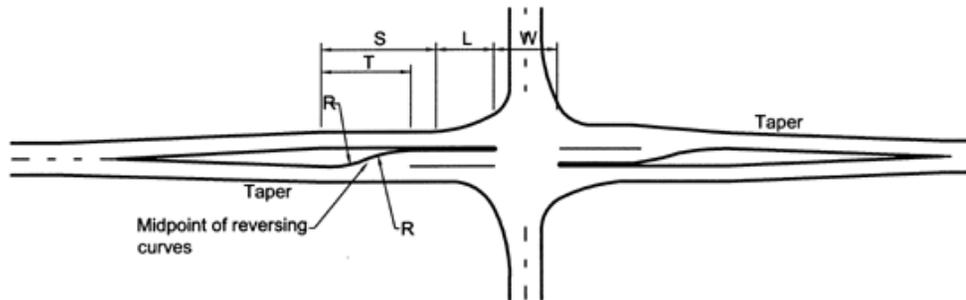
Administration

Implementation of any plan is highly dependent on its consistent enforcement and fair application across all segments of the City. To best achieve this goal, the City will:

- Review the Master Street Plan periodically to update it as necessary based on new construction and to reflect changing conditions.
- Utilize Street Funds and any future dedicated sales tax funds for transportation infrastructure improvements and new infrastructure projects.
- Ensure consistency and coordination with adopted plans for the county, region, and state through continued participation in the Northwest Arkansas Regional Planning Commission.
- Encourage short-term plans that facilitate achieving goals and objectives of long range planning.

In addition, the City should:

- Promote a joint program with the Bella Vista Property Owner's Associate to utilize funds collected from its membership for road improvements.



Bella Vista lies at the crossroads of several federal and state highways that provide primary vehicular access into and through the City, linking the community to other population centers within the region.

The Bella Vista Planning Area is accessed by one federal highway and three state highways. An overlay of county roads has helped to improve traffic conditions over the years as local streets have been constructed to feed traffic into them. Due to the large expanse of land area that the City covers, it has been difficult to keep up with road construction because of a general lack of funding from parties having jurisdictional authority. As a result, portions of the road network in platted subdivisions have remained unimproved.

As the population of Bella Vista has increased over the years, there has been a corresponding increase in traffic congestion. The major arterial streets have become clogged with motorists, resulting in inefficient vehicular movement and unneeded delays. The two-lane arterials contain many intersections with moderate



volume feeder roads that cause increased hazards and congestion. Vehicles do not have protected left-turn movements for traffic exiting and entering the arterials. Relatively short sight distances on steep hills, where feeders intersect arterials, present a major peril to vehicles. Therefore it is necessary to maintain lower speeds to mitigate these conditions, even though lowers speeds limit efficient functionality.



U.S. Highway 71/Bella Vista Way

Situated at the heart of Bella Vista, this thoroughfare is the major north/south access to other population centers, reaching from the Missouri border at the north to the limits of the City of Bentonville to the south. This route is the historic face of the City with numerous views of golf courses, treed hillsides, and Lake Bella Vista. Attractive, landscaped welcome signs are located just inside the Missouri border on the City's northern extremity and near the City limits at its southern extremity.

Data for 2006 from the Arkansas State Highway and Transportation Department was obtained to determine the average daily traffic volume along this road. Close to its intersection with Hampstead Road, AHTD reported approximately 23,100 vehicle trips. Moving southward along the road, just north of its intersection with Riordan Road, approximately 37,300 vehicle trips per day were reported. While outside of the City Limits and Planning Area, the next measured intersection southward reported 21,900 vehicle trips at the US 71 Business/Walton Boulevard exit. AHTD report 33,900 trips per day along I-540 north of State Highway 72 further southward along the corridor. These data indicate that this corridor is utilized for commuting traffic from Missouri and the City to parts of the region further south.

State Highway 340/Lancashire Boulevard

This route is situated as a major cross thoroughfare, traversing most of the City from the eastern edge of the Planning area at its intersection with State Highway 94 to its western terminus with State Highway 279/Forest Hills Boulevard. Although it sheds its state highway status, the logical continuation of this road is Highlands Boulevard on the western side of the intersection. It forms a major intersection with a bridge overpass over U.S. Highway 71/Bella Vista Way at the Town Center area.

Traffic data for 2006 from the Arkansas State Highway and Transportation Department places the average annual daily traffic volume on this route, just east of the Highlands Gate or the State Highway 279 intersection, at 6,400 vehicle trips per day. Just above Tanyard Creek, west of U.S. Highway 71, AHTD reported 9,400 vehicle trips per day. Just east of the Town Center area, 3,800 vehicle trips per day were logged. These data indicate that this road serves more traffic on the west side of U.S. 71 than on the east side of the City.



State Highway 279/Forest Hills Boulevard

This thoroughfare serves as a relief to U.S. Highway 71 for traffic moving to and through the western portions of the City. While the City’s jurisdiction over the route terminates at the Missouri border, the continuation of the road northward forms a signalized intersection with U.S. Highway 71 in Missouri. The road intersects Arkansas Highway 72 to the west in Hiwasse and then is directed southward through the Planning Area.

Traffic counts for 2006 obtained from the Arkansas State Highway and Transportation Department indicate that 4,000 vehicle trips per day occur just south of the Missouri border. Just north of the Highlands Gate or State Highway 340 intersection, an average of 3,800 vehicle trips per day occurred. Further south, an average of 3,300 vehicle trips per day occurred just north of Kings Lane.

State Highway 72

This thoroughfare provides a major connection to the cities of Bentonville and Gravette for citizens residing on the west side of the City. With the construction of the planned Bella Vista Bypass on the western extremity of the City, this route will become a pivotal access point into and out of Bella Vista. Traffic counts from the Arkansas State Highway and Transportation Department for 2006 indicate that 6,200 vehicle trips per day occur just west of the Arkansas Highway 279 intersection.

Benton County 40/McNelly Road

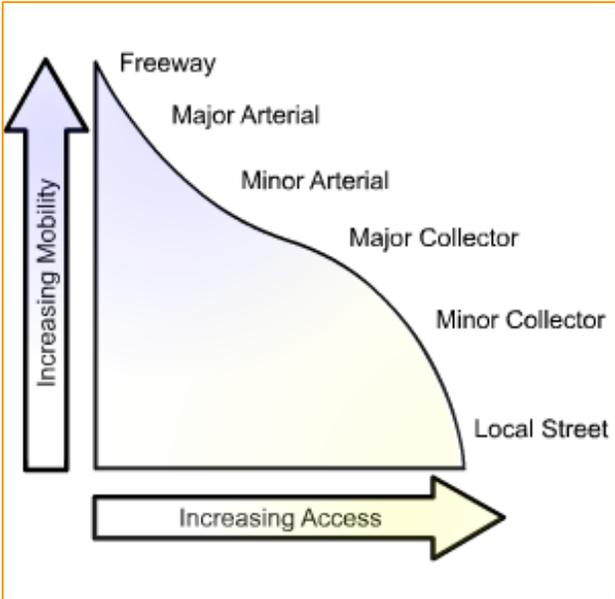
This route serves as a major connection to U.S. Highway 71 for citizens residing in the eastern portion of the City. Traversing to the east where it intersects with State Highway 94 within the city of Pea Ridge, this route forms the southeastern boundary for the City’s Planning Area. Traffic counts from the State Highway and Transportation Department were unavailable for this thoroughfare.



General Considerations

Street classifications were identified through the use of traffic counts obtained from the 2006 traffic data available from the Arkansas State Highway and Transportation Department and informed by the Benton County Functional Classification. City street design standards will differ from those in the Benton County Classification system due to varying traffic needs and the cultural history of the City.

The International Fire Code (IFC), adopted by the State of Arkansas, requires a 20 foot minimum of unobstructed width on all roads in order to protect the health, safety, and welfare of all citizens. In addition, if structures on either side of the road exceed 30 feet or three stories, then the IFC requires a 26 foot minimum of



unobstructed width. These considerations have been taken into account when preparing the street cross sections provided in this document.

The following design standards are planned to meet the goals of the Master Street Plan. The street cross-sections provide sensitivity to context within the City’s existing road conditions and standards. Additionally, they provide options for both accommodating alternative modes of transportation and low-impact development neighborhoods.

Often environmental conditions such as topography and constraints such as historic or cultural resources influence the amount



of right-of-way necessary. Therefore, the right-of-way standards are to be considered the minimum and may be increased where desirable or necessary to safely accommodate vehicular movements. The right-of-way width stated in these standards needs to be taken in consideration as new development and redevelopment occurs. All development projects should be designed to fit into the ultimate construction of roadways to the standards in the Master Street Plan.

The street design standards are intended for new construction or improvement of existing streets as operational standards and accident statistics warrant. Some existing roadways do not meet all of these standards; individual street projects may constitute an incremental step in reaching the ultimate construction of the roadway to these standards.

In all instances of street construction, an element of traffic calming should be a high priority for the safety of the citizens of the City. This can be achieved through smaller pavement widths, the introduction of street trees, and separation between different user groups in a multimodal fashion.

Expressways

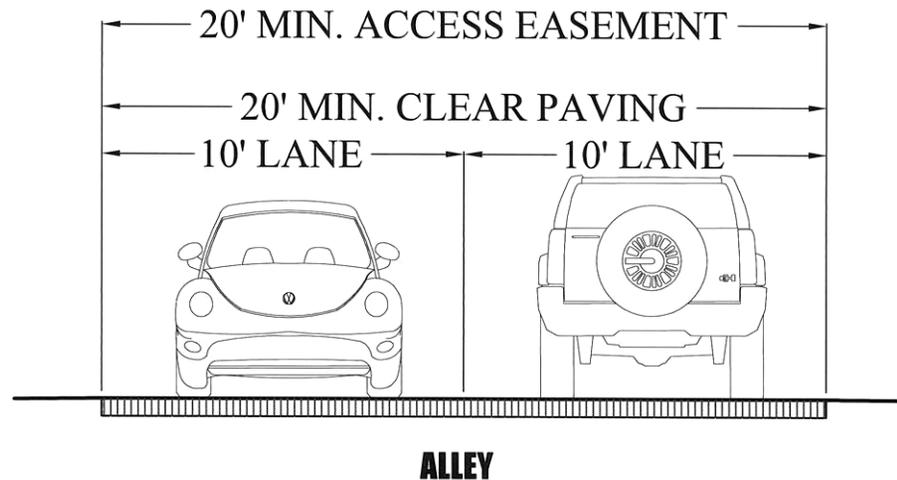
This classification of roadways is intended for high-speed, high volume traffic movements between cities and through the City. These thoroughfares are typically designed and built by state and/or federal agencies. While not regulated by City design standards, it is important for City connections to them to be complimentary. Cooperation and coordination with state and federal agencies will be necessary to achieve harmony between overlapping jurisdictions.



Alleys

This street classification is used in conjunction with streets to provide rear and side access to properties, garages, and off-street parking in developments. Greenspace and alleys prohibit fences and parking. They have a low level of access management.

- Design Volume: < 200 vehicle per day (vpd).
- Design Speed: 5-10 miles per hour.
- Travel Lane Width: 10 feet each way minimum, free and clear of any obstructions, increasing as required by the most recently adopted Arkansas Fire Prevention Code.
- Parking: Not allowed.
- Paved Width: 20 feet minimum, free and clear of any obstructions, increasing as required by the most recently adopted Arkansas Fire Prevention Code.
- Access Easement: 20 feet minimum, increasing as required to contain the paved surface width.
- Multimodal Network: None.
- Greenspace: None.
- Access: Continuous access possible.

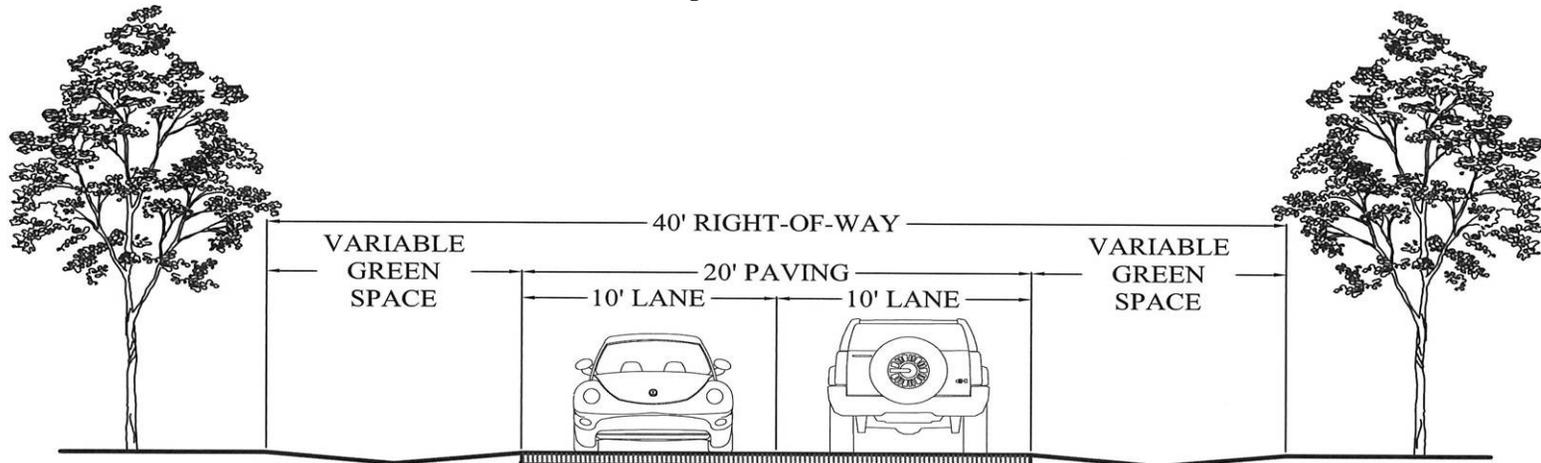




Residential Streets

This classification provides the lowest level of traffic and service. They provide direct access to abutting residential property. A high degree of street connectivity is strongly encouraged for easy dispersal of traffic. Residential streets are intended to be used only by local traffic and have a low level of access management.

- Design Volume: < 700 vehicle per day (vpd).
- Design Speed: 15-20 miles per hour.
- Travel Lane Width: 10 feet.
- Parking: Not allowed.
- Paved Width: 20 feet.
- Right-of-way: 40 feet.
- Multimodal Network: None
- Greenspace: Required on both sides, with variable width allowed depending on topographic conditions to accommodate drainage.
- Access: Continuous access possible, residential drives limited to 18 feet width.



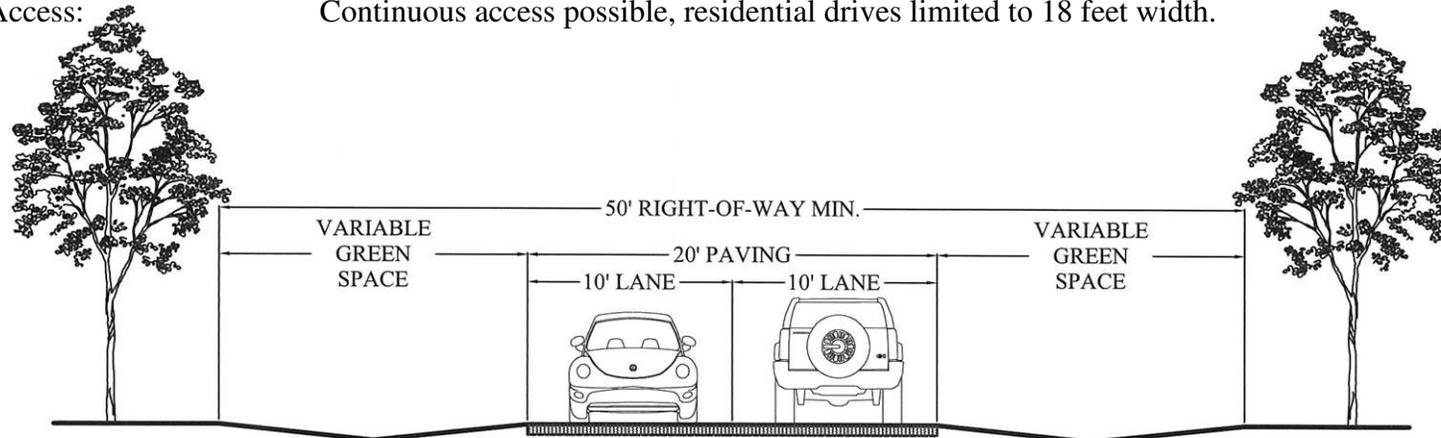
RESIDENTIAL STREET



Subcollector Streets

This classification collects and distributes traffic between arterial streets and local residential streets. They are intended for short length trips while also providing access to abutting properties. Subcollector streets are appropriate for areas that function as a main street for a neighborhood, offering a pedestrian-friendly environment. They have a low to moderate level of access management.

- Design Volume: < 2,500 vehicle per day (vpd).
- Design Speed: 20-25 miles per hour.
- Travel Lane Width: 10 feet.
- Parking: Not allowed.
- Paved Width: 20 feet, 30 feet with Left-turn lane.
- Right-of-way: 50 feet minimum.
- Multimodal Network: None.
- Greenspace: Required on both sides, with variable width allowed depending on topographic conditions to accommodate drainage.
- Access: Continuous access possible, residential drives limited to 18 feet width.



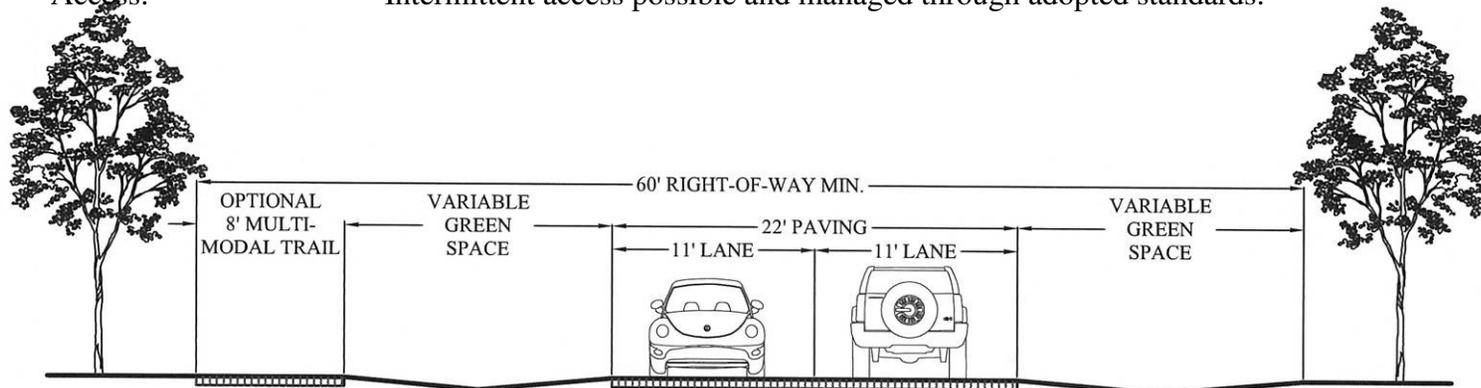
SUBCOLLECTOR STREET



Collector Streets

This classification collects traffic from residential and subcollector streets in neighborhoods and facilitates movement into the arterial system. Connections between arterials should be direct in order to disperse traffic throughout the City. Collector streets vary in width and function as they respond to the context of the adjacent land uses. A larger right-of-way may be required if the volume of traffic generated and predicted warrants a continuous turning lane. Collector streets have a moderate level of access.

- Design Volume: < 4,000 vehicle per day (vpd).
- Design Speed: 20-25 miles per hour.
- Travel Lane Width: 11 feet.
- Parking: Not allowed.
- Paved Width: 22 feet, 33 feet with Left-turn lane.
- Right-of-way: 60 feet minimum.
- Multimodal Network: Optional 8 feet trail within the right-of-way with placement contingent upon adopted connectivity goals.
- Greenspace: Required on both sides, with variable width allowed depending on topographic conditions to accommodate drainage.
- Access: Intermittent access possible and managed through adopted standards.



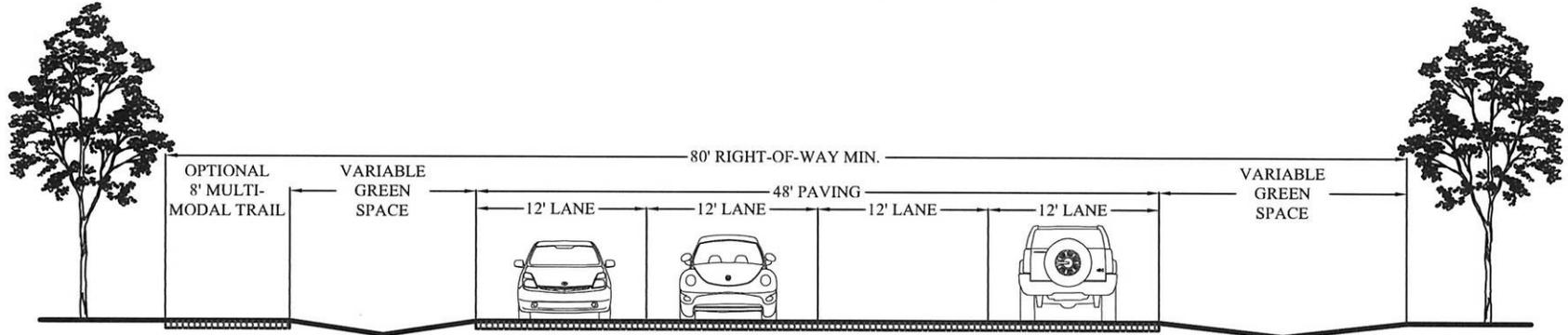
COLLECTOR STREET



Minor Arterials

This classification provides mobility throughout the City, giving multiple modes of transportation within the arterial network. Minor Arterials streets vary in width and function as they respond to the context of the adjacent land uses. A larger right-of-way may be required if the volume of traffic generated and predicted warrants a continuous turning lane. Access should be limited to controlled intersections where possible. They have a moderate level of access management.

- Design Volume: < 8,000 vehicle per day (vpd).
- Desired Operating Speed: 30-35 miles per hour.
- Travel Lane Width: 12 feet.
- Parking: Not allowed.
- Paved Width: 48 feet, 60 feet with Left-turn lane.
- Right-of-way: 80 feet minimum.
- Multimodal Network: Optional 8 feet trail within the right-of-way with placement contingent upon adopted connectivity goals.
- Greenspace: Required on both sides, with variable width allowed depending on topographic conditions to accommodate drainage
- Access: Limited access possible and managed through adopted standards.



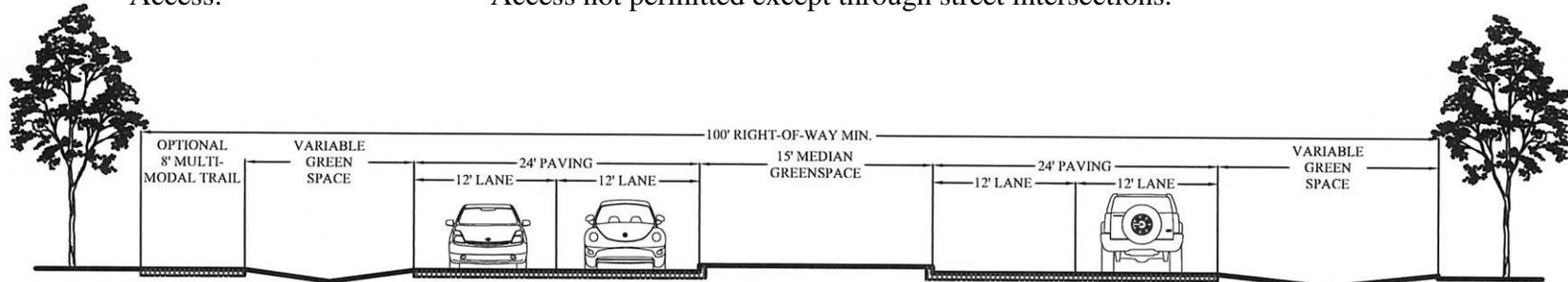
MINOR ARTERIAL



Major Arterials

This classification carries high volumes of traffic through and between major activity centers, and traverse all or most of the entire City. Major Arterial streets vary in width and function as they respond to the context of the adjacent land uses. A larger right-of-way may be required if the volume of traffic generated and predicted warrants a continuous turning lane. The streets are designed as boulevards and have a high level of access management because access should be subordinate to traffic flow. Access should be primarily by way of streets and curb cuts should not be allowed.

- Design Volume: < 12,000 vehicle per day (vpd).
- Desired Operating Speed: 35-45 miles per hour.
- Travel Lane Width: 12 feet.
- Parking: Not allowed.
- Paved Width: 48 feet, 60 feet with Left-turn lane.
- Right-of-way: 100 feet minimum.
- Multimodal Network: Optional 8 feet trail within the right-of-way with placement contingent upon adopted connectivity goals.
- Greenspace: Required on both sides, with variable width allowed depending on topographic conditions to accommodate drainage. Median greenspace of 15 feet required in areas with no left-turn movements.
- Access: Access not permitted except through street intersections.



MAJOR ARTERIAL

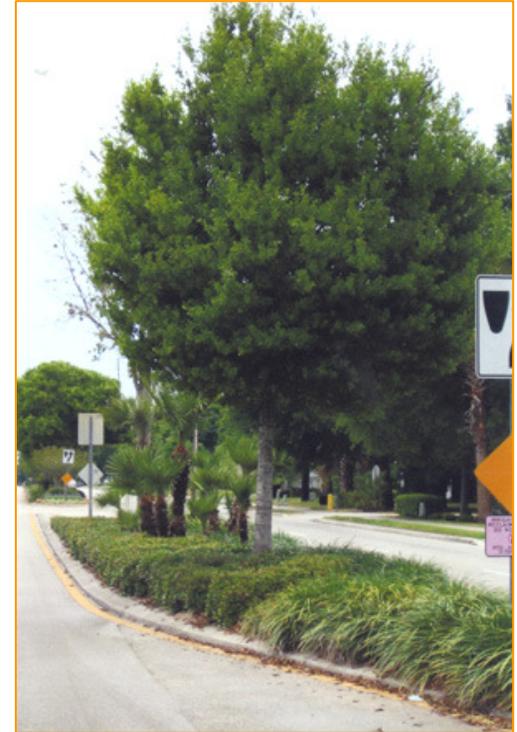


Several areas call out for special consideration and contemplation for transportation needs. While these are longer term goals, it is recommended that the City should begin measures to accomplish them through short term plans.



Traffic Safety at Major Intersections

In order to enhance the safe movement of vehicular traffic along major street corridors, traffic studies should be conducted to prioritize a list of intersection for improvements. Traffic counts and accident incident statistics will likely show that feeder roads into State and Federal highways will need traffic signalization, left turn lane installation, or other improvements provided.



U.S. Highway 71/Bella Vista Way

In order to beautify the City and enhance the “face” of Bella Vista, the City should coordinate with the Arkansas State Highway and Transportation Department to remove the concrete median on this corridor. The median should be planted with a diversity of low maintenance tree and shrub plantings in order to bring this corridor in line with the arterial street section.

Intersection of Arkansas State Highways 279 and 340



volumes of traffic. The City should begin coordinating with the Arkansas State Highway and Transportation Department to study this particular intersection for both signalization and widening. In addition, the City should coordinate efforts to seek rights-of-way for any sections of both roads that will need to be widened.

As the population and housing development of the City has shifted westward in the recent past, this intersection has become a crossroads of activity. Already, pockets of business development have occurred along both street corridors, and will only continue in the future. As more development occurs, these state highways will need to be widened and improved in order to accommodate higher



This Plan attempts to resolve the past and the future in today's environment by proposing street standards that enhance the City's in-place infrastructure. By implementing the goals and standards presented and consistently enforcing them, the City of Bella Vista can achieve the ultimate goal of this plan: a mobile, livable community *without* compromising its unique, cultural identity.