

3.1 / OVERVIEW

Current land use patterns and trends in Biloxi reflect the City's rich history and recent influences such as the establishment of Keesler Air Force Base, the growth of the casino industry, and expansion to the north across Back Bay. Biloxi's historic development was closely tied to its coastal location and waterways. The Biloxi Peninsula became known as a resort destination and a center of the seafood industry on Mississippi's Gulf Coast during the 18th century. Constructed during World War II, Keesler Air Force Base added a new anchor for the City's economy, as did casino development after Mississippi legalized the gaming industry in the 1990s. With the development of North Biloxi and the annexation of the Woolmarket area in the 1990s, the momentum of growth shifted to the north away from the traditional core of "Old Biloxi" on the Peninsula. Automobile-oriented commercial development along corridors such as Pass Road and Cedar Lake Road and near I-10 interchanges in adjacent jurisdictions has contributed to the decline of Downtown as Biloxi's traditional commercial center.

In 2005, Hurricane Katrina profoundly impacted Biloxi and its aftereffects continue to shape land use in the City as recovery and rebuilding move forward. Casino reconstruction on land (replacing barge facilities destroyed by the hurricane) led the early recovery efforts. Areas of the City located within flood hazard areas—particularly East Biloxi—sustained devastating damage and have been slow to rebuild, due in part to floodplain construction requirements, the high cost of insurance, and financing issues related to the national recession. Hotels, motels, and other visitor-oriented businesses along Highway 90 have also been relatively slow to redevelop. Conversely, growth pressures in less vulnerable areas north of the Back Bay of Biloxi have increased, although the lack of public

sewer and water infrastructure has limited development in Woolmarket, which retains a largely rural, low-density residential and agricultural land use pattern.

Existing land use in Biloxi is illustrated in Figure 3.1. Table 3.1 indicates the acreage and percentage of the City's total land area in 2007 for each land use category shown on Figure 3.1. The largest single category is undeveloped land/vacant land and buildings, which comprised 28% of Biloxi's total land area in 2007. Mostly located north of the Back Bay, but with scattered pockets in West Biloxi as well, undeveloped land is property that has not previously been developed for residential, commercial, or other built uses and is not currently used for agriculture and forestry. Vacant land and buildings mostly correspond to previously developed properties destroyed by Katrina, including extensive acreage in East Biloxi along with parts of West Biloxi and North Biloxi.

Located mostly north of Woolmarket Road in the northernmost part of Biloxi, agriculture and forestry constitute the City's second largest land use category (23% of the total). Single-family residential is the largest developed land use at 19% and is distributed throughout the City, with the most extensive areas located on the Peninsula and in North Biloxi. Institutional and governmental uses are the fourth largest category (10% of the total), with Keesler Air Force comprising most of this acreage. Multi-family residential, commercial, and casino/hotel uses constitute relatively small proportions of the City's total land area (6%, 2%, and 1%, respectively) but have disproportionate impacts due to their intensity.

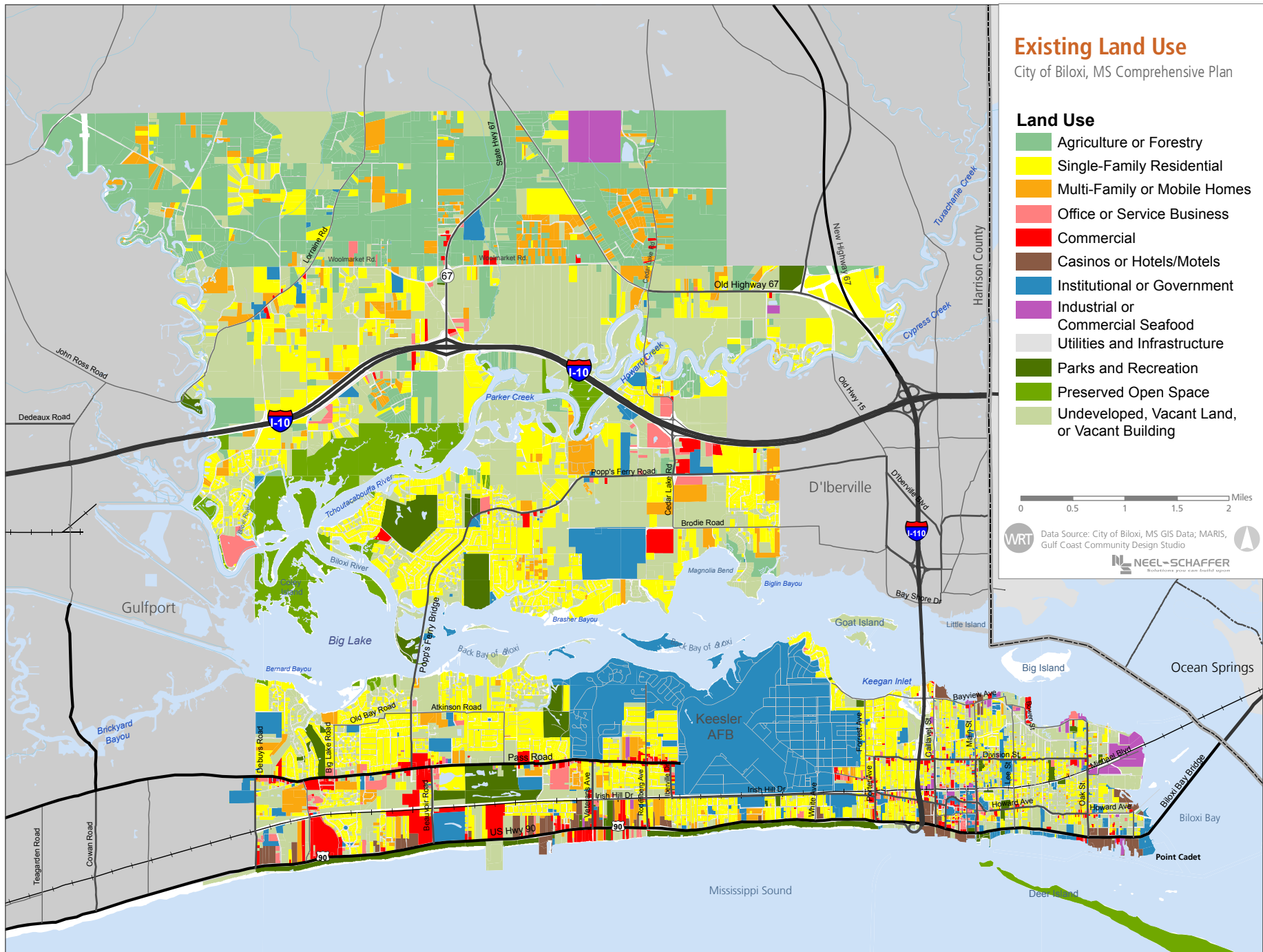


FIGURE 3.1/EXISTING LAND USE (2008)

The City's Land Development Ordinance (LDO), including the Zoning Ordinance and Subdivision Regulations, plays a major role in shaping the location, intensity, and character of new development and redevelopment in Biloxi. A comprehensive update to the LDO was completed in 2003; however, the massive changes to land use and development patterns caused by Katrina in 2005 have prompted the City to again reevaluate its controls on future growth and redevelopment. A second major revision to the LDO is being conducted concurrently with the Comprehensive Plan and will be a primary vehicle for implementation of the Plan's land use recommendations.

The generalized pattern of existing zoning in Biloxi is shown in Figure 3.2. It largely reflects Biloxi's existing land use pattern, with major exceptions being formerly developed areas that are now vacant due to Katrina and undeveloped parts of Woolmarket that are zoned for residential, commercial, or office uses. The somewhat scattered pattern of business, multi-family residential, and other high-intensity zoning districts reflects a history of piecemeal rezonings as opposed to adherence to a logical plan for the future growth of the City.

TABLE 3.1/EXISTING LAND USE (2008)

| | Acres | Percentage |
|---|---------------|-------------|
| Agriculture or Forestry | 5,491 | 23% |
| Single-Family Residential | 4,586 | 19% |
| Multi-Family Residential | 1377 | 6% |
| Office or Service | 322 | 1% |
| Commercial | 476 | 2% |
| Casinos and Hotels | 290 | 1% |
| Institutional or Government | 2,546 | 10% |
| Industrial or Commercial Seafood | 281 | 1% |
| Transportation or Utilities | 94 | 0.4% |
| Parks and Recreation | 748 | 3% |
| Preserved Open Space | 1,371 | 6% |
| Undeveloped, Vacant Lots, or Vacant Buildings | 6,705 | 28% |
| TOTAL | 24,287 | 100% |



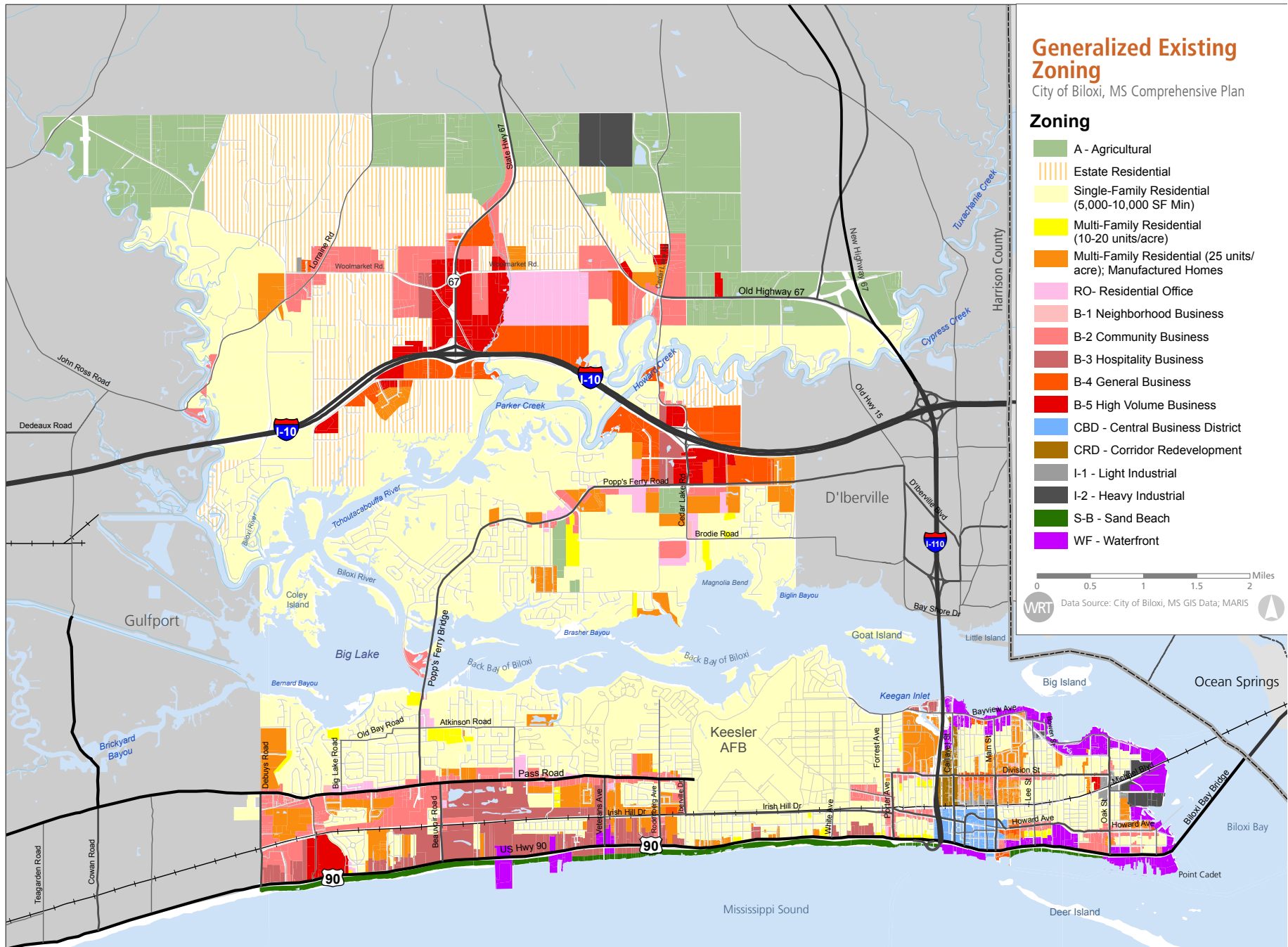


FIGURE 3.2/EXISTING ZONING

Key Land Use Issues

- Approximately 50% of Biloxi’s total land area is in agricultural or forestry use, undeveloped, or vacant as a result of Hurricane Katrina. Development, redevelopment, and conservation of this land over the next decade and beyond will provide a fundamental opportunity to bring about a more resilient and sustainable land use pattern.
- Biloxi’s traditional character and identity is largely derived from waterfront areas, historic resources, and older parts of the City that were devastated by Katrina and will continue to be vulnerable to major storms. More recent development lacks the visual character and appeal of “Old Biloxi.”
- Extensive areas of the City—East Biloxi in particular—are located within special flood hazard areas (velocity zone or 100-year floodplain). Rebuilding in these areas requires special construction measures (e.g., elevating the first floor above the base flood elevation), expensive insurance, and is subject to impacts from future storms.
- Growth pressures are increasing in Woolmarket and North Biloxi due to the availability of suitable land and constraints associated with building in more vulnerable areas such as East Biloxi. This development needs to be coordinated with the efficient provision of infrastructure, public facilities and services, retail and employment uses, and parks and open space.

- Biloxi largely lacks mixed-use land use patterns with easy connections between neighborhoods and uses such as parks, schools, and retail and employment centers. Volatile energy and transportation costs have resulted in increased demand for walkable neighborhoods, transit, bicycle connections, and other alternatives to automobile use at the national level. This trend has been reflected in public input received from Biloxi residents during the planning process.
- Current development proposals are occurring in a piecemeal fashion with little sense of how they fit into a logical and coherent overall land use pattern. The City’s existing land development review and approval system over-relies on variances as a tool to provide regulatory flexibility, creating uncertainty for developers and residents. One source of tension is caused by proposals for higher intensity (density and/or height) uses next to established, lower density residential areas.
- The existing LDO lacks some tools commonly used in communities across the nation to encourage development patterns promoting goals such as environmental resource conservation and pedestrian-friendly, livable communities, for example: conservation subdivision design, mixed-use development (outside of the Downtown), and traditional neighborhood design (TND).



- The Code Diagnosis conducted as part of the LDO update identified the following six themes to improve the effectiveness of the LDO and support implementation of the Comprehensive Plan goals and policies:
 - Improve the user-friendliness of the Ordinance
 - Improve the efficiency of the Ordinance’s review procedures
 - Modernize zoning districts and implement Comprehensive Plan goals
 - Improve development quality
 - Encourage redevelopment
 - Incorporate sustainable development practices in the updated Ordinance
- Biloxi has extensive environmental resources—wetlands and aquatic ecosystems, floodplain, indigenous tree cover, etc.—that provide important benefits such as natural storm-water management, water quality improvement, wildlife habitat, and recreation. Conservation of these resources is key to ensuring a resilient and sustainable land use pattern for the future, particular given scientific evidence that sea level rise and warming ocean temperatures are likely to result in increasing occurrences of severe storms.

3.2/LONG RANGE GOAL, OBJECTIVES, AND ACTIONS

The overall goal and supporting objectives and actions described below are designed to guide regulatory, investment, and other decisions to achieve the future vision of a resilient, sustainable land use pattern. They address:

- The character of new development, including compatibility with and protection of natural and historic resources (Objectives 3-1, 3-2, and 3-3)
- Desired patterns of growth in new areas to the north, redevelopment in established areas of the City, and implementation of these patterns through a supportive Future Land Use Map and LDO (Objectives 3-4, 3-5, 3-6, and 3-7)
- Land use relationships, including mixed uses and buffers between higher intensity and lower intensity uses (Objectives 3-8 and 3-9)
- Environmental resources as they relate to land use (Objectives 3-10, 3-11, and 3-12).

The term “new development” used in this chapter refers to both residential and non-residential uses unless otherwise specified.

Land Use Goal

Create a resilient pattern of future land use that:

- 1/Retains the character of “Old Biloxi.”
- 2/Provides for orderly and cost-effective growth and redevelopment.
- 3/Maximizes positive relationships and reduces incompatibilities between different types of uses.
- 4/Protects sensitive environmental resources and reduces storm vulnerability.



Land Use Character

Objective 3.1 Improve the character and visual quality of new development.

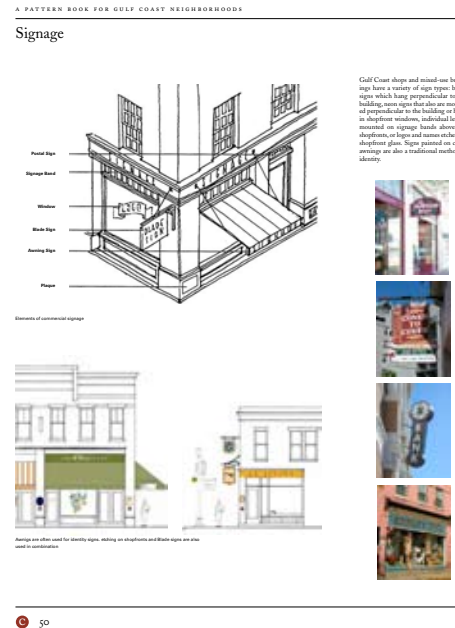
Action 3.1.1 Enact basic design standards for commercial and multi-family developments.

Action 3.1.2 Modernize parking standards for new developments.

The character and charm of Biloxi's historic built environment is extremely important to the City's quality of life, visitor economy, and unique identity. Unfortunately, many of Biloxi's historic resources and neighborhoods were severely damaged or destroyed by Katrina. Citizen and stakeholder participants in the planning process have expressed concerns regarding new development that conflicts with Biloxi's traditional visual character, particularly multi-family and commercial development along Highway 90 and other major corridors.

Many communities throughout the country establish minimum requirements in their land development ordinances to address such issues. However, with the exception of regulations applying to designated historic districts, Biloxi's LDO lacks basic standards for the design of new commercial and multi-family developments. Examples of issues that could be addressed by these standards include:

- Building mass, bulk, and façade appearance (e.g., to avoid large blank walls and visual incompatibility with established adjacent uses)
- Building/parking lot relationships (e.g., to avoid buildings oriented to large expanses of parking)
- Exterior lighting (to avoid spillover of light and glare from buildings and parking lots onto adjacent properties)
- Sidewalks, crosswalks, and decorative paving (e.g., brick or stamped concrete streets) in historic or other districts
- Landscaping and tree protection (improvements to the City's current standards to enhance functions such as native species diversity, stormwater management, shade, and buffering of adjacent uses)



Architectural and site design guidelines should reference Biloxi's historical context, including the Spanish and French architectural influence found in "Old Biloxi." Examples include Mary Mahoney's Restaurant, the Old Spanish House, and Old Carnegie Library. Enhanced landscaping and tree protection standards should be implemented in conjunction with common open space "set-aside" requirements within all new single-family, multi-family, and nonresidential developments (see Land Use Action 3-10-2 below).

While the City has parking standards in place, these standards could be improved by reducing the amount of required parking (including possible use of maximum parking caps), providing more flexibility for approaches such as shared and off-site parking, and coordinating with landscaping and stormwater management requirements to promote environmental sustainability.

Objective 3-2 Maintain and enhance visual quality and scenic views along Biloxi's major corridors.

Action 3-2-1 Establish a corridor overlay district in the Land Development Ordinance (LDO) with provisions to maintain and enhance visual quality along key corridors, starting with Highway 90 / Beach Boulevard as a priority.

Because most people view Biloxi from automobiles, roadway corridors such as I-110 (the major entrance to the City from I-10), Highway 90, Caillavet Street, Pass Road, and others are key to the City's image and identity. As Biloxi's "front yard" on the Mississippi Sound that establishes most visitors' image

of Biloxi, protection and enhancement of the visual character of Beach Boulevard as it redevelops post-Katrina is especially important. With the exception of Caillavet Street (and I-110, which is a restricted access federal highway), the City currently lacks provisions in its LDO to encourage consistent redevelopment of its major corridors in terms of design issues such as building orientation, massing, and scale; landscaping and signage; parking lot design and location; and walkability.

Given the above, the City's existing Corridor Redevelopment District for Caillavet Street should be expanded with enhanced design standards for application to other corridors in the City, starting with Beach Boulevard as a priority. Design standards specific to Beach Boulevard should require parking to be located behind buildings; limit direct access to the boulevard; require sidewalks/bike paths, increased street tree planting, and other landscaping; control signage; and incorporate basic building design standards.



Objective 3-3 Protect natural, cultural, and historic resources that help define Biloxi's unique character.

- Action 3-3-1 Improve landscaping, tree protection, and other standards for new developments to protect natural resources. *[See also Natural, Cultural, and Historic Objectives 5-3 and 5-4]*
- Action 3-3-2 Enforce and enhance the Architectural and Historical Review Commission (AHRC) Design Review Guidelines to ensure that new development complements Biloxi's historic character. *[See also Natural, Cultural, and Historic Objective 5-7]*
- Action 3-3-3 Enact LDO provisions and other strategies to support the seafood industry, other working waterfront uses, and recreational fishing. *[See also Natural, Cultural, and Historic Objective 5-2]*

This objective and its associated actions underscore the importance of addressing natural, cultural, and historic resources as integral, sustainable components of Biloxi's land use pattern. The Natural, Cultural, and Historic Resources Element objectives and actions address these resources in more detail. From a land use perspective, it is vital that revisions to the LDO incorporate provisions to enhance protection of natural and historic resources in new development and redevelopment projects.



Growth and Redevelopment

Objective 3-4 Using the Future Land Use Map as a guide, provide for a range of residential, business, industrial, and community-serving uses needed to meet present and future needs.

Action 3-4-1 Review and revise the Zoning Map and LDO as necessary to provide for uses consistent with the Comprehensive Plan Future Land Use Map and text.

The Future Land Use Plan identifies the desired general pattern of future land use in the City of Biloxi (see Section 3.3). Together with the text on future land use contained in Section 3.3, it is intended to guide:

1/ Specific changes be made to the Zoning Map and related sections of the LDO needed to implement the land use recommendations of the Comprehensive Plan; and

2/ On-going decision-making by the City on land use and development matters.

The intent is to minimize reactive decision-making in response to individual development and rezoning proposals in favor of a more proactive approach to promoting a coherent land use pattern that supports the Comprehensive Plan goals and objectives.

Objective 3-5 Direct rebuilding and redevelopment of established parts of the City to create complementary mixes of uses that reinforce Biloxi's community character.

Action 3-5-1 Enact provisions in the LDO to reinforce regional activity centers comprised of larger scale commercial, mixed-use, and hospitality uses in established parts of the City, as designated on the Future Land Use Map.

Action 3-5-2 Enact provisions in the LDO to facilitate appropriate smaller-scale development and redevelopment in older parts of the City.

Action 3-5-3 Establish a corridor overlay district in the LDO with provisions to encourage mixed-use infill development and redevelopment along key corridors.

Objective 3-5 and its associated actions are designed to promote quality, compatible redevelopment of previously developed areas of the City (primarily East Biloxi, Downtown, and other parts of the Peninsula) that were impacted by Katrina and/or are in need of revitalization. Action 3-5-1 addresses two regional activity centers: the Convention Center and Downtown. As described in Section 3.3 (Future Land Use), the Convention Center activity center is envisioned as a high-quality, walkable visitor destination focused on the Mississippi Coast Coliseum and Convention Center and surrounding hospitality uses. A new Planned Development—Hospitality Business District is proposed to replace the existing Convention Center Overlay District.¹ This district would include standards and incentives to mitigate adverse impacts on nearby development and promote public benefits such as increased pedestrian amenities, public open space, and waterfront access.

The Downtown is currently zoned Central Business District (CBD). In addition, an Architectural/Historic Overlay Dis-

¹ A Planned Development District is a zoning district that can be proposed to replace existing zoning in appropriate locations within the City provided that it meets objectives and standards defined in the district provisions.



district with standards for demolition or alterations to existing buildings covers much of the CBD. Recommended changes to the CBD zoning include provisions to permit and encourage mixed-use development (e.g., a mix of retail, office, and residential uses in the same building). The existing design guidelines that apply to the Architectural/Historic Overlay District should be revised to incorporate enhanced standards for new commercial/mixed-use development compatible with the Downtown’s existing historic character.



Action 3-5-2 addresses an issue that is particularly important in East Biloxi: facilitating smaller-scale infill and redevelopment of areas impacted by Katrina in a manner that promotes resiliency and reduced vulnerability to future storms. Significant hurdles to such redevelopment include the need to comply with floodplain regulations tied to the new base flood elevation, a fragmented ownership pattern consisting of numerous small lots, elevated insurance costs, and high expectations for land values. Recommended approaches include instituting more flexible standards to facilitate appropriate development of existing lots, providing incentives for minimizing building footprints and maximizing open space in floodplain areas, and enacting a new Planned Development-Infill District with flexibility and incentives to enable high-quality development on relatively small lots. Strict requirements to reduce storm vulnerability and increase resiliency should be the key priority for any new development proposed within designated flood hazard areas. In addition, new development should be designed to be compatible with established neighborhood character and (to the extent possible) mitigate urban design and community impacts caused by requirements such as elevating first floors above the base (100-year flood) elevation.



A number of the City’s major roadway corridors are characterized by vacant and underutilized properties, particularly in East Biloxi but also along portions of Pass Road in West Biloxi. Action 3-2-1 above calls for enactment of a corridor overlay district designed to maintain and enhance the visual quality of Highway 90/Beach Boulevard. Building on this recommendation, Action 3-5-3 calls for the development of a Corridor Overlay Redevelopment “framework district” for application on a case-by-case basis to other corridors in the City, such as Division Street, Oak Street, and Pass Road. The purpose of the overlay is to promote facilitate redevelopment in appropriate locations (e.g., commercial/mixed-use development focused on intersections, multi-family/workforce housing accessible to casinos) while establishing basic standards that address building siting and form, parking, landscaping, etc.

Objective 3-6 As Biloxi grows to the north, direct and organize new development around compact, mixed-use centers surrounded by low-density residential and open space uses.

- Action 3-6-1 Enact Planned Development Districts with standards and review procedures for application to activity centers in developing parts of Biloxi designated on the Future Land Use Map, as well as to smaller-scale centers in other locations that meet standards defined in the LDO.
- Action 3-6-2 Coordinate land use planning and capital programming to ensure that infrastructure (transportation and utility) improvements and extensions support the desired future

land use pattern. *[See also Community Facilities and Services Action 6-8-1]*

Action 3-6-3 Designate a Greater Biloxi Planning Area to accommodate the future expansion of the City to the north. *[See also Community Facilities and Services Action 6-8-2]*

Action 3-6-4 Designate appropriate areas for new employment and industrial land uses. Limit industrial uses, other than seafood industry related, on the Peninsula.

Whereas Objective 3-5 addresses appropriate redevelopment of older parts of the City (primarily on the Biloxi Peninsula), Objective 3-6 and its associated actions are intended to promote a logical, coherent future land use pattern as Biloxi grows to the north. Compared to a more scattered, piecemeal development approach, such a pattern will reduce the costs of providing public infrastructure and services; better protect sensitive environmental resources and components of existing rural character; “build community” by providing mixed-use activity centers; and support the possibility of future transit service.

The Generalized Future Land Use Map (Figure 3.3) designates two regional activity centers north of the Back Bay of Biloxi: one at the I-10/Route 67 interchange in Woolmarket and the other at the I-10/Cedar Lake Road interchange in North Biloxi. Enactment of a new Planned Development—Commercial District is proposed to accommodate higher intensity, quality, mixed-use development in these locations (see Section 3.3 for a description of these centers). This district or a new Traditional Neighborhood Development (TND) Planned Develop-

ment Overlay District, as appropriate, may also be used to accommodate mixed-use development in smaller scale (village) centers in additional locations north of the Bay that meet criteria specified in the district provisions (e.g., are or easily can be adequately served by roads and public utilities). In all cases, adequate transitions and buffers should be provided to lower density surrounding uses.

The pattern of new development focusing on mixed-use centers applies not only inside the current boundaries of the City, but also to Biloxi’s anticipated future growth area to the north within presently unincorporated Harrison County. (One such center, Tradition, is a new master planned community under development at the intersection of Highways 67 and 605 approximately five miles north of the existing city limits.) This area, called the Greater Biloxi Planning Area, is further addressed in Chapter 10.

Growth to the north is inevitable given the vulnerability of low-lying areas of Biloxi along the Mississippi Sound and other coastal waterways to storm damage, the high costs of insurance and meeting floodplain construction requirements, and scientific projections of future sea level rise. Coordination of capital programming for public infrastructure (roads, water, and sewer) with land use planning is critical to ensure that such growth occurs in a logical manner structured around compact centers, as opposed to scattered, haphazard development that is inefficient and costly to serve and negatively impacts community character. Opportunities should be sought to incorporate a mix of employment, retail, and residential uses into the development pattern.

Traditional Neighborhood Development (TND)

Traditional Neighborhood Development promotes compact, mixed-use, pedestrian-friendly patterns modeled after traditional American towns as an alternative to conventional suburban development. Typical TND characteristics include interconnected streets, street design focused on pedestrian needs, buildings close to the street, and a mix of uses. These uses typically include diverse housing types and a central core of retail and community-serving facilities and services within convenient walking distance of the surrounding neighborhood.



Objective 3-7 Increase the user-friendliness and consistent application of Biloxi's land development regulations and review procedures for applicants, citizens, and staff.

- Action 3-7-1 Improve the structure and organization of the LDO.
- Action 3-7-2 Improve the efficiency of the development review process.
- Action 3-7-3 Simplify and modernize zoning districts where appropriate to improve ease of use.
- Action 3-7-4 Revise the LDO to clearly limit variances to legal hardship cases while providing flexibility through other provisions (e.g., Planned Development Districts) where appropriate to meet development objectives.

Biloxi's current LDO is lengthy and difficult to understand and use. The development review and approval process is characterized by an inordinate number of rezoning and variance requests in which decision-making criteria are not clearly spelled out, creating uncertainty for both developers and citizens. The Code Diagnosis conducted for the concurrent LDO Update identifies a number of changes recommended to improve the organization, user-friendliness, and procedural efficiency of the LDO. These changes include provisions to reduce reliance on variance and provide other mechanisms—most notably Planned Development Districts—with clear standards and conditions for approval. Implementing these changes will facilitate new development that is consistent with desired patterns of future growth and redevelopment as defined in this Comprehensive Plan.

Land Use Relationships

Objective 3-8 Promote walkable, fully accessible, mixed-use development patterns that provide alternatives to driving to meet basic needs.

- Action 3-8-1 Permit and encourage complementary mixed uses in Planned Development Districts and other provisions of the LDO.
- Action 3-8-2 Modify the existing CBD zoning to allow mixed uses, provide more flexible parking standards for new construction, and establish design standards for new commercial and mixed-use developments.
- Action 3-8-3 Provide sidewalks and other facilities as appropriate to accommodate pedestrians, bicyclists, and transit service in and around new development.

A key Comprehensive Plan land use objective is to promote mixed uses focused on compact centers and redevelopment corridors, as opposed to spread out, single-use patterns. The advantages of mixing rather than separating uses include:

- Creating opportunities for walkable and accessible neighborhoods, centers, parks, schools, and employment areas
- Establishing activity centers that contribute to sense of place, community, and the economy through quality design and “synergistic” relationships between different uses (e.g., residential and retail)

- Reducing dependency on automobiles and increasing opportunities for walking, biking, and transit service

- Providing diverse housing types to meet the needs of residents (e.g., attached, detached, housing above stores, etc.)

The Planned Development Districts proposed through the LDO revision will be a primary vehicle for implementing mixed-use patterns at scales ranging from regional activity centers (e.g., the interchanges of I-10 with Route 67 in Woolmarket and Cedar Lake Road in North Biloxi) to smaller scale “village” centers (e.g., through Traditional Neighborhood Development or TND). In addition, the proposed “framework” corridor overlay district is designed in part to promote appropriate mixed-use redevelopment of older corridors within the City (see Objective 3-5 above).

The Downtown is Biloxi’s traditional activity center and a key anchor of the City’s land use pattern. The goal for this center is to promote a walkable, mixed-use center with residential in addition to commercial, employment, and institutional uses. To help achieve this goal, the existing Central Business District (CBD) zoning should be revised to incorporate provisions and incentives encouraging mixed-use development, along with appropriate design standards to ensure compatibility with established historic character. Additional strategies to promote mixed-use development in the Downtown are identified in Section 9.5 of this plan.

Providing opportunities to walk, bike, or take transit as alternatives to automobile use is a key benefit provided by mixed land use patterns. Locating retail stores and services within easy walking distance of neighborhoods, for example, makes it less likely that residents will drive for all trips. Moreover,

the increased density provided in compact, mixed-use centers makes transit service more feasible. Sidewalks, designated bikeways, multi-use paths, and attractive transit facilities (e.g., bus shelters) should be incorporated into the design of mixed-use developments to maximize this benefit.

Objective 3-9 Establish transitions and buffers to reduce the impacts of higher intensity/density on lower intensity/density uses.

Action 3-9-1 Enact transitional standards for commercial and high-density residential development next to lower density residential uses.

Action 3-9-2 Enact exterior lighting standards to reduce glare and spillover of light from commercial development onto adjacent streets and neighborhoods.



Citizens expressed concerns during the planning process regarding the impacts of proposed high-density developments on nearby established uses. Specific concerns include high-rise development proposed near residential uses on the Biloxi Peninsula and high-density residential development proposed next to larger single-family lots in Woolmarket. Transitional standards should be incorporated into the LDO revision to address this issue. Examples of these standards include:

- Require the minimum size of lots proposed at the perimeter of a proposed development to be no more than 25% smaller than adjacent single-family lots
- Require new building heights above 35 feet to be stepped back from adjacent single-family development
- Require parking lots for new development to be located away from adjacent single-family development
- Require vegetated or other effective buffers between high-intensity and lower-intensity development

Another issue is the spillover of light and glare from buildings and parking lots onto adjacent properties, sidewalks, and roadways. To address this issue, the City should consider enacting exterior lighting standards, particularly in commercial areas and for uses such as parking lots and gas stations.

Land Use and Environmental Resources

Objective 3-10 Maintain critical environmental resource areas as open space.

- Action 3-10-1 Enact conservation cluster subdivision provisions in the LDO to protect sensitive environmental resources, reduce storm vulnerability, and maximize hazard resiliency. [Natural, Cultural, and Historic Resources Action 5-3-2]
- Action 3-10-2 Enact common open space set-aside standards for new developments in the LDO designed to protect floodplains, wetlands, riparian areas, and other environmentally sensitive resource areas. [Natural, Cultural, and Historic Resources Action 5-3-2, Community Facilities Action 6-3-4]

An important goal of the Comprehensive Plan is to maintain wetlands, flood hazard zones, and other environmentally sensitive areas as a vital part of Biloxi's future land use pattern to help achieve the vision of a resilient 21st century city. From a land use perspective, conservation cluster subdivisions are a key tool that should be incorporated as an option in the LDO revision. In addition to reducing infrastructure (road and utility) costs, modest increases in the base zoning could be provided as incentives for this type of development. The conservation cluster approach is particularly appropriate for currently undeveloped parts of Woolmarket (where it can maintain open space and reinforce the activity center concept), and also could find application in appropriate settings in North Biloxi and on the Biloxi Peninsula.

Conservation Cluster Subdivisions

Conservation cluster subdivision provisions allow residential development on smaller lots than permitted by base zoning in exchange for setting aside a significant portion of the development as permanent open space. This approach achieves densities similar to conventional subdivisions, with the added benefits of open space, natural resource protection, and compact development patterns that are more efficiently served by public infrastructure—benefits that accrue to both subdivision residents and the public at large. Developers also benefit from reduced costs for road and utility installation compared to more spread out development and the higher value of lots abutting dedicated open space.

The current LDO lacks open space set-aside standards for new developments. Such standards are a means to upgrade the quality of development, provide important amenities for residents, and protect sensitive environmental resources. Standards can require a percentage of the development site area to be set aside as common, usable, private open space and can be applied to all development (both residential and nonresidential). In addition to providing environmental benefits such as establishment of buffers and protection of sensitive resources, residential open space can provide recreational amenities (e.g., trails) while nonresidential open space can provide outdoor activity space that enhances the value of the development. To accomplish this, the ordinance requirements should be crafted to ensure that reserved open space functions as a usable amenity rather than being relegated to “left-over land.” The percentage of the set-aside requirement can vary (e.g., from 5 to 20%) based on development type, location, and context (e.g., Downtown and infill areas, North Biloxi and Woolmarket).

Objective 3-11 Maintain undeveloped flood prone areas as open space and incorporate measures to increase resiliency in existing and new development.

- Action 3-11-1 Implement the FEMA Base Flood Elevation maps and revise the existing floodplain regulations to reduce vulnerability to flooding and storm damage.
- Action 3-11-2 Modify nonconformity regulations to allow expansion or reconstruction of nonconforming structures located in designated floodplain areas in exchange for significant structural improvements to reduce vulnerability to flooding and storm damage.
- Action 3-11-3 Enact LDO provisions and incentives to minimize building footprints, maximize open space, and otherwise encourage more resilient design and construction within areas subject to flooding and storm damage.
- Action 3-11-4 Enact LDO provisions and pursue other strategies to facilitate productive uses of open lands in flood prone areas, such as urban agriculture, community events, and recreation.

Closely related to Objective 3-10 is the need to increase the resiliency of Biloxi's future land use pattern through measures to reduce development vulnerability to storm damage and maximize productive open space uses of areas susceptible to flooding. The revised FEMA Digital Flood Insurance Map ad-

opted by the City highlights Biloxi's vulnerability; significant portions of East Biloxi in particular are located 7–8 feet or more below the base (100-year) flood elevation (Figure 3.4). To address this concern, the LDO revision should incorporate provisions to make the City more resistant to natural disasters as it develops and redevelops. Examples include:

- Conservation cluster subdivisions that maintain floodplain areas as open space (Objective 3-10)
- Construction requirements that maximize resistance of development within designated flood hazard areas to storm damage, including elevation of the first habitable floor at least one to two feet above the new FEMA base flood elevation
- Flexible provisions to enable improvements to existing, nonconforming structures within floodplain areas to significantly reduce vulnerability to storm damage
- Setbacks and buffers along water bodies and wetlands to maintain flood storage capacity

In addition to reducing the City's vulnerability to storm damage and absorbing floodwaters, flood prone areas can be utilized for productive purposes on an interim or long-term basis if maintained as open space. For example, some East Biloxi residents interviewed for the comprehensive plan expressed interest in food production (urban agriculture), possibly as a commercial enterprise growing specialty produce for local restaurants and visitor-oriented businesses. Other potential storm-resilient uses of open space in designated flood hazard areas include outdoor recreation, outdoor venues for special events, and community gathering areas, oriented towards Biloxi residents and/or visitors. The LDO should be evaluated

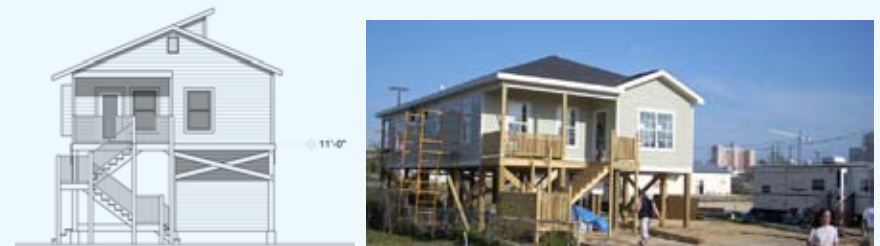
Urban Design Implications of Elevating Structures

A central urban design problem in rebuilding East Biloxi is the need to raise the habitable portions of buildings above the base flood elevation. Taking a house that was designed to be at grade or a few feet above grade and raising it on columns removes the expected relationships between the building and the surrounding streets and landscape. It makes ground level a deserted and potentially dangerous place. This problem may not appear when only a few houses have been raised, but a whole block of raised houses is not a desirable situation.

The Gulf Coast Community Design Studio has been developing solutions to address this problem. It is possible to make raised buildings more welcoming in appearance if the front doors are close to ground level and lead to a hallway with an internal stair to the residence or apartment above. A front porch used as a sitting area at the entrance level will also enhance the relationship between building and street. Someone coming to the house would walk up to the porch, enter into a front hall, and then go up the inside stairwell to the residence. (See the *East Biloxi Strategy (10.1)* for illustrations of this concept).

The area directly under the house could have a finished concrete floor or wood deck, so that it can be used as an outdoor room, and parts of this area can have a concrete pad and be used as a carport or work spaces. With these features, an elevated house would appear and function much like any other house designed at grade level. Other recommendations to address elevated structures include:

- Incorporate a build-to/set-back line for each block-front with all housing units aligned to it, so that someone passing by would see a row of front porches and front doors.
- Use the area under a raised apartment building for parking, but ensure parking is screened and locate as many entrances as possible at street level. *Locating the parking under a building rather than in a separate parking lot is a desirable situation; the design problem is to keep the connection between raised building and street.*
- Incorporate drainage swales to define the street pavement edge, where streets have an informal character (e.g., asphalt paving and grass edges) and add a separate pedestrian footpath.
- Include street trees at approximately 40-foot intervals along 50-foot wide streets.



Source: Gulf Coast Community Design Studio, Biloxi

Green Building

According to the U.S. Green Building Council (USGBC), buildings account for 72% of total electricity consumption and 39% of energy use. Minimizing the impact of buildings on the environment, through green building techniques and low impact site design standards, is one approach to conserving energy and protecting natural resources. Sustainable building practices, such as passive solar building siting, energy efficient building systems, use of renewable energies, green roofs, on-site water recycling, and native landscaping can be integrated into existing and new development through increased education, awareness, and incentives.



for changes needed to support and encourage such uses, for example by removing obstacles or expressly authorizing uses such as urban agriculture in existing zoning districts.

Objective 3-12 Encourage sustainable land development practices that increase energy efficiency and otherwise reduce environmental impacts.

- Action 3-12-1 Remove unintended obstacles to sustainable development contained in the LDO.
- Action 3-12-2 Incorporate incentives for sustainable development practices (e.g., construction of “green” buildings) into the LDO.
- Action 3-12-3 Consider adding requirements for selected sustainable development practices to the LDO.
- Action 3-12-4 Develop a public awareness campaign and other incentives such as matching grants or awards to promote sustainable development.

The most commonly accepted definition of sustainable development is:

“...development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations Brundtland Commission, 1987).

At the community scale this concept applies to water supply, prime agricultural soils, native habitat areas, and other natural resources that provide a host of benefits for humans. In recent years concerns have been growing regarding the impacts of human activities at the planetary scale, most notably global warming or climate change, the potential ramifications of which are especially serious for coastal cities such as Biloxi. Coastal communities around the globe are anticipating the impacts of climate change over the next 50 to 100 years, which are projected by scientists to include increasing average temperatures, a 2 to 4 foot sea level rise, increasingly intense storms, and more periods of intense rainfall.

A related issue that directly impacts Biloxi’s economy, the fiscal condition of city government, and household finances is the volatile cost of energy. While the recession caused gas prices to moderate from the highs reached in 2008, projections of peak oil (the point at which global petroleum extraction reaches its maximum level, after which it enters terminal decline) indicate the likelihood of a future characterized by scarce, expensive fossil fuel supplies.²

Sustainability is a recurring theme throughout the Comprehensive Plan that is reflected in strategies to encourage compact, efficient development patterns; protect sensitive environmental resources; promote resiliency and resistance to natural hazards; provide alternatives to automobile use (walking, biking, and transit), etc. Objective 3-12 focuses on promoting sustainability in new developments through changes to the City’s LDO. For example, the LDO does not presently address solar or wind power, creating a potential obstacle to small-scale residential or commercial installations. The LDO could also incorporate incentives or requirements for sustainable development practices, including “green building” as measured by the U.S. Green Building Council’s Leadership in Environmental Energy and Design (LEED) or other rating system. Harrison County has adopted a “point system” for certain nonresidential zoning districts within which developers choose from a menu of “green development” options designed to conserve energy, promote a healthy landscape, support public health and safety, and otherwise increase sustainability.

In addition to incorporating standards and incentives for green buildings and other forms of sustainable development into the LDO, the City could initiate a public awareness campaign to promote public awareness and action to address this critical issue. The campaign would publicize available incentives or funding programs, recognize accomplishments, and generally “make the case” for sustainable development as it relates to energy costs, storm vulnerability, natural resource preservation, and supporting a sustainable economy.

² Peak oil is a widely accepted concept that is being driven by increasing demand in the developing world, China and India in particular. Optimistic predictions forecast that global decline in oil production will begin by 2020 or later, allowing time for investment in alternative sources. Pessimistic projections are that the peak has already occurred or will occur within the next few years, resulting in major economic disruptions.

3.3 / FUTURE LAND USE

The Generalized Future Land Use Map (Figure 3.3) identifies the desired general pattern of future land use in the City of Biloxi. It does not replace the City's current Zoning Map, but rather provides a framework for use with the Comprehensive Plan goals, objectives, and actions to identify needed zoning changes and guide ongoing land use decision-making by the City. The Generalized Future Land Use Map includes the following land use categories:

- Residential
 - Medium to High-Density Residential
 - Low-Density Residential
- Commercial
 - Regional Business
 - Neighborhood/Community Business
 - Waterfront/Commercial Seafood Industry
- Mixed-Use
 - Regional Activity Center
 - Neighborhood Center
 - Mixed-Use Corridor
- Other
 - Governmental
 - Parks, Recreation, and Environmental Open Space
 - Floodplain (Special Hazard Area) Overlay

Residential

Residential land uses are divided into two broad categories that reflect the differences in development patterns and trends south and north of the Tchoutacabouffa River. The area south of the river (East Biloxi, West Biloxi, and North Biloxi) is shown as Medium to High-Density Residential and the area north of the river as Low-Density Residential on the Future Land Use Map. While residential is the predominant use in these categories, compatible nonresidential uses such as schools, parks, institutions, and neighborhood-serving retail may be appropriate.

Medium to High Density Residential

(4 dwelling units/acre or greater)

This residential land use category largely reflects the existing development pattern on the Peninsula and in North Biloxi. It includes smaller lot single-family, two-family, and multi-family residential dwelling types.

The intent of the Medium to High-Density Residential category is to maintain established neighborhood character on the Peninsula and in North Biloxi and to encourage residential infill and redevelopment that includes a complementary mix of housing types. In general, such development should fit with existing neighborhood scale and character, although new forms and types of development will be required to address issues such as storm vulnerability in floodplain areas, particularly East Biloxi. The following overall strategies apply to this category:

- Reducing vulnerability to major storm events should be the highest priority in Special Hazard Areas (the Velocity Zone

and 100-Year Floodplain). Where permitted, new residential development must be designed to limit loss of life and property damage and reduce obstructions to flood waters as required by the City's Flood Damage Prevention Ordinance.

- Compact development patterns (preferably outside of flood prone areas or, if within these areas, located and constructed to minimize risk) are preferred over spread out, lower density residential development in Special Hazard Areas.
- Particularly within Special Hazard Areas, creative and productive uses of open space and vacant lands are encouraged to promote a more resilient land use pattern. Examples of the possible functions and uses of such lands include stormwater management, wetland restoration, community-based recreation, ecotourism, community gardens, and urban agriculture.
- Higher density residential uses are encouraged as part of or within walking distance of mixed-use activity centers, corridors, and neighborhood/community business centers shown on the Future Land Use Map. Appropriate buffers and transitions should be provided to adjacent lower density residential uses.

More specific guidance regarding medium to high-density residential uses in East Biloxi, West Biloxi, and North Biloxi is provided in Chapter 9 (Neighborhood Improvement Strategies).

Low Density Residential

(Less than 4 dwelling units/acre)

The Low Density Residential category applies to the Woolmarket neighborhood north of the Tchoutacabouffa River. Woolmarket's existing land use pattern consists of extensive agricultural and other undeveloped lands and scattered, mostly

low-density residential development. While significant floodplain areas are located along the Tchoutacabouffa River, Biloxi River, and smaller streams, the area is characterized by generally higher elevations and is less vulnerable to storm damage than the rest of Biloxi.

The intent of this residential land use category is to promote the orderly development of Woolmarket by maintaining low-density residential and open space uses, focusing new development on mixed-use centers, and maximizing the cost-efficient provision of public infrastructure and services. The following overall strategies apply to this category:

- Rather than being dispersed throughout Woolmarket, new development should be focused on the Regional Activity Center and Neighborhood Centers shown on the Generalized Future Land Use Map and other places that meet specified criteria. Examples of this criteria include efficient use of transportation and utility infrastructure, protection of environmental resources, and provision of neighborhood-serving uses in logical locations. Use of Planned Development Districts, conservation cluster subdivisions, and similar techniques is encouraged to achieve this pattern.
- Outside of designated centers, the continued use of land for low-density residential development, agriculture, and open space is encouraged.
- Buffers between and transitions from higher density to lower density uses should be provided.
- Parks, recreational facilities, and other community-serving uses should be incorporated into the land use pattern to serve current and new residents as Woolmarket develops.

- Sensitive environmental features, for example wetlands, floodplains, and river and stream corridors, should be maintained within the overall pattern of development. Such features can provide multiple benefits, such as stormwater management/ storm damage reduction, eco-tourism, and recreation (e.g., establishment of a greenway trail network).

More specific guidance regarding medium to high density residential uses in Woolmarket is provided in Chapter 9 (Neighborhood Improvement Strategies).

Commercial

The three commercial land use categories shown on the Future Land Use Map vary widely in scale and types of uses. While retail, employment, and other commercial uses are predominant within these categories, other complementary uses such as high-density residential may be appropriate.

Regional Business

Land uses within this category include hospitality based businesses, major commercial uses, and high volume retail serving a local, regional, and visitor customer base. Regional Business uses are concentrated in West Biloxi between Rodenberg Avenue and the Biloxi/Gulfport boundary, an area anchored by the Mississippi Coast Coliseum and Convention Center (designated a Regional Activity Center on the Generalized Future Land Use Map) and Edgewater Mall. The following strategies apply to this category:

- Landscaping, signage, parking, and other design standards should be used to improve the visual quality of regional business uses.

- Regional business uses should have convenient access to the regional roadway network (highlighting the importance of the proposed Popp's Ferry Road improvements and extension south to Highway 90) and be served by transit and other multi-modal transportation options.

- Pedestrian connections, buffers, and transitions in scale (height and density) should be provided to lower density residential uses.

More specific guidance regarding Regional Business uses in West Biloxi is provided in Chapter 9 (Neighborhood Improvement Strategies).

Neighborhood/Community Business

Much smaller in scale and density than the Regional Business classification, this category includes neighborhood-oriented retail and services, low-density office and professional uses, etc. Multi-family and institutional uses (churches, schools, governmental buildings, etc.) may also be appropriate. In addition to serving the daily retail and service needs of Biloxi's residents, this category can provide a transition between predominantly residential neighborhoods and more intensive mixed-use centers and high traffic roadways (e.g., mixed-use corridors shown on the Generalized Future Land Use Map).

Waterfront/Commercial Seafood District

This land use category includes areas that are zoned Waterfront (WF) and/or are associated with Biloxi's traditional commercial seafood industry. It covers a variety of land uses, including tourism and entertainment-based businesses, working waterfront uses (e.g., seafood markets, processing, shipping, etc.), marinas, museums, theaters, high-density resi-

dential, recreation, general retail and personal services, and restaurants. Dockside gaming facilities may be permitted as conditional uses within the WF zoning district. The following strategies apply to this category:

Land uses should be pedestrian accessible and preserve views and physical access to the waterfront wherever possible.

- Linkages between waterfront uses and key destinations are encouraged through development of a public walkway connection (the Biloxi Peninsula Path).
- Given the location of lands in this category within Special Hazard Areas, developments are required to comply with the City's Flood Damage Prevention Ordinance (e.g., commercial buildings within the hazard area must be floodproofed).
- Land uses should incorporate open spaces providing a variety of benefits (e.g., flood control, water quality treatment, outdoor recreation, visitor amenities, and scenic quality) wherever possible.
- Transitions and buffers should be provided between higher density, visitor-oriented uses and lower intensity districts, including residential neighborhoods and the Downtown.



Mixed-Use Development

Mixed-use development consists of several different types of uses (e.g., residential, retail, office) each of which could function independently, but that would benefit from proximity to one another. Such uses can be arranged vertically (e.g., a building containing residential apartments over first-floor businesses) or horizontally (e.g., separate but physically connected buildings with commercial, residential, or other uses). As a general policy, the Comprehensive Plan encourages mixed-use development patterns as an alternative to isolated uses that create the need to drive for virtually every trip. The Plan designates the following Mixed-Use Development areas to provide focuses for new development and redevelopment in the City of Biloxi:

- Regional Activity Centers
- Neighborhood Centers
- Mixed-Use Corridors

Regional Activity Centers

Regional Activity Centers support the most intense concentrations of retail, employment, high-density residential, and other mixed uses in Biloxi. Depending upon the specific uses in each center, they can draw users from the surrounding residential community, the City as a whole, the Mississippi Gulf Coast region, and beyond. They are also Biloxi's major employment hubs, including potential "clusters" of medical service and aerospace/shipbuilding businesses at the Cedar Lake and Woolmarket Regional Activity Centers, respectively. Convenient, multi-modal transportation access (including transit service) should be provided for each center. The Generalized Future Land Use Map designates Regional Activity Centers in



the following locations:

- Downtown
- Convention Center (West Biloxi)
- Cedar Lake (I-10/Cedar Lake Road interchange, North Biloxi)
- Woolmarket (west side of Route 67 between the I-10 interchange and Woolmarket Road)
- Shorecrest Road (potential future Regional Activity Center in Woolmarket if an I-10/Shorecrest Road interchange is constructed)

Downtown

The Downtown is Biloxi's traditional core and a major focus of revitalization efforts in the City. The intent of the Regional Activity Center designation is to create a vibrant, walkable, mixed-use district that celebrates the City's rich heritage and is economically and environmentally resilient. A wide range of uses is encouraged to promote daytime and nighttime activity during the week and on weekends (e.g., restaurants, retail, offices, residential/mixed-use theaters, art galleries, government buildings, service businesses, and recreation). Development and redevelopment projects should complement Biloxi's traditional architecture and encourage pedestrian activity and connections to key anchors, such as the casinos.

Convention Center

The Mississippi Coast Coliseum and Convention Center area is envisioned as a high-quality, walkable visitor destination with multi-modal transportation access and connections to Sand Beach, the Biloxi Peninsula Path, and other attractions and anchor uses in the West Biloxi Regional Business District (e.g., Edgewater Mall and Beauvoir). Hospitality uses that sup-

port the Coliseum and Convention Center, such as hotels and restaurants, are encouraged. The scenic quality of Highway 90 should be maintained and buffers and transitions provided to lower density residential uses.

Cedar Lake

Located in North Biloxi in the vicinity of the I-10/Cedar Lake Road interchange, the Cedar Lake Regional Activity Center is developing with a mix of uses, including commercial, institutional (e.g., the Innovation Center and the Cedar Lake Surgery Center), and high-density residential. The Regional Activity Center designation recognizes this emerging pattern and encourages development of additional regional medical, employment, retail, service, and high-density residential uses focused on the I-10/Cedar Lake Road interchange. Comprehensive Plan strategies for this center include design standards to improve development character at a key gateway to Biloxi; street connections and transit, pedestrian, and bicycle facilities to provide multi-modal access and circulation; and buffers and transitions to low-density residential areas.

Woolmarket

This Regional Activity Center is proposed on the west side of Route 67 between the I-10 interchange and Woolmarket Road (the east side largely falls within the 100-year floodplain). This area is mostly undeveloped but has excellent roadway access, retail business zoning, and pending public sewer and water extensions. The center is envisioned as supporting a mix of high-intensity, high-quality commercial, employment, and residential uses, including a potential business park and/or light industrial area to support Keesler AFB and related to the regional aerospace and shipbuilding industry clusters. Similar to Cedar Lake, strategies for the Woolmarket Regional

Activity Center include design standards to improve development character at a key gateway to Biloxi; street connections and transit, pedestrian, and bicycle facilities to provide multi-modal access and circulation; and buffers and transitions to low-density residential areas.

Shorecrest Road

The Gulf Regional Planning Commission’s Long-Range Transportation Plan includes a new I-10 interchange in Woolmarket at Shorecrest Road. This project is identified as a long-range roadway network improvement project in Chapter 4 (Transportation) along with associated improvements to Shorecrest Road north of I-10. If these improvements were to move forward, environmentally unconstrained land in the vicinity of the interchange would be suitable for development of a compact, mixed-use center similar in character to the Woolmarket Regional Activity Center designated at the I-10/Woolmarket Road interchange.

More specific guidance regarding the Regional Activity Centers is provided in Chapters 9 (Neighborhood Improvement Strategies) and 10 (Downtown Revitalization Strategy).

Neighborhood Centers

Much smaller in scale than Regional Activity Centers, Neighborhood Centers provide neighborhood retail, professional office, service, and other community-oriented activities and uses for surrounding residential areas. Neighborhood Centers should also integrate higher-density residential uses in compact development patterns that encourage walking, biking, and transit as alternatives to automobile usage.

Neighborhood Centers surrounded by lower density residential and open space uses (as opposed to commercial strips and dispersed residential development) constitute the preferred land use configuration as Biloxi grows to the north. The Generalized Future Land Use Map designates two such centers based on existing zoning and development patterns and the opportunity to provide community-serving uses at arterial/collector roadway intersections (Lorraine Avenue/Woolmarket Road and Cedar Lake Road/Old Highway 67). Additional Neighborhood Centers may be identified in Woolmarket based on criteria such as efficient use of transportation and utility infrastructure, protection of environmental resources, and provision of neighborhood-serving uses in logical locations. Neighborhood Centers may also be “retrofitted” into the established land use pattern on the Biloxi Peninsula and in North Biloxi where appropriate to serve nearby residential areas (e.g., in “nodes” along Mixed-Use Corridors – see below). Neighborhood Centers should be implemented as Planned Development Districts with requirements for buffers and transitions to lower density residential uses.

Mixed-Use Corridor

This land use category applies as an overlay to major roadway corridors that support a mix of business and residential zoning designations and land uses. In general, these corridors are characterized by uneven visual quality (e.g., uncoordinated signage); uncontrolled curb cuts that affect traffic flow and safety; and disinvestment reflected in vacant properties and marginal uses (particularly in areas impacted by Hurricane Katrina). The intent of the Mixed-Use Corridor designation is to promote a more unified approach to improving the physical environment of the corridors and the economic viability of ad-



joining uses. This may involve focusing more intense commercial/mixed uses in nodes at key intersections and encouraging residential and (particularly in flood prone areas) open space uses between the nodes. Physical improvements (building on the City's investment in Caillavet Street) and corridor-specific overlay districts with design standards can be used to promote visual quality; improved traffic flow and safety through access management; and pedestrian, bicycle, and transit use.



Other Land Use Categories

Governmental

Keesler Air Force Base is the largest property that falls under this category. Other governmental uses include schools and government buildings.

Parks, Recreation, and Environmental Open Space

This category includes existing public and privately-owned parks and open space, as well as sensitive environmental resources (wetlands and floodways along rivers and streams). Some (but not all) of these lands are permanently protected as open space (e.g., Sand Beach, and the Biloxi River Marshes Coastal Preserve). Additional parks, recreational facilities, and open space not shown on the Generalized Future Land Use Map are needed to serve the needs of existing and future residents of Biloxi (see Chapter 6, Community Facilities and Services).

Floodplain (Special Hazard Area Overlay)

The Velocity Zone and 100-Year Floodplain are shown as an overlay feature on the Generalized Future Land Use Map to highlight their extent and importance to Biloxi's future. Development in these areas must comply with the City's Flood Damage Prevention Ordinance and open space uses are encouraged to reduce risk and provide environmental, recreational, and other benefits.

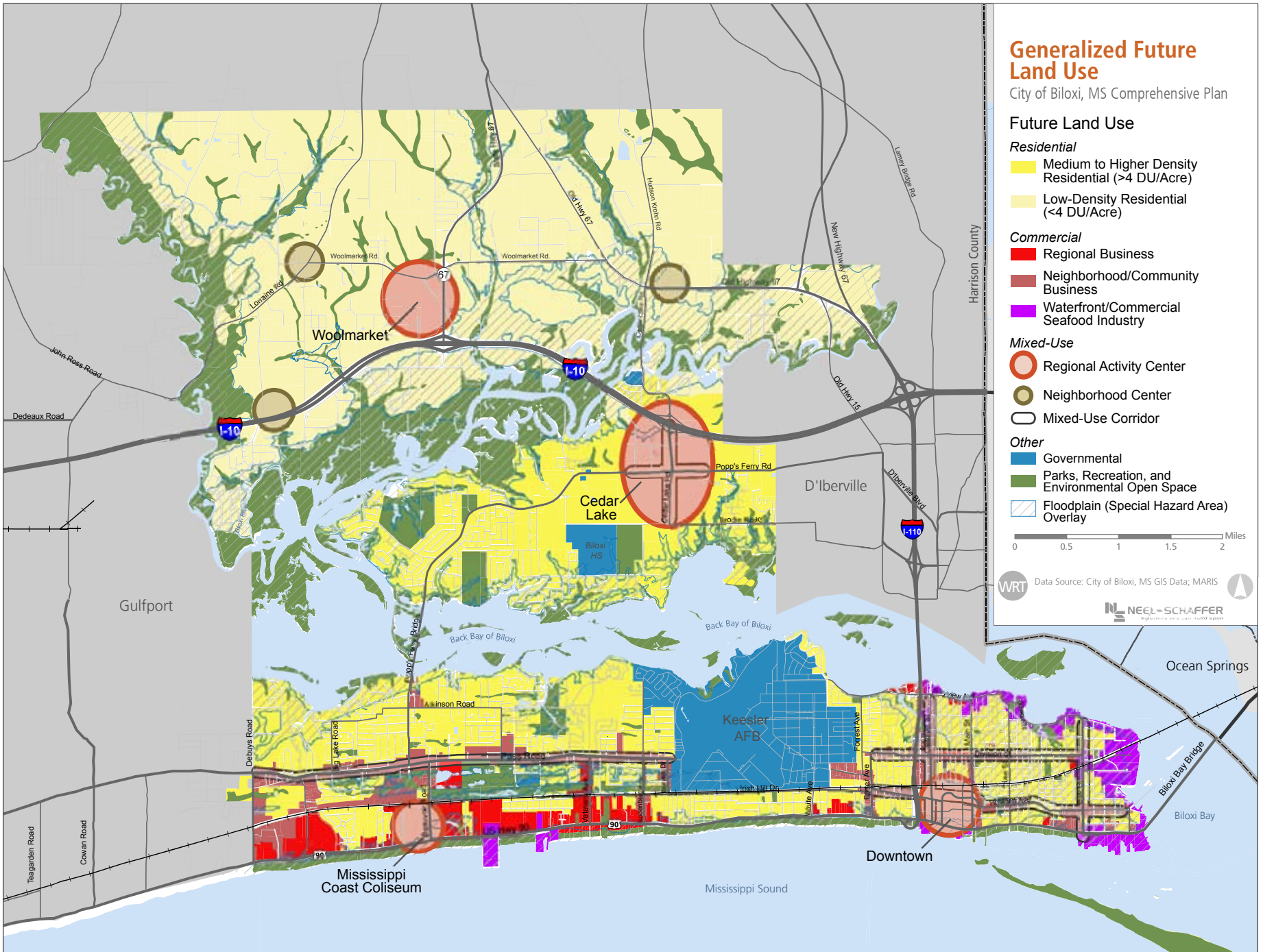


FIGURE 3.3/GENERALIZED FUTURE LAND USE

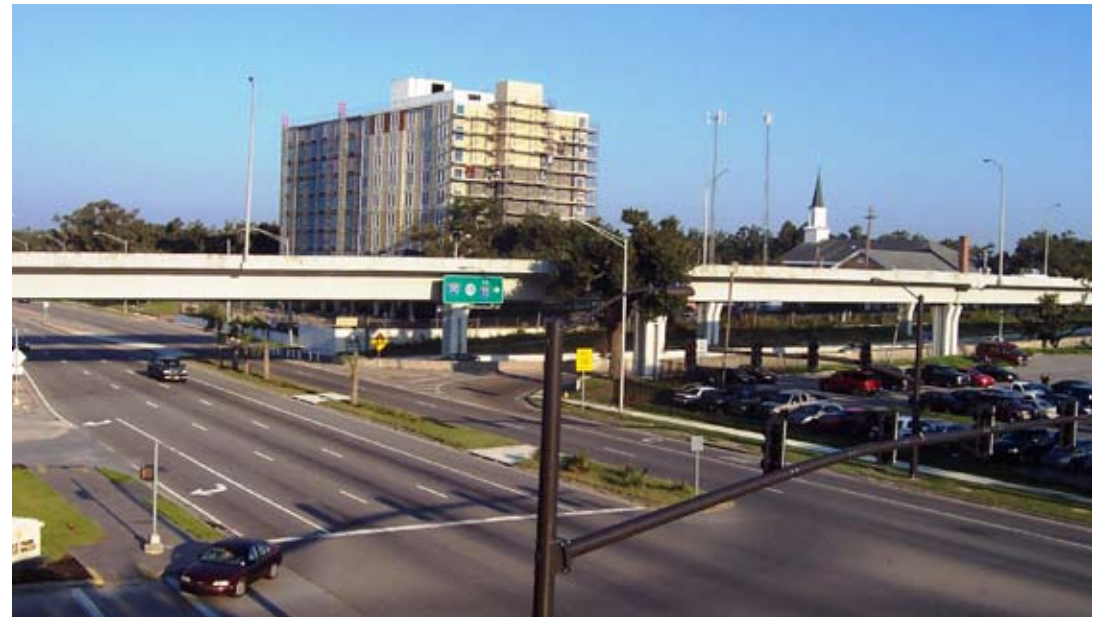
4.1/OVERVIEW

Like the rest of the City, Biloxi's transportation system was profoundly impacted by Hurricane Katrina. Prior to Hurricane Katrina, the City was experiencing intensive development of coastal properties adjacent to Highway 90, including condominium, casino, and retail projects. Katrina devastated Highway 90 and other key transportation facilities, highlighting Biloxi's dependence on a constrained network of roadways and bridges connecting to inland areas.

The City of Biloxi operated in a State of Emergency for over two years following Hurricane Katrina's landfall on August 29, 2005. Roadway access to the Biloxi Peninsula is provided by Highway 90 and Pass Road from the west and by three key bridges from the east and north: Highway 90 via the Biloxi Bay Bridge from Oceans Springs and I-110 and Popp's Ferry Road over Back Bay. Katrina destroyed the Biloxi Bay Bridge, undermined and closed Highway 90, significantly damaged the Popp's Ferry Road bridge (which was closed for over four months), and damaged the I-110 bridge.

Thousands of residents were displaced and numerous homes damaged by the hurricane's effects, many to the point that they were not repaired (see Chapter 7, Housing). Increased insurance costs and revised FEMA flood insurance rate maps that raised the base flood elevations have contributed to a slower pace in redevelopment of areas impacted by the storm surge and flooding. This in turn has resulted in significant land areas that have been not built back since Katrina, alleviating some of the pressures on the available capacity of the roads serving them.

The City of Biloxi is in a rebuilding mode, both to replace aging infrastructure and to repair and improve the roadways and facilities that were damaged by Katrina and subsequent storms. Pre-Katrina traffic volumes and congestion have returned following reconstruction of U.S. Highway 90, the Biloxi Bridge, and casinos. Many transportation projects are in progress or under consideration, providing an opportunity for coordinated, long-range planning for a system that supports the future land use and development pattern of Biloxi. In that context, the Transportation Element of the Comprehensive Plan lays out a strategy to develop a multi-modal system that improves mobility and safety and increases the choices available to residents and visitors to move about the City.



Roadway Functional Classifications

The City, Gulf Regional Planning Commission (GRPC), and Mississippi Department of Transportation (MDOT) work cooperatively in the designation of functional classifications of the City's roadways. Using definitions provided by the *Institute of Transportation Engineers (ITE) Traffic Engineering Handbook*, 5th Edition, pg 350-351, the Functional Classification system is based on the following:

Interstate Highways are designed to carry high volumes of traffic at high speeds and levels of service. Access is strictly limited to interchanges, which are carefully located and designed for maximum safety. Longer-distance trips, including goods movement, use such facilities.

Arterial Streets, including principal and minor arterials, carry traffic between important activity or population centers. Arterial highways are typically designed with some measure of access control through limits on driveway locations and spacing of intersections. Arterial streets carry both passenger car and commercial (truck) traffic.

Collector Streets link the local street system with arterial highways. Such roads "collect" traffic, serve as local through routes for short trips, and provide access to abutting land uses. Collector streets often appear similar to local streets, although collector streets typically carry substantially higher volumes. Commercial traffic is typically limited to local delivery uses.

Local Streets provide access to the transportation network from developed land uses. The design character of these roads reflects low speeds and traffic volumes. Accommodation of pedestrians should be a high priority.

This classification system was utilized to designate the functional class of each of the City's roadways. This system is shown on Figure 4.1 *Transportation Classification*. Interstates 10 and 110 are maintained by MDOT. Highways 67 and 90 require MDOT permits for access, but development of adjacent land must also meet the approval of the City. Other arterial and collector streets shown on Figure 4.1 are Federal Aid streets.

Key Transportation Issues

- Biloxi's roadway system consists of a network of interstate highways, arterial and collector roadways, and local streets (referred to as functional classifications). This existing network is shown on Figure 4.1.
- The growth of the City has stressed the capacity of some of the major corridors. As a result, travelers are experiencing an increase in congestion and traffic delays.
- The evacuation capacity of the Biloxi Peninsula is limited by the capacity of a limited number of bridge connections to the north and east and roadway connections to the west.
- An issue related to the limited number of connections to the peninsula is the lack of direct north-south connections between I-10 and Highway 90 other than I-110. In addition, east-west connections across the City and the County are limited by waterways and federal land restrictions (primarily Keesler Air Force Base).
- Access management controls on the number and location of curb cuts serving adjacent development have been recommended on Highway 90 and Pass Road and are needed to maintain traffic flow and safety along other arterial roadways.
- There are many roadway projects planned or underway post-Katrina to improve access, mobility, capacity and safety through the City.