

MISSISSIPPI GULF COAST TRANSIT DEVELOPMENT PLAN 2016-2040



*Prepared for COAST TRANSIT AUTHORITY ¶ GULF REGIONAL PLANNING COMMISSION
and the MISSISSIPPI DEPARTMENT OF TRANSPORTATION*

PREPARED BY NEEL-SCHAFER, INC.

MAY 2016

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The preparation of this document was a cooperative effort of the U. S. Department of Transportation - Federal Highway Administration and Federal Transit Administration, Mississippi Department of Transportation, Gulf Regional Planning Commission and the Mississippi Coast Transportation Authority (Coast Transit Authority) in partial fulfillment of requirements promulgated pursuant to 23 USC 134 and 135 (MAP-21 Sections 1201 and 1202) and the Gulf Regional Planning Commission Unified Planning Work Program. The contents of this document do not necessarily reflect the official views or policies of the U.S. Department of Transportation.

EXECUTIVE SUMMARY

1.0 INTRODUCTION

The 2040 Mississippi Gulf Coast Transit Development Plan (TDP) updates the TDP adopted in March of 2011, extending the long-range planning horizon by five years. The product of a collaborative effort by Coast Transit Authority (CTA) and Gulf Regional Planning Commission (GRPC), the 2040 TDP represents the transit component of the 2040 Metropolitan Transportation Plan (MTP). Both were developed under the auspices of the Mississippi Unified Long-Range Transportation Infrastructure Plan (MULTIPLAN), a statewide transportation planning initiative sponsored by the Mississippi Department of Transportation (MDOT). As a companion document to the MTP, the TDP identifies projects for future inclusion in the Transportation Improvement Program (TIP) developed periodically by the MPO. ¶ The MTP and TIP are both required to be fiscally constrained such that projected future expenditures do not exceed amounts that can reasonably be expected to be available for funding transportation improvements. They must also be responsive to input elicited from individuals, organizations, agencies and groups via the public involvement process. The process established for the long-range plan update provided ample opportunity for public comment through multiple rounds of public meetings in all three Mississippi Gulf Coast counties; a continuous online forum conducted on a dedicated internet website; and targeted stakeholder outreach. ¶ Coast Transit Authority (CTA) relies heavily on programs administered by the Federal Transit Authority (FTA) to fund the services it provides. State assistance covers a relatively small portion of the overall budget, and there is no dedicated source of local funds to match Federal grants. Cities and counties that participate in the transit system appropriate funds annually from general revenues to support service in their areas of jurisdiction. In the absence of local support CTA cannot serve an area; and if a local government reduces its contribution, the service provided in that jurisdiction must be reduced as well. The financial analysis undertaken for this TDP update assumes that local input to the budget will be consistent with current levels of support during the short-term planning period from 2016 to 2020 and that funding beyond 2020 will increase at a rate consistent with the established historical trend.

2.0 STUDY AREA OVERVIEW

The metropolitan planning area (MPA) includes three counties (Hancock, Harrison and Jackson) constituting portions of two separate metropolitan statistical areas. The Gulfport-Biloxi Metropolitan Statistical Area (MSA) includes Hancock, Harrison and Stone counties; the Pascagoula MSA is comprised of Jackson and George counties. Stone and George, located to the north of the three coastal counties, are not included in the MPA. There are also two distinct Census-designated urban areas within the MPA. The Gulfport Urban Area (UA) includes portions of all three coastal counties; the Pascagoula UA lies wholly within Jackson County. The Gulfport UA encompasses the cities of Bay Saint Louis and Waveland in Hancock County; Pass Christian, Long Beach, Gulfport, Biloxi and D'Iberville in Harrison County; and Ocean Springs in Jackson County; as well as adjacent unincorporated portions of all three counties. The Pascagoula UA encompasses the cities of Pascagoula and Moss Point, most of Gautier and adjacent

unincorporated portions of Jackson County. The newer northern portion of Gautier was designated a separate entity, the Gautier Urban Cluster (UC), by the U. S. Census Bureau. Similarly the newly incorporated City of Diamondhead in Hancock County was designated an urban cluster separate from the Gulfport UA.

POPULATION - Of the three Mississippi Gulf Coast counties, Hancock is the least urbanized and has the lowest population density. The 2014 estimated population of the county was 45,949; population density was approximately 96 persons per square mile. Harrison County is the most urbanized of the three counties, having an estimated population of 199,058 and population density of approximately 347 persons per square mile. Jackson County has the second largest population of the three counties, 141,137, with population density of approximately 195 persons per square mile. ¶ The most recent population estimates published by the Census Bureau suggest that the growth trend interrupted by Hurricane Katrina in 2005 has resumed. While the net increase in population for the Mississippi Gulf Coast area as a whole during the 10 years from 2000 to 2010 was less than two percent, the estimated increase for the four years from 2010 to 2014 exceeded four percent. The estimated total population of the three coastal counties combined is now more than 386,000. The 2014 estimates for the 12 municipalities in the MPA also suggest that a shift in the geographical distribution of population in the region is taking place in the post-Katrina era. Eight of the 12 cities incurred absolute losses in the intercensal period that straddled the storm event. The net population loss recorded for all 12 incorporated municipalities was 17,660. At the same time, the metropolitan area as a whole recorded a modest gain of 6,714.

EMPLOYMENT - The number of people employed by establishments in the study area has increased by a little more than 30 percent in a little less than 25 years, according to the Mississippi Department of Employment Security (MDES). However, all of that growth occurred during the decade of the 1990s when casino gambling was legalized and new gaming establishments were opened in Hancock and Harrison counties. Establishment-based employment peaked at more than 164,000 in 2000 but has since fallen off to approximately 154,000. According to the U. S. Census Bureau, there were 176,928 workers living in the MPA in 2000, including 10,000 active military personnel. The civilian labor force of 166,626 included 155,970 workers actually employed. The 10,656 workers without jobs yielded an unemployment rate of 6.4 percent. The *American Community Survey Five-Year Estimates for 2010 to 2014* resulted in a total labor force estimate of 184,891 workers residing in the MPA, with just over 6,500 being active-duty military personnel. The civilian labor force of 178,380 included 160,412 workers with jobs. That left an estimated 17,968 without jobs, more than 10 percent of the work force.

INCOME AND POVERTY - According to the 2000 Census, there were about 49,000 individuals, living in the three Mississippi Gulf Coast counties, whose income in 1999 fell below the poverty line. Fifteen years later, based on data collected by the 2010-2014 American Community Survey, the number of individuals living in poverty-level conditions was estimated to be more than 70,000. That represented an increase of 43 percent for the area as a whole. The increase in Harrison County was almost 50 percent; in Hancock

County it was 48 percent. Jackson County experienced the smallest relative increase but still saw the number of residents classified as victims of poverty rise by 32 percent.

MEANS OF TRAVEL TO WORK - Journey-to-work data disseminated by the Census Bureau indicate not only that driving alone remains the preferred means of travel for the work-trip but that its popularity has only increased since 1990. This is true for all three Mississippi Gulf Coast counties but is most pronounced in Hancock County. On the other hand, Census data for 2010 and 2014 show that utilization of public transit for travel to and from work in Harrison County increased. The other principal ridesharing alternative, carpooling, declined in all three counties during the same period. A significant number of people walked to work in Harrison County, but there too the more recent Census estimate was on the downside. The number of people working at home was up in Harrison County but down in the other two counties, yielding a lower estimated total for the area as a whole.

3.0 PLANNING BACKGROUND

In order to update the 2035 TDP it was necessary to review not only the recommendations presented therein but others arising from subsequent studies undertaken for CTA. Thus the review focused on three relevant documents:

- *Moving the Coast: Gulf Coast Transit Development Plan Update (2010-2035)* prepared by Burk-Kleinpeter, Inc. for CTA and GRPC;
- *Coastal Conveniences: It's About Alternatives* - Alternatives Analysis Study Initiation Package for the Federal Transit Administration prepared by Burk-Kleinpeter, Inc. for submittal by CTA;
- *Getting on Board with Coast Transit Authority* prepared by Burk-Kleinpeter, Inc. in association with GRPC for CTA.

2035 TRANSIT DEVELOPMENT PLAN - The 2035 TDP presents recommendations grouped according to their ability to “advance mobility objectives” in several different categories relating to service and facilities. These include local transit serving trips within cities; regional transit serving trips between counties; alternative (non-fixed-route) transit service; and large regional transit facilities. The five-year plan put forth in the 2035 TDP is based on the following general principles, objectives and assumptions: Continued operation of existing CTA services; improvement in service frequency; implementation of new bus technology; increased inter-county service, expanding the area covered by fixed-route transit service and complementary paratransit; planning for an aging population and the postwar (“baby boom”) generation reaching retirement age; continued coordination of planning efforts with human service transportation providers and patrons through the Accessible Transportation Advisory Committee; consistency with local and regional long-range planning land-use elements as well as Title VI civil rights requirements; and expanded marketing of transit. ¶ Consistent with FTA requirements, the short-term component of the 2035 TDP was fiscally constrained, limiting programmed projects to those that could be funded with financial resources expected to be available during the five-year period from 2011 through 2015. The financial plan assumed that fare revenues would maintain current levels at least until the end of the short-

term planning period. It was also assumed that local funding would increase to 30 percent of the total operating budget by Year 5 (2015). No increase in state funding was anticipated given the unpredictability of support at that level. The continuing availability of FTA-administered grant assistance for capital and operating needs was treated as a given.

COASTAL CONVENIENCES: IT'S ABOUT ALTERNATIVES - In 2011 CTA commissioned the preparation of an *Alternatives Analysis Study Initiation Package for the Federal Transit Administration*, focusing on a study corridor chosen on the basis of existing transit patronage as well as perceived opportunities for growth in ridership. The proposed study corridor, extending from the Naval Construction Battalion Center (NCBC) in Gulfport to downtown Ocean Springs, is 18.5 miles long and 1.5 miles wide. Within those limits there are more than 55,000 residents; there are more than 62,000 workers employed at jobs located within the same limits. Nearly 5,000,000 tourists visit attractions within the corridor annually, including nine casinos, the 400,000-square-foot Convention Center and 24,780-square-foot Mississippi Gulf Coast Coliseum. There are 9,000 multifamily housing units and over 1,000,000 square feet of retail commercial space within the Edgewater district alone. On-board passenger surveys administered in 2010 (and cited in the proposal) indicate 89 percent of fixed-route riders are either residents or military personnel assigned to Keesler Air Force Base. Only two-in-five passengers (41 percent) were employed and nearly half (49 percent) did not own a vehicle. Most were adults (72 percent) and paid full fare (70 percent). Three routes accounted for more than three-quarters of total system ridership: Pass Road (30 percent), the Beachcomber (18 percent) and the Casino Hopper (28 percent).

GETTING ON BOARD WITH COAST TRANSIT AUTHORITY - This 2012 report presents an analysis of the existing funding situation for transit operations, identifying future needs and potential sources of new revenue to close a projected gap of approximately \$1.7 million per year. Potential sources of additional revenue to support transit operations were identified by a local advisory committee consisting of business and government leaders. The advisory committee met four times to discuss their findings and develop recommendations. After considering several dozen conceptual proposals, committee members identified four potentially implementable revenue measures: Targeted court fees; a rental car surcharge; dedication of some portion of the revenue generated by gambling taxes; and an areawide tourism-based tax on sales in selected locations such as casino-based hotels and restaurants.

4.0 TRANSIT SYSTEM OVERVIEW

Initially authorized by an act of the Mississippi Legislature in 1970, the Mississippi Coast Transportation Authority has been providing public transit service in the study area since 1974, operating under the name *Coast Transit Authority* since 1992. As a non-profit provider of public transportation in the three coastal counties of Mississippi, CTA is an independently managed public utility governed by a Board of Commissioners. The nine-member board includes appointees representing the City of Biloxi, City of Gulfport, City of D'Iberville, Harrison County and Jackson County. Day-to-day operations are the responsibility of an executive director and his staff. The administrative offices of the agency are located at 333 DeBuys Road in Gulfport. Vehicle maintenance and storage facilities are located adjacent to the

administration building. ¶ CTA is the designated recipient of state and Federal funds for urban transit in the Gulfport-Biloxi and Pascagoula-Moss Point urbanized areas. Operations are supported by the City of Ocean Springs in addition to the three cities and two counties represented on the Board. There is no dedicated local source of funding, and the agency relies to a significant degree on Federal grants to acquire capital and sustain operations. The State of Mississippi also provides some assistance to supplement revenues generated by fares, advertising sales and other means. The Coast Commuter vanpool program is supported by user fees paid by passengers and participating employers, but these revenues are retained within the program and managed by the third-party vanpool provider, vRide. ¶ CTA is one of seven paratransit service providers working together as Southern Mississippi Transit, a regional transportation coordination group set up by the Mississippi Department of Transportation (MDOT) under its statewide program for specialized transportation services. Participating organizations include service providers in Hancock, Harrison, Jackson and a dozen more South Mississippi counties. Southern Mississippi Transit is one of six regional coordination groups in the state, each of which seeks to achieve the efficient use of available resources and optimal delivery of services in its respective region through cooperative planning.

TRANSIT FACILITIES - CTA maintains downtown transit centers in both Gulfport and Biloxi, and most of its fixed-route transit lines terminate at one or the other of these facilities. The Gulfport Transit Center is located on 15th Street at the corner of 21st Avenue, across the street from the Dan M. Russell Jr. United States Courthouse. The Biloxi Transit Center is located on Martin Luther King Jr. Boulevard at the corner of Reynoir Street. A third transit center opened for business in March 2015 on a triangular plot of ground between Church Avenue and Gorenflo Road, south of Rodriguez Street, in D'Iberville. The facility supports service on the D'Iberville Route 4 line and serves as a transfer point for shuttle service to and from the nearby Scarlet Pearl Casino which opened for business in late 2015. In addition to the three transit centers, CTA has a major transfer facility located at the Edgewater Mall on Beach Boulevard (U. S. Highway 90) in Biloxi. ¶ CTA beachfront comfort stations have been constructed at four locations on the south side of U. S. Highway 90 (US 90) to replace facilities destroyed by Hurricane Katrina in 2005. The stations are located at Cleveland Avenue in Long Beach; 20th Avenue in Gulfport at the entrance to Jones Park; at Courthouse Road in Gulfport; and across from the Mississippi Coast Coliseum in Biloxi. Paved parking lots are located adjacent to the Courthouse Road and Cleveland Avenue facilities. All four comfort stations have public restrooms and were constructed in compliance with the stricter building codes adopted after Hurricane Katrina. There are 630 designated stop locations on CTA bus routes, all of them posted and many furnished with benches or passenger waiting shelters.

TRANSIT FUNDING - The four cities and two counties whose annual appropriations support transit operations collectively account for approximately 15 percent of the funds available to the agency. The total amount available in the 2014 operating year was \$8.15 million; a little more than \$1.21 million of that was provided by local sources. Over the past 10 years the Federal share made available through grants administered by FTA has averaged 60.5 percent of the total. The State of Mississippi has provided roughly seven percent, and 17.5 percent has come from other sources--principally revenue generated by user fees. ¶ Operating expenses consume about 72 percent of agency funds: \$5 million a year over the

past decade, rising to \$6 million annually over the last four years reported. Local contributions provided nearly 20 percent of the funding required for transit operations over the decade from 2005 through 2014, collectively exceeding \$1 million in each of the last five years. Fares covered 18.6 percent of operating expenses over the same period, generating \$1.2 million per year from 2009 through 2013. However, in 2014 fare revenues fell by more than half a million dollars. ¶ Capital expenditures vary from year to year but averaged \$1.89 million per annum between 2005 and 2014 inclusive. Of that total more than \$1.5 million was made available by FTA. That represented nearly 75 percent of all capital funds. The State of Mississippi provided another 23 percent, local governments the balance of 2.4 percent. However, no local funds have been appropriated for transit capital expenditures since 2008.

SYSTEM PROFILE - CTA fixed-route operations are largely limited to four incorporated municipalities: Gulfport, Biloxi and D'Iberville in Harrison County and Ocean Springs in Jackson County. The notable exception is the D'Iberville route which extends into the unincorporated St. Martin area in Jackson County. CTA provides regularly scheduled service on nine separate bus routes. All buses operating on fixed routes are handicapped-accessible in compliance with the ADA and feature front-end bicycle racks for the convenience of *Bike 'n' Ride* passengers. ¶ There are two distinct paratransit programs: The complementary ADA Paratransit operation offers curb-to-curb service on a demand-response basis for qualifying individuals living within three-quarters of a mile of a regular bus route. The ADA Paratransit-Plus service, provided by CTA under the terms of an agreement with the Harrison County Board of Supervisors, is available for use by senior citizens living anywhere in the county. The transit agency offers countywide demand-response paratransit service in Harrison County. The Hancock County Public Transportation System provides demand-response curb-to-curb service (door-to-door if needed) for the elderly and disabled and other residents of Hancock County. CTA operates the system under the name, *Hancock County Handy Ride Transportation Service*. In Jackson County the Civic Action Committee offers transportation services to individuals 60 years of age or older, including trips to shopping centers and medical facilities in the other Mississippi Gulf Coast counties. ¶ CTA's Coast Commuter third-party vanpool program transports workers living in four different states to destinations in all three MPA counties. The service is oriented to very large employment sites where there are likely to be numerous workers who live in proximity to one another at considerable distance from the job location and are interested in joining together to reap the benefits of ridesharing.

SYSTEM RIDERSHIP - CTA experienced phenomenal growth in ridership (over 41 percent) in the 2008 operating year as the nation sank into recession and the reconstruction of roads and bridges destroyed by Hurricane Katrina neared completion. Despite service cutbacks necessitated by strained finances in 2010, the number of riders on CTA buses, complementary paratransit vehicles and commuter service vans continued to climb steadily, exceeding one million in 2011 and each of the succeeding three years. However, ridership began to decline in FY 2014 and then fell off drastically in FY 2015 as the price of gasoline collapsed. The loss in total ridership exceeded 260,000 passengers, falling more than 23 percent from a system-record 1,139,302 in 2013 to fewer than 875,000 in 2015. ¶ Regular bus service was hit hardest, incurring a 27.6-percent loss in patronage over two years and accounting for 95 percent of the

overall decline. Demand-response and vanpool patronage both peaked in 2012, registering combined ridership of 238,039 in that year. The combined figure for 2015 (212,137) was 10.9 percent lower. Monthly data for the eight regularly scheduled bus lines that have been operating continuously since 2010 indicate that, at the end of FY 2015, almost all had been steadily declining in ridership for nearly two years. Overall ridership for the eight routes totaled almost 871,000 in 2013 but fell off to 785,451 in 2014, then dropped even more precipitously to 645,685 in 2015. Aggregate fixed-route ridership was down from year to year in each of the 22 months from December of 2013 through September of 2015. The number of passengers carried on regularly scheduled buses fell by roughly 10 percent in 2014 and by approximately 18 percent in 2015.

5.0 NEEDS ANALYSIS

The development of recommendations for updating the 2035 TDP relied on analysis of CTA operations and funding over the five-year period since adoption of the previous plan and input from stakeholder groups and the general public. The analysis of needs sought to establish the basis for continuing growth and development, over the next 25 years, of a transit system that not only survived Hurricane Katrina in 2005 but has grown and prospered over the decade since that catastrophe.

TRANSIT FUNDING - During the period from 2010 through 2013, the share of CTA fixed-route transit operating expenses covered by fare revenues increased steadily, topping out at a little less than 19 percent. The aggregate local contribution to transit operations in the MPA has declined in absolute terms in recent years, forcing cutbacks that have had a deleterious effect on ridership. Local share has also been shrinking in relation to other sources of transit funding. ¶ A little more than two-thirds of all funds available to CTA in 2013 were used to cover expenses incurred for fixed-route bus service. Fare revenue generated by fixed-route service represented a little less than 60 percent of the total amount collected from users of all services. The *Coast Commuter* vanpool operation, with a fare-based recovery rate of just over 60 percent, generated 37 percent of all fare revenues collected from passengers on buses or vans operated or sponsored by CTA while incurring only 13 percent of total operating expenses. The demand-response paratransit service required 19 percent of available operating funds in 2013 but only generated 3.3 percent of the revenue collected from fares.

MAINTENANCE OF THE EXISTING SYSTEM - Two modifications proposed for implementation during the five-year short-range planning period from 2016 to 2020 could make a significant contribution to the efficiency of fixed-route transit operations. The first would eliminate so-called “hail stops” made when someone wishing to board flags down a bus at a non-designated location. Eliminating such flag stops could help improve schedule adherence and even reduce the time required to complete a scheduled trip. The second reform would involve eliminating unnecessary deviations from main travel routes. At the present time some buses leave the street to pick up passengers waiting at establishments set back from the public thoroughfare; others diverge from an arterial path to stop at an apartment complex or other facility located several blocks away. Such deviations add significantly to the time required to complete a route.

¶ Proper maintenance of rolling stock and replacement of aging vehicles are also necessary measures if the transit system is to be kept in a state of good repair and service is to remain safe and reliable. CTA currently has on order seven new low-floor hybrid-electric buses with reclining seats, overhead luggage racks, wireless internet and electrical outlets. These vehicles will have a major impact on the public perception of transit as an attractive alternative to driving. The implementation of new technology will also serve to pique public interest and promote greater public awareness of transit service. The *RouteShout* mobile app launched in 2015 allows riders to find out where a bus is located and when it will arrive at a specified stop.

FACILITY UPGRADES - CTA is in the process of finalizing plans for expansion of the Gulfport Transit Center. A pending application for Section 5339 discretionary capital assistance seeks funding to rehabilitate and renovate the vacant adjacent structure which served as the Gulfport Main Library for many years prior to Hurricane Katrina. The structure, gutted by the storm and abandoned by the Harrison County Library System, will be reconfigured to serve as a multimodal transportation center. It will function as a base for downtown shuttle service connecting Jones Park, the new aquarium and other waterfront attractions to office buildings, the post office, the new library, the county courthouse, Federal building and other destinations in the central business district of the city. A separate grant application seeks capital assistance to construct a tramway and bicycle/pedestrian bridge over Highway 90 connecting the multimodal center to Jones Park on the downtown Gulfport waterfront. ¶ There are also plans to locate transit super-stops at new hubs located at key transfer-points for travel in the region. One located in the vicinity of the I-10 interchange with US 49 will provide an opportunity to implement park-and-ride service for residents of the Orange Grove area and other more remote portions of Harrison County who work in or near downtown Gulfport or along the Highway 90 corridor served by the Beachcomber line. Another located in the vicinity of the I-10 interchange with I-110 will facilitate park-and-ride service for people who live in outlying portions of either Harrison or Jackson County and work in D'Iberville or Biloxi. A third hub in the planned Coliseum Hotel and Convention District, identified in the *City of Biloxi Comprehensive Plan*, would be a major transfer-point for the Beachcomber, new express bus service linking the Gulfport and Biloxi transit centers, and a planned Popp's Ferry Road route.

EXPANSION OF THE EXISTING SYSTEM - Potential new routes were identified by analyzing base-year and projected future land use and demographic conditions. The evaluation of proposed new or modified routes assumed several key criteria: *Service should be provided in currently unserved areas where socioeconomic conditions are such as to suggest a significant level of latent demand for public transportation. Service should be extended to areas with population and/or employment density sufficient to support transit patronage. System continuity should be maintained and strengthened by connecting new routes to existing lines whenever possible, preferably at hubs or other locations conducive to passenger transfers. Wherever possible new routes should follow well-traveled arterial routes with adequate roadway capacity. New or modified routes should be designed both to be seen by potential riders and to make sense as alternative travel choices, avoiding time-consuming indirect or circuitous paths. New or modified routes should be designed to allow the scheduling of service at 30 to 60-minute intervals in order to advance the CTA objective relating to reduced headways for regularly scheduled fixed-route service.* Applying these criteria, the following new service alternatives were evaluated regarding

their capacity for attracting the patronage of people living, working or traveling in areas of latent transit demand:

Beachcomber - Bay Saint Louis – This proposed new route would provide service between Bay Saint Louis and Pass Christian, connecting on the east end to the proposed Beachcomber-Long Beach line.

Beachcomber – Long Beach – This link in the Beachcomber chain would connect on its west end to the new Bay Saint Louis line and on its east end to the existing Beachcomber at the Gulfport Transit Terminal.

Sunshine Express – This proposed line would operate parallel to the existing Beachcomber but would provide express bus service between the Gulfport and Biloxi transit terminals with a limited number of stops between those end-points. Operating initially on Highway 90 and/or other existing roadways, the line would be relocated to the proposed East-West Multimodal Transportation Corridor eventually.

Popp's Ferry Road – The proposed new route would initially be anchored on the south end at Edgewater with buses traveling from there via Eisenhower Drive and Pass Road to Popp's Ferry Road. The route would encompass the length of existing Popp's Ferry Road from Pass Road to D'Iberville Boulevard. Buses would leave the principal thoroughfare briefly to run up Cedar Lake Road to Medical Park Drive. At the east end of the route, buses would travel between Popp's Ferry and the Promenade via D'Iberville Boulevard. Once the pending extension of Popp's Ferry Road from Pass Road to Beach Boulevard is completed, buses will travel exclusively on Popp's Ferry between Highway 90 and D'Iberville except for the Cedar Lake Road diversion from the main route.

Ocean Springs-D'Iberville – This new route would connect downtown Ocean Springs to the Promenade in D'Iberville via Washington Avenue (Highway 609), the planned I-10 Connector Road, Mallette Road and Sangani Boulevard. Initiation of service on this route will follow completion of the I-10 Connector Road.

Gautier-Pascagoula – This proposed new route would provide service between the Gautier-Vancleave Road and downtown Pascagoula, via Highway 90 and Pascagoula Street, terminating at Delmas Avenue.

Pascagoula-Moss Point – This new route would provide service between the two cities located in eastern Jackson County. Buses would execute a long loop via Jackson Avenue, Market Street, Telephone Road, Main Street, Highway 613, Highway 63, Grierson Street, Highway 90 and other major streets in the area.

Orange Grove – This proposed route would provide service in the Orange Grove area north of I-10 in Gulfport, connecting to Route 37 at Crossroads. Buses would run an 8.2-mile loop on Crossroads Parkway, Highway 49, O'Neal Road and Three Rivers Road. A single bus could complete the trip in about 25 minutes, allowing regularly scheduled service at 30-minute intervals. Alternatively, the same bus could reverse direction at the end of each circuit, effectively providing service on two opposing routes, each with a 60-minute headway between scheduled trips. Another option would be to have the bus circulate in one direction during the morning hours and the other in the afternoon in order to match the prevailing flow of traffic on Highway 49 during the peak journey-to-work travel periods.

6.0 PLAN DEVELOPMENT

Preparation of an updated program of projects for the period from 2016 through 2040 involved three principal activities: Collection and analysis of input from the public involvement program conducted for the 2040 MTP; a review of the 2035 TDP undertaken to determine which improvements identified in that plan actually had been implemented; and an evaluation of fixed-route alternatives under consideration.

PUBLIC INVOLVEMENT – The MULTIPLAN public involvement strategy was designed to provide opportunities for meaningful participation by all interested area residents. Emphasis was placed on engaging those with special needs related to disability or a lack of English language proficiency, as well as individuals from racial or ethnic minority groups or the lower economic strata. The approach taken involved reaching out to non-profit organizations, civic associations and community leaders. Electronic messages and telephone calls were made to known minority-group leaders, and fliers were placed in various communities, inviting residents to participate in the long-range planning process.

Opinion Survey - A representative survey conducted statewide in November and December of 2014 asked respondents to share their thoughts regarding the condition and performance of the existing transportation system, specifically addressing the following topics: Overall performance, accessibility, safety, mode usage, needed improvements and future challenges. The survey was administered by Nielsen Interactive using a panel polling method that allowed for engagement of a representative sample of the general population while identifying and eliciting input from underrepresented and hard-to-reach groups. Mississippi Gulf Coast respondents showed significantly greater approval of their public transportation system, airports, freight railroads and pedestrian facilities than was evident in other areas. Overall, Mississippi residents who participated in the statewide transportation perspectives survey indicated a moderate-to-high level of satisfaction with the transportation system as a whole. However, when asked to identify priorities for future transportation investment, a third of the respondents in metropolitan areas selected “More public transit options.”

Public Meetings - MDOT and GRPC collaborated to hold two rounds of public meetings: Initial listening sessions to gain input from citizens prior to the development of a draft long-range transportation plan; then meetings to provide an opportunity for public review and comment on the draft document. The meetings were advertised in the print news media and promoted through various social media platforms. These included *MindMixer*, an online meeting facilitator designed to generate community discussion and citizen input; the GRPC website; and electronic mail. All of the public and stakeholder meeting materials and outreach activities were made available electronically to accommodate those who were not able to attend a meeting but wished to participate online.

Stakeholder Outreach - Stakeholders and other interested parties were invited to assist in planning future transportation improvements. Foremost among these were the members of the Technical Coordinating Committee (TCC) whose role as advisors to the Transportation Policy Committee (TPC) is essential for the proper functioning of the MPO. Individuals affiliated with groups whose

members are engaged in pursuits that rely heavily on the availability of an efficient transportation system were contacted and invited to take an active role in updating the MTP. E-mail *blasts* inviting participation in all phases of the plan development process were broadcast along with information about online participation opportunities. Meetings were also held with key stakeholder groups when requested.

Web-Based Activities - Social media platforms and *MindMixer* were used to establish a medium for continuous survey activity and opportunities for public discussion and educational outreach. This approach also provided a way to reach those who were not able to attend public meetings for some reason. Topical information, surveys and opinion polls were posted on the *MindMixer* site throughout the planning process. Many posts were educational and helped raise public awareness and stimulate community discussion of critical issues confronting those responsible for shaping the future of Mississippi's transportation system. Online participants received frequent e-mail invitations and updates intended to keep them engaged in the process and to help prompt meaningful input.

PLAN REVIEW - A number of projects identified in the 2035 TDP have yet to be implemented and qualified by default as alternatives for consideration in developing the 2040 plan. Short-term projects programmed for implementation during the period from 2011 to 2015 included the following: Fixed-route service with parallel paratransit in Bay Saint Louis; extension of the Beachcomber from Gulfport to Bay Saint Louis with parallel paratransit service; fixed-route service on Popp's Ferry Road with parallel paratransit; intercity express bus service between Gulfport and Biloxi; reconfiguration of Gulfport Route 37 between the downtown transit center and Crossroads Mall to allow a scheduled departure every 45 minutes; implementation of downtown shuttle bus service in Gulfport during peak travel periods; initiation of a Coast Coliseum circulator providing express service to the downtown terminals in Gulfport and Biloxi during conventions and other special events; reduction of headways on Ocean Springs Route 7 to 45 minutes; implementation of fixed-route service in Pascagoula with parallel paratransit; and initiation of fixed-route service between Gautier and Pascagoula, possibly on a demand-response basis.

EVALUATION OF ALTERNATIVES - Proposed alternatives were evaluated on the basis of their ability to meet the following needs considered crucial for the continuing success and future growth and development of the CTA system: *Maintain the existing system and enhance service wherever possible. Upgrade and expand service in areas of particular need. Support system continuity and fill in service gaps where opportunities exist. Extend service to additional areas where unmet demand is indicated. Establish transit service in localities that presently have none.* ¶ As the impact of new service on the overall financial condition of CTA is critical with regard to system maintenance, it was necessary to establish a basis for projecting ridership and operating revenues. Potential ridership was projected by applying a simple equation relating base-year (2013) transit ridership to population and establishment-based employment data for the same year. Operating expenses were calculated by assuming the average cost per vehicle-mile for the system as a whole in 2013 (\$3.98). Operating revenue was calculated by assuming the average fare paid by a passenger for the system as a whole in 2013 (\$0.84). Projected annual ridership ranged from just under 25,000 on the Beachcomber Bay Saint Louis route to more than 225,000 on the Sunshine

Express line. Projected net annual operating costs ranged from \$184,565 for the Beachcomber Bay Saint Louis line to \$292,177 for the Sunshine Express.

7.0 FINANCIAL ANALYSIS AND PLAN SUMMARY

The program of projects presents a fiscally constrained plan for meeting the demand for transit in the Mississippi Gulf Coast MPA, both in those areas currently served by CTA and in unserved areas where there is a demonstrable need for an alternative to travel by personal vehicle.

FINANCIAL ANALYSIS - The financial analysis began by assuming that state and local funding amounts would increase sufficiently to match the higher levels of formula grant apportionments resulting from adoption of the *Fixing America's Surface Transportation (FAST) Act* in December 2015. The new apportionments for the next five years, from 2016 through 2020, will likely make more Federal funding available for CTA projects than the amounts currently programmed in the Statewide Transportation Improvement Program (STIP) for 2015 through 2019. Therefore the projection of funding which can reasonably be expected to be available for transit in the MPA took the increased level of Federal support and state or local matching funds in the short term as a given. ¶ In order to limit projected future spending to levels commensurate with the resources that can reasonably be expected to be available, an approach was adopted that stressed consistency with established trends. In the case of Federal funds, that trend was delineated by the anticipated short-term availability of formula-grant funds resulting from adoption of the FAST Act. As the Section 5307 program represents the primary source of funding for CTA, both for operations and for capital improvements, the annual funding levels for that program established in the act provided the basis for defining a trend. ¶ Establishing the 2015 funding level as a base, the relative change in funding from year to year was used to calculate a five-year rolling average for the percentage change from one year to the next. This percentage was then converted to an annual change factor automatically updated for each additional year. This analysis yielded a projected increase in Federal funding over the 25-year life of the plan amounting to \$145,799 a year in real (2016) dollars. The same approach was adopted with regard to the match for Federal grants that would be provided by funds from local, state or other sources. The resulting annual increase in local, state or other-sourced funding projected over the 25-year life of the plan amounted to \$85,030 per year.

PLAN SUMMARY – Initial-year (2016) projects included in the plan are, almost without exception, current and presumably continuing expenses to be carried forward from year to year: Operations, maintenance, equipment, supplies and the upkeep of facilities. These recurring costs are treated as fixed categories of expenditure in all subsequent years. This means that new service, or the enhancement of existing service, or major capital improvement projects beyond the scope of current allocations, can only be accommodated by the anticipated increase in available funds. Some capital expenditures are non-repeating items; others reappear in years succeeding an initial entry. On the other hand, the introduction of a new bus line, or more frequent or extended service on one already in the system, creates a recurring burden of expenditure that must be taken into account in all subsequent years.

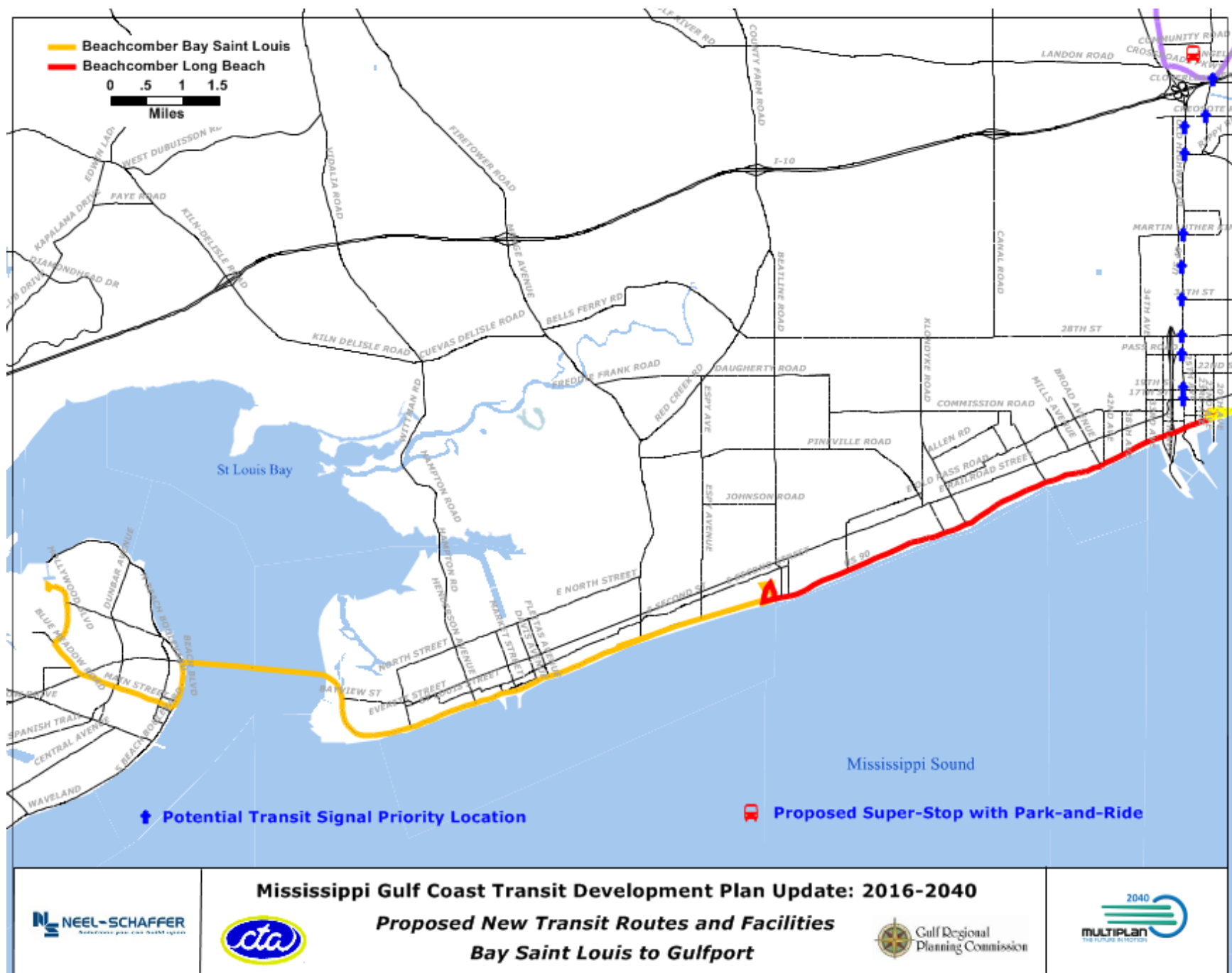
SHORT-TERM PLAN COMPONENT (2016-2020) - The Short-Term Plan Component of the TDP includes 15 projects listed for 2016 in the STIP (see table). All represent recurring expenditures also programmed for subsequent years through 2019 in the STIP. Operating assistance for the existing fixed-route transit system accounts for 55.5 percent of all programmed funds. The total of \$7,960,000 does not include amounts for two additional projects not programmed for 2016. The Gulfport Transit Center Expansion is an \$8.2 million project that was programmed for 2015 but still awaits FTA approval of a pending request for \$6,560,000 in Section 5339 discretionary capital assistance. The second is a closely related project that will provide a Tramway/Pedestrian/Bicycle Bridge spanning U. S. Highway 90 to connect the expanded Gulfport Transit Center to Jones Park on the south side of the beachfront arterial. CTA has requested approximately \$7,844,000 in Federal discretionary capital assistance to help cover the total cost of \$9,855,940. That request is also pending. ¶ The 2017 element of the Short-Term Plan Component includes two additional low-cost capital projects--*Bus Stop Signs and Benches* and *Solar-Powered Passenger Shelter*—as well as equipment purchases for transit signal priority (TSP) systems to be implemented on U. S. Highway 90 and U. S. Highway 49. New projects in the third-year (2018) element include operating expenses for the Sunshine Express line between Gulfport and Biloxi, and acquisition of two new replica vintage trolley buses which will be used to equip expanding Beachcomber service. The fourth and fifth-year (2019 and 2020) elements continue the acquisition of bus stop signs, benches and shelters and funding for operation of the Sunshine Express.

MID-TERM PLAN COMPONENT (2021-2030) - The Mid-Term Plan Component for 2021 through 2030 envisions five new bus routes and three significant capital improvement projects to provide appropriate passenger waiting facilities and park-and-ride accommodations at major transit hubs. New bus lines will include Beachcomber Long Beach, Pascagoula-Moss Point, Popp's Ferry Road, Orange Grove and a downtown Gulfport Employment Shuttle. Proposed new facilities include super-stops with park-and-ride features at Crossroads (I-10 at US 49), the Promenade (I-10 at I-110), and the Mississippi Coast Coliseum and Convention Center site (extended Popp's Ferry Road at US 90). The Mid-Term Component also includes additional funding for ADA-compliant parallel paratransit service complementing new regularly scheduled fixed-route transit. Total expenditures for the Mid-Term Component would exceed \$96 million and require \$59 million in Federal assistance.

LONG-TERM PLAN COMPONENT (2031-2040) - The Long-Term Plan Component for the decade from 2031 through 2040 identifies three more new routes; service enhancements on five previously existing lines; increased funding for ADA-compliant parallel paratransit service complementing new fixed-route bus lines; and expanded countywide ADA Paratransit Plus service in all three Mississippi Gulf Coast counties. The three new routes will expand transit operations in Jackson County and extend Beachcomber service westward to Bay Saint Louis in Hancock County. *Ocean Springs-D'Iberville* will connect downtown Ocean Springs to the Promenade in D'Iberville via Washington Avenue (Highway 609), the planned I-10 Connector Road, Mallette Road and Sangani Boulevard. *Gautier-Pascagoula* will link the city on the west side of the Pascagoula River to those on the east side already served by transit operations initiated in the Mid-Term Plan Component. *Beachcomber Bay Saint Louis* will add another link in the Highway 90 service chain, building on the Beachcomber Long Beach line to provide service in Pass Christian and Bay Saint

Louis. ¶ Service on five routes would be upgraded by adding buses in order to increase the number and frequency of scheduled trips: *Gulfport Route 37* – The interval between trip departures would be reduced from 90 minutes to 45, and the total number of daily trips in each direction would be increased from nine to 18. *Ocean Springs Route 7* – Headways would be cut by half to 45 minutes, and scheduled trips would be doubled to 20 per day in each direction. *D'Iberville Route 4* – Currently buses make nine trips daily in each direction at 90-minute intervals. A second bus would allow simultaneous operation by north and southbound buses, with scheduled departures every 45 minutes and 18 scheduled trips per day in each direction. *Gulfport Route 38* – One bus currently runs what amounts to two separate routes, denominated *Blue* and *Red*, alternately circulating in the area south of the Naval Construction Battalion Center (NCBC) and running along the northern periphery of the base. The addition of a second bus would make it possible to assign one to each leg, allowing for simultaneous operation, reducing the headway for each from 90 minutes to 45 and increasing the number of scheduled trips on each from nine to 18 daily. *Popp's Ferry Road* – This proposed new route to be initiated period between 2021 and 2030, with one bus making 10 northbound and 10 southbound trips daily at 90-minute intervals, would be upgraded by the addition of a second bus allowing simultaneous north and southbound operation with 45-minute headways and 20 trips daily in each direction. *ADA Paratransit Plus* – These three projects would expand the days and hours of service in all three Mississippi Gulf Coast counties, allowing countywide demand-response service in each on all weekdays.

Total expenditures for Long-Range Component projects would amount to more than \$114 million, with \$67 million coming from Federal programs. Nevertheless, more than \$22 million in Federal funds could be left unutilized unless additional state and local support can be secured. Increased funding made possible by a dedicated source or other means would make it possible to extend transit service to Waveland, Diamondhead and Gautier; to reduce headways on all routes to 30 minutes; to establish a regional network of park-and-ride express bus service lines; and to look at the possibility of a fixed-guideway system that would serve the ever-growing demand for travel in the East-West Corridor along the coast.



SUMMARY OF TRANSIT DEVELOPMENT PLAN IMPROVEMENTS BY TYPE OF EXPENDITURE, PLAN COMPONENT AND SOURCE OF FUNDING

NO	IMPROVEMENT	TYPE	2016-2020			2021-2030			2031-2040		
			FEDERAL AMOUNT	MATCH AMOUNT	TOTAL AMOUNT	FEDERAL AMOUNT	MATCH AMOUNT	TOTAL AMOUNT	FEDERAL AMOUNT	MATCH AMOUNT	TOTAL AMOUNT
101	Gulfport Transit Center Expansion	Capital	\$6,560,000	\$1,640,000	\$8,200,000	--	--	--	--	--	--
102	Tramway/Pedestrian/Bicycle Bridge over US 90	Capital	\$7,844,000	\$2,011,000	\$9,855,000	--	--	--	--	--	--
	Pending Section 5339 Discretionary Assistance		\$14,404,000	\$3,651,000	\$18,055,000	--	--	--	--	--	--
1	Current Fixed-Route Transit Service	Operating Assistance	\$11,050,000	\$11,050,000	\$22,100,000	\$22,100,000	\$22,100,000	\$44,200,000	\$22,100,000	\$22,100,000	\$44,200,000
2	Transit Enhancements	Operating Assistance	\$200,000	\$50,000	\$250,000	\$400,000	\$100,000	\$500,000	\$400,000	\$100,000	\$500,000
3	ADA Paratransit Operating Expense	Paratransit	\$1,580,000	\$395,000	\$1,975,000	\$3,200,000	\$800,000	\$4,000,000	\$3,200,000	\$800,000	\$4,000,000
4	Enhanced Senior/Disabled Mobility	Paratransit	\$950,000	\$950,000	\$1,900,000	\$1,900,000	\$1,900,000	\$3,800,000	\$1,900,000	\$1,900,000	\$3,800,000
5	Ongoing Preventive Maintenance	Capital Assistance	\$5,652,000	\$1,413,000	\$7,065,000	\$11,400,000	\$2,850,000	\$14,250,000	\$11,400,000	\$2,850,000	\$14,250,000
6	Revenue Vehicles	Capital Assistance	\$2,000,000	\$500,000	\$2,500,000	\$4,000,000	\$1,000,000	\$5,000,000	\$4,000,000	\$1,000,000	\$5,000,000
7	Support Vehicles	Capital Assistance	\$180,000	\$45,000	\$225,000	\$360,000	\$90,000	\$450,000	\$360,000	\$90,000	\$450,000
8	Computer Equipment	Capital Assistance	\$80,000	\$20,000	\$100,000	\$160,000	\$40,000	\$200,000	\$160,000	\$40,000	\$200,000
9	Shop Equipment	Capital Assistance	\$80,000	\$20,000	\$100,000	\$160,000	\$40,000	\$200,000	\$160,000	\$40,000	\$200,000
10	Rehabilitation of Existing Facilities	Capital Assistance	\$800,000	\$200,000	\$1,000,000	\$1,600,000	\$400,000	\$2,000,000	\$1,600,000	\$400,000	\$2,000,000
11	Office Equipment	Capital Assistance	\$40,000	\$10,000	\$50,000	\$80,000	\$20,000	\$100,000	\$80,000	\$20,000	\$100,000
12	Fare Collection Equipment	Capital Assistance	\$200,000	\$50,000	\$250,000	\$400,000	\$100,000	\$500,000	\$400,000	\$100,000	\$500,000
13	Communications Equipment	Capital Assistance	\$400,000	\$100,000	\$500,000	\$800,000	\$200,000	\$1,000,000	\$800,000	\$200,000	\$1,000,000
14	Marketing, Planning and Admin	Planning/Administration	\$1,500,000	\$375,000	\$1,875,000	\$3,000,000	\$750,000	\$3,750,000	\$3,000,000	\$750,000	\$3,750,000
15	Mobility Manager	Planning/Administration	\$200,000	\$50,000	\$250,000	\$400,000	\$100,000	\$500,000	\$400,000	\$100,000	\$500,000
	Recurring Cost Items Listed in 2015-2019 STIP		\$24,912,000	\$15,228,000	\$40,140,000	\$49,960,000	\$30,490,000	\$80,450,000	\$49,960,000	\$30,490,000	\$80,450,000
16	Bus Stop Signs and Benches	Capital	\$48,000	\$12,000	\$60,000	\$120,000	\$30,000	\$150,000	\$120,000	\$30,000	\$150,000
17	Solar-Powered Passenger Shelters	Capital	\$48,000	\$12,000	\$60,000	\$120,000	\$30,000	\$150,000	\$120,000	\$30,000	\$150,000
18	Beachcomber Bus Priority System	Capital	\$86,880	\$21,720	\$108,600	--	--	--	--	--	--
19	Gulfport Route 37 Bus Priority System	Capital	\$65,160	\$16,290	\$81,450	--	--	--	--	--	--
20	Replica Vintage Trolley Buses	Capital	\$640,000	\$160,000	\$800,000	--	--	--	--	--	--
21	Sunshine Express	Operating	\$276,849	\$276,849	\$553,698	\$922,830	\$922,830	\$1,845,660	\$922,830	\$922,830	\$1,845,660
22	Beachcomber Long Beach	Operating				\$1,373,205	\$1,373,205	\$2,746,410	\$1,373,205	\$1,373,205	\$2,746,410
23	Pascagoula-Moss Point	Operating	--	--	--	\$1,043,315	\$1,043,315	\$2,086,630	\$1,043,315	\$1,043,315	\$2,086,630
24	Popp's Ferry Road	Operating	--	--	--	\$967,510	\$967,510	\$1,935,020	\$967,510	\$967,510	\$1,935,020
25	Orange Grove	Operating	--	--	--	\$1,058,865	\$1,058,865	\$2,117,730	\$1,058,865	\$1,058,865	\$2,117,730
26	Gulfport Employment Shuttle	Operating	--	--	--	\$436,800	\$436,800	\$873,600	\$436,800	\$436,800	\$873,600
27	Crossroads Super-Stop/Park-and-Ride	Capital	--	--	--	\$670,292	\$167,573	\$837,865	--	--	--
28	Promenade Super-Stop/Park-and-Ride	Capital	--	--	--	\$670,292	\$167,573	\$837,865	--	--	--
29	Coliseum Super-Stop/Park-and-Ride	Capital	--	--	--	\$670,292	\$167,573	\$837,865	--	--	--
30	ADA Paratransit Operating Expense	Paratransit				\$1,000,000	\$250,000	\$1,250,000	\$1,000,000	\$250,000	\$1,250,000
31	Beachcomber Bay Saint Louis	Operating	--	--	--				\$1,460,890	\$1,460,890	\$2,921,780
32	Ocean Springs-D'Iberville	Operating	--	--	--	--	--	--	\$1,160,085	\$1,160,085	\$2,320,170
33	Gautier-Pascagoula	Operating							\$1,173,315	\$1,173,315	\$2,346,630
34	Gulfport Route 37 Enhanced Service	Operating	--	--	--	--	--	--	\$850,000	\$850,000	\$1,700,000
35	Ocean Springs Route 7 Enhanced Service	Operating	--	--	--	--	--	--	\$900,000	\$900,000	\$1,800,000
36	D'Iberville Route 4 Enhanced Service	Operating	--	--	--	--	--	--	\$760,660	\$760,660	\$1,521,320
37	Gulfport Route 38 Enhanced Service	Operating	--	--	--	--	--	--	\$554,140	\$554,140	\$1,108,280
38	Popp's Ferry Road Enhanced Service	Operating	--	--	--				\$967,510	\$967,510	\$1,935,020
39	ADA Paratransit Plus - Hancock County	Paratransit	--	--	--	--	--	--	\$750,000	\$750,000	\$1,500,000
40	ADA Paratransit Plus - Harrison County	Paratransit	--	--	--	--	--	--	\$750,000	\$750,000	\$1,500,000
41	ADA Paratransit Plus - Jackson County	Paratransit	--	--	--	--	--	--	\$750,000	\$750,000	\$1,500,000
	Proposed Capital and Operating Improvements		\$1,164,889	\$498,859	\$1,663,748	\$9,053,401	\$6,615,244	\$15,668,645	\$17,119,125	\$16,189,125	\$33,308,250
COMPONENT TOTAL (Not Including Pending Discretionary Assistance)			\$26,076,889	\$15,726,859	\$41,803,748	\$59,013,401	\$37,105,244	\$96,118,645	\$67,079,125	\$46,679,125	\$113,758,250

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ACRONYMS AND ABBREVIATIONS

ADA	<i>Americans with Disabilities Act</i>
BRT	Bus Rapid Transit
CFR	<i>Code of Federal Regulations</i>
CTA	Coast Transit Authority (Mississippi Coast Transportation Authority)
EPA	Environmental Protection Agency
FAST	<i>Fixing America's Surface Transportation Act</i>
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GRPC	Gulf Regional Planning Commission
ITS	Intelligent Transportation Systems
JCCAC	Jackson County Civic Action Committee
KAFB	Keesler Air Force Base
MDHS	Mississippi Department of Human Services
MDOT	Mississippi Department of Transportation
MPA	Metropolitan Planning Area
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
MULTIPLAN	Mississippi Unified Long-Range Transportation Infrastructure Plan
NAAQS	National Ambient Air Quality Standards
NCBC	Naval Construction Battalion Center
SMPDD	South Mississippi Planning and Development District
STIP	Statewide Transportation Improvement Program
TAZ	Traffic Analysis Zone
TCC	Technical Coordinating Committee
TDP	Transit Development Plan
TIP	Transportation Improvement Program
TPC	Transportation Policy Committee
TSP	Transit Signal Priority
USC	<i>United States Code</i>
UA	Urban Area
UC	Urban Cluster

1.0 INTRODUCTION

The report presented herein is intended to update the Mississippi Gulf Coast Transit Development Plan adopted in March 2011 by the Mississippi Coast Transportation Authority Board of Commissioners and the Transportation Policy Committee (TPC) of the Mississippi Gulf Coast Metropolitan Planning Organization (MPO). *Moving the Coast - Gulf Coast Transit Development Plan Update: 2010-2035* laid out a plan of action for maintaining and expanding transit service over the 25-year period terminating in 2035. The present report, extending the long-range planning horizon to 2040, is the product of a collaborative effort by the Mississippi Coast Transportation Authority (*Coast Transit Authority*) and Gulf Regional Planning Commission (GRPC). The 2040 Transit Development Plan (TDP) was developed under the auspices of the Mississippi Unified Long-Range Transportation Infrastructure Plan (MULTIPLAN) update, sponsored by the Mississippi Department of Transportation (MDOT). It represents the transit component of the *Mississippi Gulf Coast Area Transportation Study: 2040 Metropolitan Transportation Plan*.



1.1 OVERVIEW

As a companion document to the long-range transportation plan for the region, the TDP identifies projects for future inclusion in the Transportation Improvement Program (TIP) developed periodically by GRPC. GRPC performs the principal planning and programming functions of the metropolitan planning organization (MPO) under the direction of the TPC comprised of elected officials from the 12 cities and three counties in the metropolitan planning area (MPA). A Technical Coordinating Committee (TCC) advises the TPC regarding matters that come before it. The TPC, as the designated policy-making body of the MPO, holds the ultimate responsibility for making decisions regarding the regional transportation system in accordance with federal legislation (23 USC 134(b) and 49 USC 5303(c)). The TCC provides technical input to the decision-making process. Among its principal responsibilities, the MPO is required to prepare and maintain a long-range transportation plan with a planning horizon of at least 20 years; develop a short-range (four-year) program of transportation improvements based on the long-range transportation plan; and involve the general public and other affected constituencies in developing the metropolitan transportation Plan (MTP) and TIP.

The MTP and TIP are both required to be fiscally constrained such that projected future expenditures identified in the former, and the costs associated with projects programmed in the latter, do not exceed aggregate amounts that can reasonably be expected to be available for funding transportation improvements. This requirement applies to the transit program outlined in the TDP in the same way it is mandated for roads, bridges, bicycle paths, sidewalks and other transportation projects listed in the MTP or TIP. The TDP must also be responsive to input elicited from individuals, organizations, agencies and groups via the public involvement process. The process established for the long-range plan update provided ample opportunity for public comment through multiple rounds of public meetings in all three

Mississippi Gulf Coast counties (Hancock, Harrison and Jackson); a continuous online forum conducted on a dedicated internet website; and targeted stakeholder outreach.

The Mississippi Coast Transportation Authority (d/b/a *Coast Transit Authority*) relies heavily on programs administered by the Federal Transit Authority (FTA) to fund the services it provides. State assistance has only been made available in recent years and still covers a relatively small portion of the overall budget. There is no dedicated source of local funds to match the Federal grants that furnish most of what Coast Transit Authority (CTA) needs to operate, equip and maintain its system. Instead funds are appropriated annually from general revenues by those local governments that elect to support transit service in their areas of jurisdiction. In the absence of local support CTA cannot serve an area. Moreover, there is no guarantee regarding the level of assistance that can be expected to be forthcoming in any given jurisdiction from year to year. If support is reduced, the service provided will necessarily be reduced as well. The financial analysis undertaken for this TDP update assumes that local input to the budget will be consistent with current levels of support during the short-term planning period from 2016 to 2020. The expansion of the system beyond that point will depend on increased state or local funding. A recent study undertaken for CTA identified possible sources of dedicated local revenues, but so far no effort has been made to secure adoption of measures necessary to implement any of the proposals advanced.

The funding situation is further complicated by the decline in ridership experienced in 2015 after years of steady growth. This reduction was undoubtedly due in large part to the collapse of crude oil prices. The resulting cost of gasoline and diesel fuel to the consumer fell to levels that made personal vehicle use a much more affordable alternative for both discretionary and non-discretionary travel, undercutting the competitiveness of public transportation. The impact on fare revenues has been significant, raising new challenges for those charged with the responsibility of maintaining the existing system and expanding it to areas of currently unmet demand. The previous (2010-2035) TDP laid out a fairly ambitious plan for extending fixed-route transit to municipalities that presently have no service at all. Much of the proposed

new service was programmed for implementation in the short-term (2010-2015) or mid-range (2016-2025) planning periods. The optimism implicit in this outlook was understandable given the steady growth in ridership recorded in the five years following Hurricane Katrina. But it must be acknowledged that the situation has changed rather dramatically in the five years since adoption of the previous TDP.



Post-Katrina Biloxi (Left) - A resurgent transit system in the wake of the storm played a key role in reconstruction of the Mississippi Gulf Coast.

The upward trend in demand peaked and then reversed, and the resulting loss of revenue generated by passenger fares was exacerbated by a reduction in local funding that necessitated service cuts. Inevitably the cuts caused additional losses in ridership and operating revenue, making a bad situation even worse. Planning for the future development of public transportation in the Mississippi Gulf Coast counties must take the rather harsh reality of contemporary circumstances into account. Nevertheless, the fact that CTA has been a resounding success story during the decade of recovery following Katrina cannot be overlooked and certainly must not be discounted in planning for future successes. The TDP presented herein reflects an unflinching awareness of the difficulties that will confront CTA in the years ahead. At the same time it manifests an equal appreciation of what prudent leadership, ingenuity, hard work and determination have been able to accomplish in the even more difficult years that now lie behind.

1.2 METHODOLOGICAL APPROACH

Updating the TDP required completion of the following tasks, the results of which are described in the ensuing chapters of the present document:

- 1) *Study Area Overview*—Compilation and analysis of data relating to current land use and demographic characteristics of the region and forecast conditions to the year 2040. This task established the environmental context for development of the TDP by assembling basic information regarding the geography of the Mississippi Gulf Coast, as well as data relating to the distribution of population and economic activity in the region.
- 2) *Previous Planning Studies*—Identification, review and synopsis of previous studies with particular relevance for the TDP update. Since the study effort described herein was primarily concerned with bringing the previous transit plan up to date, this task also included consideration of the status of planned improvements identified in the 2010-2035 TDP.
- 3) *Existing Transit Service*—Summary description of current operations, facilities, equipment, resources, ridership and revenue by type of service. In order to provide a comprehensive overview of transit activity in the region, this task also involved consideration of services provided by operators other than CTA.
- 4) *Needs Analysis*—Evaluation of present and projected future demand for travel in the region. The analysis focused especially on the potential for enhancing mobility by expanding transit service and making it more attractive as an alternative to personal vehicle use. Input elicited by means of public involvement activities figured prominently in the definition of needs related to existing or potential future transit service.

- 5) *Proposed Alternatives*—Specification of projects for possible inclusion in the Transit Development Plan. This task required that the status of improvements put forth in the 2035 TDP be determined, so that those not yet implemented could be afforded a second look in updating the plan. Additional improvement alternatives were formulated on the basis of the needs analysis, including public input and consultation with stakeholders. Proposed improvements were described in sufficient detail to allow comparative evaluation of alternatives, including the development of conceptual routes and schedules and quantification of likely passenger demand, for proposed fixed-route transit service.
- 6) *Evaluation of Alternatives*—Comparison of benefits and costs associated with proposed improvements. The relative scarcity of funds for the implementation of new transit service required that the cost-effectiveness of such enhancements be established prior to their inclusion in the updated plan. A number of other factors also went into the evaluation. These were primarily related to the broad goals and objectives adopted by the MPO for the regional transportation system as a whole (see Table 1-1). They included considerations such as system continuity, the desirability of expanded modal choice and the need to reduce or prevent congested traffic conditions on streets and highways.
- 7) *Financial Analysis*—Specification of costs for the fiscally constrained short-range plan of improvements identified for implementation during the period from 2016 to 2020. This task also determined which proposed improvements would have to be deferred for implementation during the later stages of the program from 2021 to 2030 and 2031 to 2040. The ultimate outcome of the analysis was a phased implementation plan for transit improvements over the next 25 years, giving special attention to the short-range elements that will be advanced for inclusion in the next Transportation Improvement Program prepared for adoption by the MPO.

In some cases, proposed improvements could not be included in the fiscally constrained short-term component for reasons other than (or in addition to) the lack of funding sufficient to achieve their implementation within that time-frame. Some projects will require planning studies and/or environmental documentation whose completion and adoption by 2020 cannot be assumed with any certainty. Where appropriate the plan identifies the need for alternatives analysis or other investigations required to establish the foundation on which future projects can stand. Thus while the short-term component provides a fully articulated account of what needs to be done, and can be done to operate, equip, maintain and extend the system over the next five years, the components prepared for the ensuing 10-year periods provide a more visionary program focused on what ought to be done to realize the full potential of transit in the Mississippi Gulf Coast area.

Table 1-1:

GOALS AND OBJECTIVES ADOPTED BY THE MISSISSIPPI GULF COAST METROPOLITAN PLANNING ORGANIZATION

GOAL	OBJECTIVE	STRATEGY/POLICY
1.0 Strategically enhance corridors	1.1 Maximize transportation system efficiency by promoting alternatives to adding general-purpose traffic lanes.	<i>i. Adopt a “fix-it-first” mentality that maximizes all operational measures on roadways before adding capacity. ii. MPO policy or recommendations for capacity addition. iii. Develop and assign a high priority to projects that improve traffic flow with operational measures. iv. Consider measures that put more people into fewer vehicles and reduce the need to travel.</i>
	1.2 Reduce roadway congestion .	<i>i. Identify and develop projects for existing and future traffic congestion. ii. Develop and assign a high priority to projects that mitigate congestion and/or reduce travel time.</i>
	1.3 Improve the mobility of freight trucks.	<i>i. Develop and assign a high priority to projects that mitigate congestion on heavily traveled truck routes.</i>
	1.4 Enhance mobility by improving the connectivity of the existing transportation network.	<i>i. Develop and assign a high priority to closing gaps and providing links on major mobility corridors. ii. Support street patterns that encourage safe pedestrian, bicycle and vehicular travel by ensuring connectivity.</i>
	1.5 Improve the form and function of transportation corridors in order to contribute to the sense of place.	<i>i. Consider an area’s context when developing roadway projects. ii. Lower travel speeds to be sensitive to the context of areas.</i>
	1.6 Improve economic vitality of the region with transportation decisions.	<i>i. Prioritize projects that impact business travel cost savings, business market effects and quality of life effects.</i>
2.0 Improve and expand transportation choices.	2.1 Make public transportation a choice mode of transportation on the Mississippi Gulf Coast.	<i>i. Enhance accessibility to transit. ii. Enhance the availability of transit. iii. Enhance the attractiveness of transit.</i>
	2.2 Improve marketing and promotion of transportation options to increase awareness on the Mississippi Gulf Coast.	<i>i. Promote, through public education, the economic, environmental, and health benefits of walking and biking as practical modes of transportation. ii. Educate the public about proper bicycle safety and applicable laws. iii. Promote available transportation options through marketing campaigns</i>
	2.3 Promote rail transportation opportunities.	<i>i. Pursue meaningful regional passenger rail through the Mississippi Gulf Coast.</i>
3.0 Increase safe transportation	3.1 Make all Mississippi Gulf Coast urban area roadways suitable for bicycles, pedestrians and transit.	<i>i. Adopt and implement Complete Streets policies that ensure that new or reconstructed roadways are designed to include sidewalks, be made suitable for bicycles and consider transit. ii. Develop and assign a high priority to roadway projects that include strategic measures for improving bicycle and pedestrian mobility and safety. iii. Promote the use of roadway cross sections that ensure all modes are accommodated. iv. Develop road diet projects to retrofit streets with accommodations for bicycles and pedestrians.</i>

**Table 1-1:
GOALS AND OBJECTIVES ADOPTED BY THE MISSISSIPPI GULF COAST METROPOLITAN PLANNING ORGANIZATION**

GOAL	OBJECTIVE	STRATEGY/POLICY
3.0 Increase safe transportation	3.2 <i>Improve safety at intersections.</i>	<i>i. Consider proven innovative safety measures at intersections, such as roundabouts, first. ii. Identify intersections with safety concerns for safety audits and project development. iii. Develop and assign a high priority to projects that improve intersections or roadways with safety concerns. iv. Address dangerous railroad crossings. v. Provide adequate refuge for pedestrians crossing wide roads. vi. Use measures to improve pedestrian and bicyclist safety such as raised intersections, signals and highly visible crosswalks .</i>
	3.3 <i>Promote safety through public education, enforcement and engineering.</i>	<i>i. Provide transportation workforce programs and other outreach.</i>
4.0 Manage the relationship between transportation, community and environment	4.1 <i>Promote land use patterns and development policies that support transportation mobility.</i>	<i>i. Promote local policies to locate key community facilities on transit routes to maximize the efficiency of transit buses. ii. Maximize the economic development potential of transit by encouraging infill and development in around transit hubs, activity districts and Transit Oriented Development (TOD). iii. Identify land use patterns that support lower VMT.</i>
	4.2 <i>Consider climate variability when making transportation project decisions.</i>	<i>i. Facilitate evacuation with adequate north-south mobility. ii. Develop and assign a high priority to roadway projects that improve roadways at-risk for flooding.</i>
	4.3 <i>Coordinate transportation decisions to preserve existing communities.</i>	<i>i. Evaluate potentially disparate impacts of transportation projects on environmental justice target areas. ii. Consider the effects of bypass highways on existing communities.</i>
	4.4 <i>Provide public involvement processes to engage the general public, minority and low-income populations in transportation decision-making.</i>	<i>i. Use surveys and public meetings to gather community input.</i>
	4.5 <i>Promote the development of a transportation system and programs that maintain or improve air quality and reduce greenhouse gases, ozone, particulate matter and other pollutants.</i>	<i>i. Develop and assign a high priority to projects and programs that reduce vehicle idling. ii. Support regional ozone action committees.</i>

Source: Gulf Regional Planning Commission (2015).

2.0 STUDY AREA OVERVIEW

The Mississippi Gulf Coast is located on the northern shore of the Gulf of Mexico approximately 88.40 to 89.70 degrees west of the prime meridian and roughly 30.17 to 30.74 degrees north of the equator. The metropolitan planning area (MPA) defined for long-range planning purposes includes the three southernmost counties in Mississippi: Hancock, Harrison and Jackson. The MPA includes portions of two separate metropolitan statistical areas as defined by the U. S. Census Bureau. The Gulfport-Biloxi Metropolitan Statistical Area (MSA) encompasses Hancock, Harrison and Stone counties (Stone being located immediately north of Harrison). The Pascagoula MSA is comprised of Jackson County and George County to the north. The long-range planning area defined by the Mississippi Gulf Coast Metropolitan Planning Organization (MPO) does not include Stone County or George County.

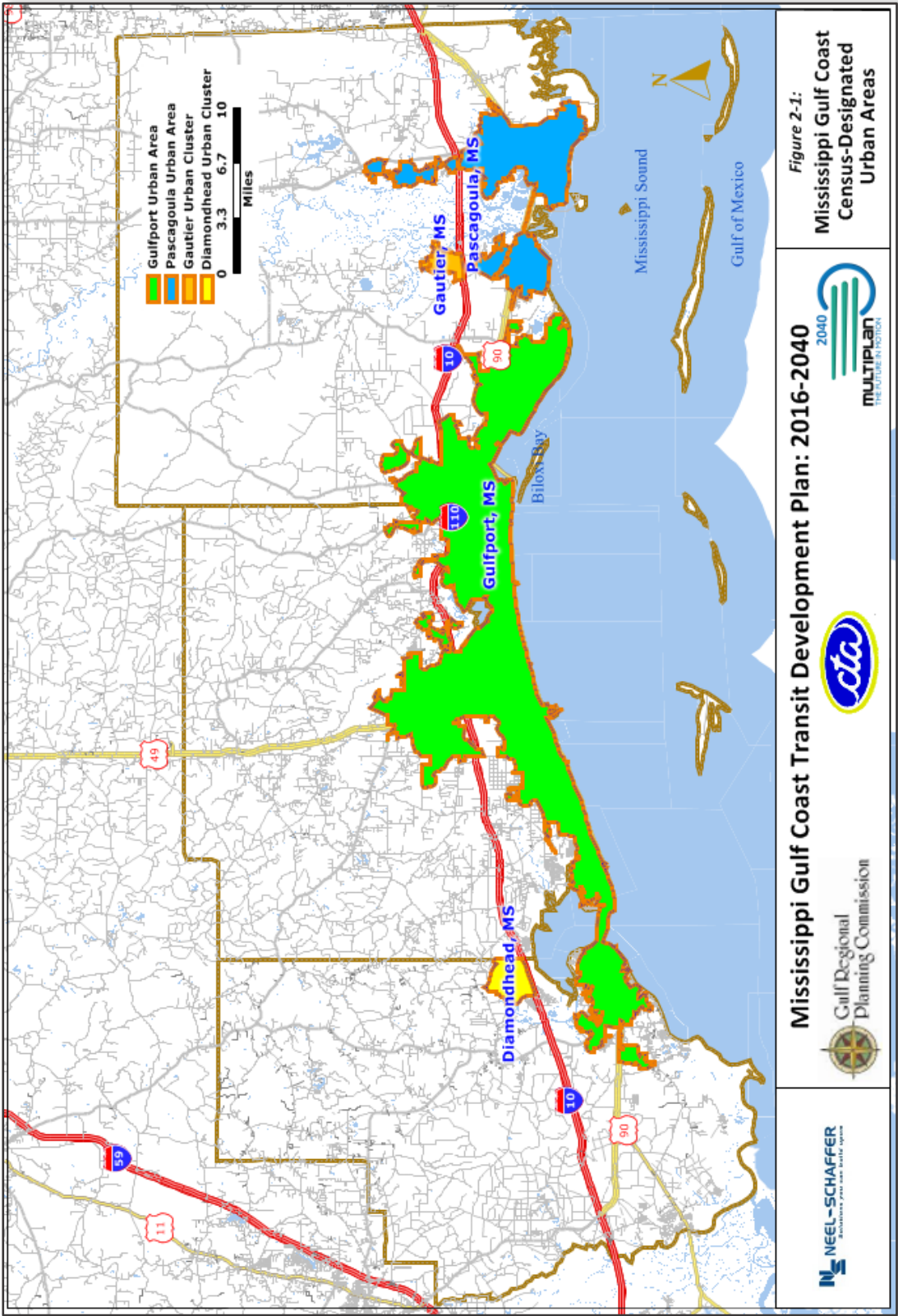
Adjacent to the Mississippi Gulf Coast MPA on the west is the New Orleans-Metairie (Louisiana) MSA; adjacent on the east is the Mobile (Alabama) MSA. The Mississippi Gulf Coast MPA had a population of 370,702 in 2010, according to the decennial census. The U. S. Census Bureau estimate for 2014 showed an increase of more than four percent to 386,144. The 2014 estimate for the New Orleans MSA--1,251,849--was up more than five percent over the 2010 count of 1,189,866. The estimated population of the Mobile MSA was up only slightly from 412,992 in 2010 to 415,123 in 2014. The combined population of the three adjacent Gulf Coast areas was 1,973,560 in 2010; the latest estimates put the total for all three at 2,053,116 as of 2014.

The latest Census Bureau estimates for the Gulfport-Biloxi Metropolitan Statistical Area and adjacent MSAs to the east (Mobile) and west (New Orleans) show a combined population of more than 2 million.

As there are portions of two distinct metropolitan areas within the Mississippi Gulf Coast MPA, there are also two distinct Census-designated urban areas. The Gulfport Urban Area (UA) includes portions of all three Mississippi Coast counties; the Pascagoula UA lies wholly within Jackson County (see Figure 2-1). The Gulfport UA encompasses the cities of Bay Saint Louis and Waveland in Hancock County; Pass Christian, Long Beach, Gulfport, Biloxi and D'Iberville in Harrison County; and Ocean Springs in Jackson County; as well as adjacent unincorporated portions of all three counties. The Pascagoula UA encompasses the cities of Pascagoula and Moss Point, most of Gautier and adjacent unincorporated portions of Jackson County. The newer northern portion of the last-named city was designated a separate entity, the Gautier Urban Cluster (UC), by the U. S. Census Bureau. Similarly the newly incorporated City of Diamondhead in Hancock County was designated an urban cluster separate from the Gulfport UA. Other nearby urban areas include the Slidell and New Orleans urban areas to the west; the Hattiesburg UA to the north; and the Mobile UA to the east.

2.1 ENVIRONMENTAL SETTING

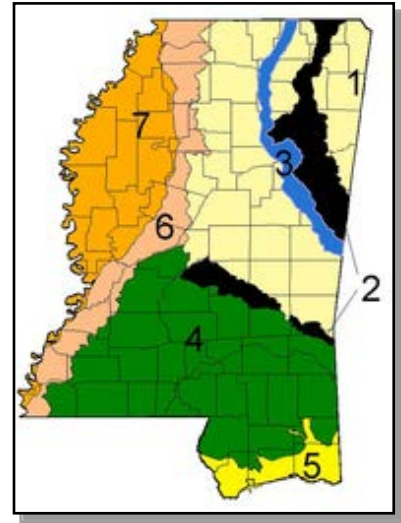
There are seven distinct physiographic regions in Mississippi, reflecting the varying topographic conditions in different parts of the state. Most of the southern part of the state is located in what has been denominated the Pine Hills Region, an area stretching from east of the Pearl River to the Alabama line.



Source: U. S. Census Bureau; Neel-Schaffer, Inc.

The Coastal Flatwoods Region falls between the Pine Hills Region and the Gulf of Mexico, occupying an area that extends from 15 to 20 miles inland along most of its length. Geologically it is a relatively young area formed by deposits of clay, silt, sand and gravel.

The topography of the region is almost uniformly flat, rising gradually from the shoreline towards the interior. Low, sandy bluffs five-to-ten feet above sea level support live oak, southern magnolia and saw palmetto. The Coastal Flatwoods Region (*numbered 5 in the figure at right*) is characterized by wet lowlands and depressions interspersed with higher, well-drained areas. Geologically the chief determinant of landform in the region is the impermanence of the coastline. The principal landform features are the coastline, estuaries, flatwoods and marshland (*Stewart, R. A., 2003: Physiographic Regions of Mississippi Handout, Department of Biological Sciences, Delta State University, with addenda by S. P. Faulkner, 2005*).



Hancock, Harrison and Jackson counties are located in a unique coastal environment that features extensive underground aquifers, diverse biological ecosystems and barrier islands strung along the coast between the Mississippi Sound and the Gulf of Mexico. Fresh water flowing into the sound has its source in three basins: the Lower Pearl River, the Coastal Streams Basin and the Pascagoula River. The Lower Pearl River Basin occupies 24 counties in Mississippi as well as several parishes in Louisiana. The Pearl River itself is almost 500 miles long and drains an area encompassing 8,760 square miles. At its southern end the Pearl forms the western boundary of Hancock County (and also of the State of Mississippi). However, only about one-quarter of the county is actually located within the Lower Pearl River Basin. Most of Hancock County is located in the Coastal Streams Basin which also encompasses all of Harrison County and part of Jackson County, draining an area measuring 1,545 square miles.

The Pascagoula River Basin is exceeded in size among Mississippi drainage-ways only by the one associated with the Yazoo River. The Pascagoula River has the distinction of being the sole stream of sizable carrying capacity in the continental United States that remains in an essentially unaltered natural state. The Pascagoula Basin drains 22 counties in the southeastern quadrant of Mississippi and adjacent portions of Alabama, transporting water from an area encompassing 9,600 square miles to the Mississippi Sound, where it flows into the sea between the Jackson County municipalities of Gautier and Pascagoula (*Mississippi Gulf Coast Water Assessment, 2012*).

2.2 URBAN DEVELOPMENT AND LAND USE

Of the three Mississippi Gulf Coast counties, Hancock County is the least urbanized and has the lowest population density. There are three incorporated municipalities—Bay Saint Louis, Waveland and Diamondhead—with a combined population of 25,987 (U. S. Census Bureau 2014 estimated). The estimated population of the county as a whole is 45,949. With total land area of 476.88 square miles, population density is approximately 96 persons per square mile for the county as a whole.

While the Gulfport Urban Area, as defined by the U. S. Census Bureau, includes portions of all three Mississippi Gulf Coast counties, most of the urban area lies within the middle county. Harrison County is the most urbanized of the three coastal counties, having five incorporated municipalities—Pass Christian, Long Beach, Gulfport, Biloxi and D'Iberville—with a combined population of 150,466 (U. S. Census Bureau 2014 estimated), up 5.4 percent from the 2010 census figure of 142,748. That represents more than three-quarters of all persons living in Harrison County, estimated to be 199,058 in 2014, up from 187,105 at the time of the 2010 Census. However, more than half of the estimated growth during that four-year period occurred in the unincorporated portion of the county, suggesting that urbanization continues to spread northward from the cities along the coast. With land area of 573.99 square miles, the estimated population density of the county as a whole is approximately 347 persons per square mile, up from 326 in 2010.

The *2030 Harrison County Comprehensive Plan* noted that only four percent of land in the unincorporated county is occupied by residential uses and only one percent by commercial or industrial uses. The county's zoning ordinance classifies almost 75 percent of the unincorporated area as agricultural, just under 20 percent as residential and two percent as commercial or industrial. It is only since 2010 that population in Harrison County has regained and surpassed the level attained prior to Hurricane Katrina. In the decade since Katrina, there has been growing demand for developable property in the unincorporated area north of Interstate 10, well inland from the low-lying coastal areas inundated by tidal surge in 2005.

Jackson County has the second largest population of the three Mississippi Gulf Coast counties and the greatest concentration of industrial activity in the area. There are four incorporated municipalities in the county—Ocean Springs, Gautier, Pascagoula and Moss Point—with combined population of 74,203 (U. S. Census Bureau 2014 estimated), almost unchanged from the 2010 Census count of 74,022. That represents about 52.5 percent of all persons living in the county, 141,137 according to the most recent Census Bureau estimate. With total land area of 722.75 square miles, population density is approximately 195 persons per square mile for the county as a whole.

The Pascagoula River watershed contains the largest unimpeded water course in the 48 contiguous states of the Union.

A significant portion of Jackson County has been preserved in its natural condition: The Pascagoula River watershed contains the largest unimpeded water course in the 48 contiguous states of the Union. Forty years ago, The Nature Conservancy and other conservation groups and individual conservationists made common cause in bringing 35,000 acres of the watershed under public protection. The river corridor, traversing Jackson County from the George County line on the north to the Mississippi Sound on the south, is now buffered by almost 70,000 acres of public and private lands whose owners are committed to preserving them in a state of nature.

2.3 POPULATION

The combined population of Hancock, Harrison and Jackson counties was only 82,728 in 1940, according to the decennial census taken that year (see Table 2-1). But the number of people living in the three coastal counties increased by more than half in the next 10 years; by nearly half in the intercensal period following that (1950 to 1960); and by more than one-quarter in each of the next two decades, pushing the population of the area to 300,000 by 1980. The 1980s were a period of relative stagnation: Population

growth was limited to four percent. However, the in-migration associated with the arrival of casino gambling in the 1990s literally brought new life to the Mississippi Gulf Coast; more than 50,000 new residents were counted in the 2000 census. Then disaster struck. On August 29, 2005 Hurricane Katrina came ashore pushing the Mississippi Sound up onto the land. Suddenly thousands of people had no homes and had no choice but to move away in order to find shelter elsewhere. Some never came back. Nevertheless, by the time of the 2010 Census—less than five years after the storm—the recovery had advanced far enough that the area was able to register a slight gain in population, topping 370,000, compared to the 2000 Census count of just under 364,000.

Of the three counties, only Harrison registered an actual decline in the number of residents, suffering a net loss of nearly 2,500, between 2000 and 2010. Hancock County gained 900-plus, Jackson County more than 8,200. The relative decennial growth rate of only 2.24 percent in Hancock County ended five decades of double-digit expansion from 1950 to 2000. The area-wide increase of only 1.84 percent, in the decade prior to the most recent census, represented the lowest growth rate recorded for any decade during the period since 1940.

Table 2-1:
MISSISSIPPI GULF COAST POPULATION CHANGE BY COUNTY: 1940-2010

COUNTY	POPULATION							
	1940	1950	1960	1970	1980	1990	2000	2010
Hancock	11,328	11,891	14,039	17,387	24,496	31,760	42,967	43,929
Harrison	50,799	84,073	119,489	134,582	157,665	165,365	189,601	187,105
Jackson	20,601	31,401	55,522	87,975	118,015	115,243	131,420	139,668
TOTAL	82,728	127,365	189,050	239,944	300,176	312,368	363,988	370,702

COUNTY	POPULATION CHANGE							
	1940-1950	1950-1960	1960-1970	1970-1980	1980-1990	1990-2000	2000-2010	Total
Hancock	563	2,148	3,348	7,109	7,264	11,207	962	32,601
Harrison	33,274	35,416	15,093	23,083	7,700	24,236	-2,496	136,306
Jackson	10,800	24,121	32,453	30,040	-2,772	16,177	8,248	119,067
TOTAL	44,637	61,685	50,894	60,232	12,192	51,620	6,714	287,974

COUNTY	PERCENT POPULATION CHANGE							
	1940-1950	1950-1960	1960-1970	1970-1980	1980-1990	1990-2000	2000-2010	Annual Rate
Hancock	4.97	18.06	23.85	40.89	29.65	35.29	2.24	1.96
Harrison	65.50	42.13	12.63	17.15	4.88	14.66	-1.32	1.88
Jackson	52.42	76.82	58.45	34.15	-2.35	14.04	6.28	2.77
TOTAL	53.96	48.43	26.92	25.10	4.06	16.53	1.84	2.17

Source: U. S. Census Bureau; calculations by Neel-Schaffer, Inc.

Even with the losses linked to post-Katrina out-migration, the population of the Mississippi Gulf Coast grew at a rate in excess of two percent per annum over the 70 years from 1940 to 2010. Harrison remains the most populous county in the study area and has long led the others in absolute numbers. However, relative population change has been greatest in Jackson County, where the number of new residents has increased at an annual rate closer to three percent than two. The number of people living in each of the other two counties expanded at rates approaching two percent per annum over the 70 years prior to the 2010 Census.

While population in the area more than quadrupled from 1940 to 2010, housing increased sevenfold (see Table 2-2). This resulted in a rather dramatic decrease in the ratio of persons to dwelling units (not to be confused with average household size). This ratio has always been lowest in Hancock County where there are a significant number of summer or weekend homes owned by people whose principal place of residence is elsewhere. The ratio of persons counted in Hancock County to dwelling units located in the county actually fell below two-to-one in the 1980 and 1990 censuses and, even after the widespread destruction of housing stock in 2005, was barely above that level in the 2010 Census. The people-to-housing ratio for the Mississippi Gulf Coast area as a whole has declined by more than a third from 3.58 in 1940 to 2.22 in 2010.

The most recent (2014) population estimates published by the Census Bureau suggest that the growth trend interrupted by Hurricane Katrina in 2005 has resumed. While the net increase in population for the Mississippi Gulf Coast area as a whole during the 10 years from 2000 to 2010 was less than two percent, the estimated increase for the four years from 2010 to 2014 exceeded four percent. The estimated total population of the three coastal counties combined is now more than 386,000 (see Table 2-3).

Table 2-2:
MISSISSIPPI GULF COAST HOUSING CHANGE BY COUNTY: 1940-2010

COUNTY	HOUSING UNITS							
	1940	1950	1960	1970	1980	1990	2000	2010
Hancock	3,620	4,505	6,413	7,330	12,517	16,561	21,072	21,840
Harrison	14,062	23,164	35,227	41,541	57,954	67,813	79,636	85,181
Jackson	5,451	9,838	16,226	27,584	42,635	45,542	51,678	60,067
TOTAL	23,133	37,507	57,866	76,455	113,106	129,916	152,386	167,088

COUNTY	POPULATION/HOUSING UNIT							
	1940	1950	1960	1970	1980	1990	2000	2010
Hancock	3.13	2.64	2.19	2.37	1.96	1.92	2.04	2.01
Harrison	3.61	3.63	3.39	3.24	2.72	2.44	2.38	2.20
Jackson	3.78	3.19	3.42	3.19	2.77	2.53	2.54	2.33
TOTAL	3.58	3.40	3.27	3.14	2.65	2.40	2.39	2.22

Source: U. S. Census Bureau; calculations by Neel-Schaffer, Inc.

Table 2-3:
MISSISSIPPI GULF COAST POPULATION CHANGE BY CITY: 2000 TO 2014 (ESTIMATED)

COUNTY	CITY	POPULATION			CHANGE		
		2000 Census	2010 Census	2014 Est	2000 to 2010	2010 to 2014	2000 to 2014
Hancock	Bay Saint Louis	11,451	9,260	11,388	-2,191	2,128	-63
	Diamondhead ¹	5,912	8,378	8,180	2,466	-198	2,268
	Waveland	7,691	6,435	6,419	-1,256	-16	-1,272
	<i>Incorporated Total</i>	25,054	24,073	25,987	-981	1,914	933
	<i>County Total</i>	42,967	43,929	45,949	962	2,020	2,982
	<i>Incorporated Percent</i>	58.31	54.80	56.56	-3.51	1.76	-1.75
Harrison	Biloxi	51,178	44,054	44,984	-7,124	930	-6,194
	D'Iberville	7,850	9,486	10,962	1,636	1,476	3,112
	Gulfport	70,827	67,793	71,750	-3,034	3,957	923
	Long Beach	17,320	14,792	15,448	-2,528	656	-1,872
	Pass Christian	6,486	4,613	5,308	-1,873	695	-1,178
	<i>Incorporated Total</i>	153,661	140,738	148,452	-12,923	7,714	-5,209
	<i>County Total</i>	189,601	187,105	199,058	-2,496	11,953	9,457
	<i>Incorporated Percent</i>	81.04	75.22	74.58	-5.83	-0.64	-6.47
Jackson	Gautier	16,560	18,572	18,596	2,012	24	2,036
	Moss Point	15,824	13,704	13,671	-2,120	-33	-2,153
	Ocean Springs	17,225	17,442	17,530	217	88	305
	Pascagoula	26,257	22,392	22,224	-3,865	-168	-4,033
	<i>Incorporated Total</i>	75,866	72,110	72,021	-3,756	-89	-3,845
	<i>County Total</i>	131,420	139,668	141,137	8,248	1,469	9,717
	<i>Incorporated Percent</i>	57.73	51.63	51.03	-6.10	-0.60	-6.70
TOTAL	<i>Incorporated Total</i>	254,581	236,921	246,460	-17,660	9,539	-8,121
	<i>Metropolitan Total</i>	363,988	370,702	386,144	6,714	15,442	22,156
	<i>Incorporated Percent</i>	69.94	63.91	63.83	-6.03	-0.09	-6.12

Notes:

¹ 2000 and 2010 figures for Diamondhead are estimates, as the city was not incorporated until after the most recent census. For the sake of consistency with current conditions, Diamondhead is treated as an incorporated municipality for the years prior to 2014 (when, as a planned community, its geographical limits were already well-defined).

All figures for 2014 are U. S. Census Bureau estimates.

Source: U. S. Census Bureau; calculations by Neel-Schaffer, Inc.

The 2014 estimates for the 12 municipalities in the MPA also suggest that a shift in the geographical distribution of population in the region is taking place in the post-Katrina era. Eight of the 12 cities incurred absolute losses in the intercensal period that straddled the storm event. All six of the cities located on the Mississippi Sound in Hancock County or Harrison County were left less populous in 2010 than they had been in 2000. (The losses incurred by Waveland and Bay Saint Louis were especially notable, since both cities were enlarged by annexation following Katrina.) And although the center of the storm made landfall in the vicinity of the Pearl River, at the west end of the MPA, even Pascagoula and Moss Point, near the eastern edge, were left with significantly fewer residents.

Of the four municipalities that did not lose population, two—Diamondhead and D'Iberville—are not located on the Mississippi Sound (although both experienced flooding from inland waters affected by the storm surge). The other two—Ocean Springs and Gautier—are both located in Jackson County and suffered less destruction than did the cities closer to the center of the storm. An older, well-established community with a carefully cultivated cultural ambiance, Ocean Springs managed to maintain and even expand slightly its pre-hurricane population. Gautier, on the other hand, is a special case: A relatively new city located on the Mississippi Sound, Gautier nearly doubled its population in 2002 by annexing a large area north of the original municipal limits.

The 12 Mississippi Gulf Coast cities suffered a combined loss of 17,660 residents in the decade following the 2000 Census despite the annexation of previously unincorporated areas by some municipalities.

The net population loss recorded for all 12 incorporated municipalities was 17,660. The metropolitan area as a whole recorded a modest gain of 6,714. The obvious inference is that some portion of the overall MPA population moved from vulnerable locations in the cities located along the coast to safer inland sites in the unincorporated areas to the north. This shift reduced the incorporated area share of total population from almost 70 percent to less 64 percent (again notwithstanding the annexation of previously unincorporated areas by various municipalities). The 2014 estimates suggest the cities as a group have recovered more than half the population lost before 2010, but growth in the unincorporated areas has been equally robust.

Virtually all of the estimated post-censal increase in population within the incorporated portion of the MPA has been concentrated in the six cities between Bay Saint Louis and Biloxi. Bay Saint Louis accounted for all of the growth in Hancock County, very nearly cancelling out the loss incurred by the city before 2010. Waveland continues to lag, its population still more than 1,250 below the 2000 Census count. Gulfport has had the largest estimated gain since 2010, more than 3,950 new residents. D'Iberville, the only city in Harrison County to gain population between 2000 and 2010, picked up almost 1,500 more in the four years following the last census (partly by annexation) and has attracted more than 3,100 new residents since 2000. Despite the gains of recent years, the other three cities in Harrison County—Pass Christian, Long Beach and Biloxi—are still very far below their peak populations recorded in the 2000 Census. None of the Jackson County municipalities has experienced significant growth since 2010. In fact,

the 2014 estimates indicate that Pascagoula and Moss Point continue to lose residents and remain well below their respective 2000 Census counts.

Despite the mixed success of the cities, all three counties have grown in population since the last census. Most of the recent growth in the metropolitan area has been concentrated in Harrison County: Roughly 11,950 of the 15,440 new residents in the MPA settled in Harrison County. While 7,700 of them located in one of the five municipalities, more than 4,200 settled in unincorporated portions of the county.

2.4 EMPLOYMENT

The number of people employed by establishments in the Mississippi Gulf Coast study area has increased by a little more than 30 percent in a little less than 25 years, according to the Mississippi Department of Employment Security (see Table 2-4). However, all of that growth occurred during the decade of the 1990s when casino gambling was legalized and new gaming establishments were opened in Hancock and Harrison counties. Establishment-based employment peaked at more than 164,000 in 2000 but has since fallen off to approximately 154,000. The drop-off in the number of people employed in the area actually occurred in the five-year period immediately prior to Hurricane Katrina. Surprisingly, estimated employment in 2010 was exactly the same as it had been in 2005 before the storm and was only slightly lower in 2014, according to the Mississippi Department of Employment Security. This probably says as much about continuing weakness in the national economy as it does about local economic conditions.

According to the U. S. Census Bureau, there were 176,928 workers living in the Mississippi Gulf Coast MPA in the year 2000 (see Table 2-5). That labor force of people either working or actively seeking work represented 63.6 percent of all persons aged 16 years or older living in the three coastal Mississippi counties. The participation rates were significantly higher in Harrison County (over 65 percent) and Jackson County (nearly 64 percent) than in Hancock County (56.7 percent).

At the time of the 2000 Census, there were more than 10,000 active military personnel residing in the area. Most of them (7,610) were living in Harrison County where the Naval Construction Battalion Center (NCBC) and Keesler Air Force Base (KAFB) are located. The civilian labor force of 166,626 included 155,970 workers actually employed. The 10,656 workers unemployed at the time of the census yielded an unemployment rate of 6.4 percent.

Table 2-4:

MISSISSIPPI GULF COAST ESTABLISHMENT-BASED EMPLOYMENT BY COUNTY: 1990-2014

COUNTY	NUMBER OF EMPLOYEES						1990-2014 CHANGE	PERCENT CHANGE
	1990	1995	2000	2005	2010	2014		
Hancock	10,630	12,320	14,080	13,580	14,500	13,840	3,210	30.2
Harrison	61,420	80,740	96,420	91,670	87,170	87,880	26,460	43.1
Jackson	45,120	51,160	53,970	50,470	54,050	52,430	7,310	16.2
TOTAL	117,170	144,220	164,470	155,720	155,720	154,150	36,980	31.6

Source: Mississippi Department of Employment Security (2005-2015).

Table 2-5:
MISSISSIPPI GULF COAST RESIDENCE-BASED EMPLOYMENT STATUS BY COUNTY IN 2000

COUNTY	POPULATION 16 YEARS OR OLDER	TOTAL LABOR FORCE	NOT IN LABOR FORCE	MILITARY PERSONNEL	CIVILIAN LABOR FORCE	NUMBER EMPLOYED	NUMBER UNEMPLOYED
Hancock	33,333	18,904	14,429	132	18,772	17,473	1,299
Harrison	145,662	94,847	50,815	7,610	87,237	81,944	5,293
Jackson	99,044	63,177	35,867	2,560	60,617	56,553	4,064
Total	278,039	176,928	101,111	10,302	166,626	155,970	10,656
COUNTY	PERCENT OF 2000 POPULATION 16 YEARS OR OLDER					PERCENT OF CIVILIAN LABOR FORCE	
	Persons 16 Years or Older	Total Labor Force	Not in Labor Force	Military Personnel	Civilian Labor Force	Employed	Unemployed
Hancock	100.0	56.7	43.3	0.7	56.3	93.1	6.9
Harrison	100.0	65.1	34.9	8.0	59.9	93.9	6.1
Jackson	100.0	63.8	36.2	4.1	61.2	93.3	6.7
Overall	100.0	63.6	36.4	5.8	59.9	93.6	6.4

Source: U. S. Census Bureau, Census 2000 Summary File 3. Calculations by Neel-Schaffer.

The *American Community Survey Five-Year Estimates for 2010 to 2014* resulted in a total labor force estimate of 184,891 workers residing in the MPA (see Table 2-6). That represented 62.3 percent of the working-age population as defined by the Census Bureau. Labor force participation was up slightly in Hancock County, down slightly in Harrison County and decidedly lower in Jackson County. The number of active-duty military personnel living in the area fell from more than 10,000 in the year 2000 to just over 6,500 in 2014. Jackson County suffered the biggest loss: Just under 2,000 resident military personnel were relocated. Another 1,700 left Harrison County. The civilian labor force of 178,380 included 160,412 workers with jobs. That left an estimated 17,968 without jobs—more than 10 percent of the work force.

Table 2-6:
MISSISSIPPI GULF COAST RESIDENCE-BASED EMPLOYMENT STATUS BY COUNTY FOR 2010-2014

COUNTY	POPULATION 16 YEARS OR OLDER	TOTAL LABOR FORCE	NOT IN LABOR FORCE	MILITARY PERSONNEL	CIVILIAN LABOR FORCE	NUMBER EMPLOYED	NUMBER UNEMPLOYED
Hancock	36,069	20,703	15,366	59	20,644	18,354	2,290
Harrison	151,409	97,932	53,477	5,891	92,041	83,107	8,934
Jackson	109,375	66,256	43,119	561	65,695	58,951	6,744
Total	296,853	184,891	111,962	6,511	178,380	160,412	17,968
COUNTY	PERCENT OF 2000 POPULATION 16 YEARS OR OLDER					PERCENT OF CIVILIAN LABOR FORCE	
	Persons 16 Years or Older	Total Labor Force	Not in Labor Force	Military Personnel	Civilian Labor Force	Employed	Unemployed
Hancock	100.0	57.4	42.6	0.3	57.2	88.9	11.1
Harrison	100.0	64.7	35.3	6.0	60.8	90.3	9.7
Jackson	100.0	60.6	39.4	0.8	60.1	89.7	10.3
Overall	100.0	62.3	37.7	3.5	60.1	89.9	10.1

Source: U. S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates. Calculations by Neel-Schaffer, Inc.

While double-digit unemployment persisted long after the economic recession that ended in the middle of 2009, the nominal rate understates the lingering impact of the financial crisis that began in 2007. The deeper implications for the Mississippi Gulf Coast economy may be deduced from the following facts (see Table 2-7):

- During the period from 2000 to 2014, the number of working-age persons living in the area but not participating in the labor force increased at more than double the rate at which the number of residents working or seeking work increased.
- While the growth of the civilian work force was consistent with the increase in the working-age population—roughly seven percent—the number of people living in the metropolitan area who actually had jobs went up by less than three percent. The number without jobs went up nearly 70 percent.

The lower rate of participation in the labor force may be attributable in part to the increasing average age of the population generally associated with the post-World War II baby boom and greater life expectancy. The outsized post-war population cohort has now reached retirement age, and people are living longer than ever. Add to that the fact that the birth rate began to fall after the boom and has been declining ever since. On the other hand, some workers contemplating retirement at the time of the crash may have been forced to think again after seeing their savings depleted by the financial crisis. It is difficult to assess the impact of changing demographic conditions on labor force participation. The simple fact remains that the rate of nonparticipation increased from approximately 51.4 percent in 2000 to 52.1 percent after 2010.

Table 2-7:
MISSISSIPPI GULF COAST CHANGE IN RESIDENCE-BASED EMPLOYMENT BY COUNTY - 2000 TO 2014

COUNTY	CHANGE IN RESIDENCE-BASED EMPLOYMENT FROM 2000 TO 2014 (ESTIMATED)							
	Population	Persons 16 Years or Older	Total Labor Force	Not in Labor Force	Military Personnel	Civilian Labor Force	Number Employed	Number Unemployed
Hancock	2,982	2,736	1,799	937	-73	1,872	881	991
Harrison	9,457	5,747	3,085	2,662	-1,719	4,804	1,163	3,641
Jackson	9,717	10,331	3,079	7,252	-1,999	5,078	2,398	2,680
Overall	22,156	18,814	7,963	10,851	-3,791	11,754	4,442	7,312

COUNTY	PERCENT CHANGE FROM 2000 TO 2014 (ESTIMATED)							
	Population	Persons 16 Years or Older	Total Labor Force	Not in Labor Force	Military Personnel	Civilian Labor Force	Number Employed	Number Unemployed
Hancock	6.9	8.2	9.5	6.5	-55.3	10.0	5.0	76.3
Harrison	5.0	3.9	3.3	5.2	-22.6	5.5	1.4	68.8
Jackson	7.4	10.4	4.9	20.2	-78.1	8.4	4.2	65.9
Overall	6.1	6.8	4.5	10.7	-36.8	7.1	2.8	68.6

Source: U. S. Census Bureau, Census 2000 Summary File 3; 2010-2014 American Community Survey.

Sectoral Employment

A substantial majority of workers residing in the Mississippi Gulf Coast MPA are employed in one of five broad economic sectors which may be categorized in the following terms:

- Health, education and human welfare
- Entertainment, recreation and accommodation
- Trade
- Manufacturing
- Construction

At the time of the 2000 Census, these five sectors accounted for more than 70 percent of the jobs held by Mississippi Gulf Coast residents (see Table 2-8). More than one-third of all workers were employed either in providing essential services related to education, health care and other basic human needs, or in furnishing the labor necessary to operate hotels, restaurants, casinos, theaters and other places of accommodation and enjoyment. Out of more than 155,000 workers living in the area, almost 55,000 were split evenly between these two sectors. The trade, manufacturing and construction sectors collectively accounted for roughly the same number of workers (some 56,000-plus) as did the two leading sectors together.

Table 2-8:
2000 MISSISSIPPI GULF COAST RESIDENCE-BASED EMPLOYMENT BY ECONOMIC SECTOR

INDUSTRY	2000 NUMBER OF PERSONS EMPLOYED AND PERCENT OF TOTAL							
	Hancock Co		Harrison Co		Jackson Co		Area Total	
	No	Pct	No	Pct	No	Pct	No	Pct
Educational, health and social services	2,768	15.8	14,938	18.2	9,719	17.2	27,425	17.6
Arts, entertainment, recreation, accommodation and food services	2,682	15.3	16,531	20.2	8,114	14.3	27,327	17.6
Retail and wholesale trade	2,442	14.0	12,381	15.1	7,778	13.8	22,601	14.5
Manufacturing	1,663	9.5	6,489	7.9	11,728	20.7	19,880	12.8
Construction	2,001	11.5	6,838	8.3	4,837	8.6	13,676	8.8
Public administration	1,139	6.5	5,427	6.6	3,195	5.6	9,761	6.3
Professional, scientific, management and administrative services	1,487	8.5	4,950	6.0	3,282	5.8	9,719	6.2
Information, finance, insurance, real estate, rental and leasing	865	6.6	5,938	7.2	2,890	5.1	9,693	6.2
Transportation, warehousing and utilities	850	4.9	3,830	4.7	1,961	3.5	6,641	4.3
Other services	844	4.8	3,641	4.4	2,208	3.9	6,693	4.3
Agriculture, fishing, hunting, forestry and mining	446	2.6	981	1.2	841	1.5	2,268	1.4
TOTAL	17,187	100.0	81,944	99.9	56,553	100.0	155,684	99.9

Source: U. S. Census Bureau, Census 2000 Summary File 3; 2010-2014 American Community Survey.

Table 2-9:
2014 ESTIMATED MISSISSIPPI GULF COAST RESIDENCE-BASED EMPLOYMENT BY ECONOMIC SECTOR

INDUSTRY	2014 ESTIMATED NUMBER EMPLOYED AND PERCENT OF TOTAL							
	Hancock Co		Harrison Co		Jackson Co		Total Area	
	No	Pct	No	Pct	No	Pct	No	Pct
Educational, health and social services	2,850	15.5	16,049	19.3	10,502	17.7	29,401	18.3
Arts, entertainment, recreation, accommodation and food services	2,199	12.0	15,485	18.6	8,954	15.1	26,638	16.6
Retail and wholesale trade	2,888	15.7	11,925	14.4	7,723	13.0	22,536	14.0
Manufacturing	1,416	7.7	5,054	6.1	10,497	17.7	16,967	10.5
Construction	2,101	11.4	6,752	8.1	4,968	8.4	13,821	8.6
Public administration	1,125	6.1	7,566	9.1	3,550	6.0	12,241	7.6
Professional, scientific, management and administrative services	1,702	9.3	6,157	7.4	4,020	6.8	11,879	7.4
Information, finance, insurance, real estate, rental and leasing	1,598	8.7	5,499	6.6	3,670	6.2	10,767	6.7
Transportation, warehousing and utilities	1,145	6.2	3,999	4.8	2,300	3.9	7,444	4.6
Other services	929	5.1	3,772	4.5	2,269	3.8	6,970	4.3
Agriculture, fishing, hunting, forestry and mining	401	2.2	849	1.0	946	1.6	2,196	1.4
TOTAL	18,354	100.0	83,107	100.0	59,399	100.0	160,860	100.0

Source: U. S. Census Bureau, Census 2000 Summary File 3; 2010-2014 American Community Survey.

More recent estimated data, based on the 2010-2014 American Community Survey, suggests the health-and-education sector has continued to grow and is now firmly established as the largest employment sector for residents of the MPA (see Table 2-9). Employment in the entertainment-and-accommodation sector actually declined by almost 700 workers from 1990 to 2014. Trade and manufacturing also declined in absolute terms, the latter losing roughly 2,900 workers. Construction registered a small increase in numbers but declined slightly in terms of its relative share of the labor force. All other sectors—except the one for farming, fishing, hunting, forestry and mining—experienced increases in the number of employees living in the area. The largest increase was in public administration—more than 2,500 additional workers since 1990—and the professional and administrative services sector added more than 2,100. The overall estimated increase in the number of employed workers living in the MPA was a little less than 5,200.

Income and Poverty

Median household income in the three Mississippi Gulf Coast counties, at the time of the 2000 Census, exceeded the statewide median income figure by 11.6 percent in Hancock County, 13.0 percent in Harrison County and 24.1 percent in Jackson County; but all three counties have lost ground, relative to the state as a whole, since 2000 (see Table 2-10). The relative losses in Hancock and Jackson counties were fairly small, according to Census Bureau estimates for 2014, but substantially greater in Harrison.

The ratio of median household income in Harrison County to the same measure for the state as a whole fell off significantly, reducing the county advantage to 7.1 percent. Harrison is the second most populous county in the state, and Gulfport is the second largest city. Any adverse economic conditions arising there, at the center of the metropolitan planning area, may have ramifications for growth and development in other parts of the MPA. However, while the decline in household income was most noticeable in Harrison County, it was registered throughout the region. The relative loss of household income in Hancock and Jackson counties, measured in real (2014) dollars, was commensurate with the loss experienced in the state as a whole, and that was only a little worse (about one percent) than the decline recorded at the national level. Again, these numbers probably say as much about the continuing weakness of the U. S. economy as they do about local conditions in south Mississippi.

The impact of deteriorating economic conditions is perhaps nowhere more acutely apparent than in the poverty statistics issued by the U. S. Census Bureau (see Table 2-11). According to the 2000 Census, there were about 49,000 individuals whose income in 1999 fell below the poverty line. Fifteen years later, based on data collected by the 2010-2014 American Community Survey, the number of individuals living in poverty-level conditions was estimated to be more than 70,000. That represented an increase of 43 percent for the area as a whole. The increase in Harrison County was almost 50 percent; in Hancock County it was 48 percent. Jackson County experienced the smallest relative increase but still saw the number of residents classified as victims of poverty rise by 32 percent.

Means of Travel to Work

Journey-to-work data disseminated by the Census Bureau indicate not only that driving alone remains the preferred means of travel for the work-trip but that its popularity has only increased since 1990 (see Table 2-12). This is true for all three Mississippi Gulf Coast counties but is most pronounced in Hancock County where commuter transit service has not been available in recent years.

Table 2-10:
MISSISSIPPI GULF COAST MEDIAN HOUSEHOLD INCOME BY COUNTY
FOR 1999 AND 2014 (ESTIMATED)

COUNTY (AREA)	1999 Median Household Income (MHI)	1999 Adjusted MHI (2014 Dollars)	2014 Median Household Income (MHI)	Difference (2014 MHI Less 1999 Adjusted MHI)	Percent Difference
Hancock County	\$35,202	\$50,021	\$44,069	-\$5,952	-11.9
Harrison County	\$35,624	\$50,621	\$42,285	-\$8,336	-16.5
Jackson County	\$39,118	\$55,586	\$49,145	-\$6,441	-11.6
<i>MPA Average</i>	\$36,648	\$52,076	\$45,166	-\$6,910	-13.3
Mississippi	\$31,528	\$44,800	\$39,464	-\$5,336	-11.9
United States	\$42,148	\$59,891	\$53,482	-\$6,409	-10.7

Source: U. S. Census Bureau, Census 2000 Summary File 3; 2010-2014 American Community Survey; U. S. Department of Labor, Bureau of Labor Statistics, CPI Inflation Calculator.

Table 2-11:

MISSISSIPPI GULF COAST INDIVIDUALS WITH INCOME BELOW THE POVERTY LEVEL FOR 1999 AND 2014

COUNTY (AREA)	1999		2014		1999 to 2014	Percent
	Number	Percent	Number	Percent	Change	Change
Hancock County	6,137	14.4	9,097	19.8	2,960	48.2
Harrison County	26,597	14.6	39,811	20.0	13,214	49.7
Jackson County	16,504	12.7	21,788	15.6	5,284	32.0
TOTAL	49,238	13.8	70,696	18.3	21,458	43.6

Source: U. S. Census Bureau, Census 2000 Summary File 3; 2010-2014 American Community Survey.

In Harrison County, where commuter service has long been available, Census data show that utilization of public transit for travel to and from work increased from 2000 to 2014. The other principal ridesharing alternative, carpooling, declined in all three counties. A significant number of people walked to work in Harrison County, but there too the more recent Census estimate was down. The number of people working at home was up in Harrison County but down in the other two counties, yielding a lower total for the area as a whole. The time required for the journey to work changed very little in either Harrison County or Jackson County but decreased by almost four minutes in Hancock.

Table 2-12:

MEANS OF TRAVEL TO WORK AND MEAN TRAVEL TIME BY COUNTY FOR 2000 AND 2014

COUNTY	YEAR	WORKERS (16 YEARS OR OLDER)	MEANS OF TRAVEL TO WORK						MEAN TRAVEL TIME (Min)
			Drove Alone	Carpool	Public Transport	Walked	Other Means	Worked at Home	
Hancock	2000	17,053	13,435	2,462	71	162	352	571	32.5
	Pct of Total	100.0	78.8	13.4	0.4	0.9	2.1	3.3	--
	2014	18,083	15,358	1,964	1	204	150	406	28.7
	Pct of Total	100.0	84.9	10.9	0.0	1.1	0.8	2.2	--
Harrison	2000	87,885	69,504	11,415	440	4,103	1,040	1,383	21.8
	Pct of Total	100.0	79.1	13.0	0.5	4.7	1.2	1.6	--
	2014	86,926	70,703	8,708	920	3,831	1,091	1,675	21.8
	Pct of Total	100.0	81.3	10.0	1.1	4.4	1.3	1.9	--
Jackson	2000	58,112	47,555	7,882	219	502	592	1,362	23.7
	Pct of Total	100.0	81.8	13.6	0.4	0.9	1.0	2.3	--
	2014	58,195	48,223	7,131	189	580	954	1,118	24.0
	Pct of Total	100.0	82.9	12.3	0.3	1.0	1.6	1.9	--
TOT/AVG	2000	163,050	130,494	21,759	730	4,767	1,984	3,316	26.0
	Pct of Total	100.0	80.0	13.3	0.4	2.9	1.2	2.0	--
	2014	163,204	134,284	17,803	1,110	4,615	2,195	3,199	24.8
	Pct of Total	100.0	82.3	10.9	0.7	2.8	1.3	2.0	--

Source: U. S. Census Bureau, Census 2000 Summary File 3; 2010-2014 American Community Survey.

3.0 PLANNING BACKGROUND

The Transit Development Plan (TDP) described in the present document is intended to update the 2035 TDP adopted in February of 2011. It represents a fiscally constrained long-range plan, based on the amount of funding expected to be available for transit operations and improvements, with a short-term five-year component suitable for inclusion in the Transportation Improvement Program (TIP) for the Mississippi Gulf Coast area. In order to update the previous TDP it was necessary to review the recommendations presented therein as well as others arising from subsequent studies undertaken for Coast Transit Authority (CTA). Thus the present chapter provides synopses of three relevant documents:

- *Moving the Coast: Gulf Coast Transit Development Plan Update (2010-2035)* prepared by Burk-Kleinpeter, Inc. for Coast Transit authority (CTA) and Gulf Regional Planning Commission (GRPC);
- *Coastal Conveniences: It's About Alternatives - Alternatives Analysis Study Initiation Package for the Federal Transit Administration* prepared by Burk-Kleinpeter, Inc. for submittal by CTA;
- *Getting on Board with Coast Transit Authority* prepared by Burk-Kleinpeter, Inc. in association with GRPC for CTA.

However, before proceeding to consideration of the previous TDP and the other transit-specific studies, the following section provides a brief overview of relevant portions of the 2040 Metropolitan Transportation Plan (MTP). Prepared by GRPC under the auspices of the Mississippi Unified Long-Range Transportation Infrastructure Plan (MULTIPLAN), sponsored by the Mississippi Department of Transportation (MDOT), the MTP was adopted by the Mississippi Gulf Coast Metropolitan Planning Organization (MPO) Transportation Policy Committee on December 10, 2015.



3.1 METROPOLITAN TRANSPORTATION PLAN

Two sections of the 2040 MTP specifically address the regional transit system operated by CTA. In Section 6.3 the existing public transit system—including fixed-route, demand-response and commuter vanpool services—is described. In Section 8.6 the role of public transit in meeting future transportation needs is discussed. As the referenced sections of the MTP are amplified in subsequent chapters of the present document, their contents are merely outlined here.

Existing Transit System

Basic information provided in Section 6.3 includes transit center locations, service areas, fares, routes, hours of operation and connecting lines. This section also presents an analysis of recent historical ridership by service type (fixed-route bus service, demand-response paratransit and commuter vanpool) for the years from 2004 through 2015. Fixed-route ridership comes in for closer scrutiny with unlinked passenger-trips broken down by route, month and year for fiscal years 2010-2015. The analysis of basic operating data focuses on passenger-trips and passenger-miles, fare revenues, operating expenses and directional route-miles for bus transit, paratransit and vanpool operations. Calculated statistics include

average trip length, fare revenue per trip, operating cost per trip and other similar measures. As noted above, the relevant data are examined later in this report.

Future Transportation Needs

MTP Section 8.3 focuses on the difficulty of funding transit operations in an area with no dedicated source of local funds to support public transportation. The ability of the CTA system to recover operating costs through fare revenues is compared with the cost recovery rates of similar transit operations in Louisiana, Mississippi and Alabama. Potential local revenue measures suggested by a previous CTA study are identified (see Section 3.4 below). The distribution of funding by source for all CTA services—including revenue generated by fares; federal, state and local grants; and any other sources of operating funds—is compared to the level of support in each service category for other urban transit systems in Mississippi.

The discussion of what needs to be done to meet future needs also identifies proposed measures to increase operational effectiveness. Principal among these is the planned elimination of unscheduled “hail stops” at locations not designated for passenger boarding. Another is the elimination of route deviations that accommodate front-door service where curbside boarding would save valuable time and help to reduce headways. Reducing headways is cited as a fundamental short-term objective, representing one of several measures intended to increase the attractiveness of transit as a mode choice. Others include simplifying the overall route structure, maintaining rolling stock in good condition, and implementing technological innovations that improve the delivery of service and appreciation of the transit experience by users.

Reducing headways is a fundamental short-term objective intended to increase the attractiveness of transit as a mode choice.

The assessment of future needs presented in the MTP stresses the importance of preserving the current system, upgrading and expanding facilities and services where opportunities arise. This should include developing additional transit hubs at peripheral locations to encourage commuter ridership from outlying locations and implementing new routes to serve areas with untapped transit demand. The MTP provides an analysis of existing and projected future demand and presents recommendations for new routes and transit hubs. An expanded analysis and more fully developed recommendations for new service and passenger facilities are presented in subsequent chapters.

3.2 2035 TRANSIT DEVELOPMENT PLAN

The 2035 TDP presents recommendations grouped according to their ability to “advance mobility objectives” in several different categories relating to service and facilities. These include the following:

- Local transit serving trips within cities;
- Regional transit serving trips between counties;
- Alternative (non-fixed-route) transit service; and
- Large regional transit facilities.

The five-year plan put forth in the 2035 TDP is based on the following general principles, objectives and assumptions:

- Continued operation of existing CTA services because “Ridership, system wide, continues to increase”;
- Improvement in service frequency to “bring more commuters in the region to transit, particularly as part of the regional response to rising gas prices and non-attainment” with regard to the new National Ambient Air Quality Standards (NAAQS) promulgated by the U. S. Environmental Protection Agency (EPA);
- Implementation of new bus technology by “expanding the number of flex-fueled and biofuel vehicles” in the fleet;
- Increased inter-county service, as well as service within counties between urban and rural areas, maintaining existing county-wide ADA paratransit operations and expanding the area covered by fixed-route transit service and complementary paratransit;
- Planning for an aging population and the projected impact of the postwar (“baby boom”) generation reaching retirement age;
- Continued coordination of planning efforts with human service transportation providers and patrons through the Accessible Transportation Advisory Committee;
- Consistency with local and regional long-range planning land-use elements as well as Title VI civil rights requirements; and
- Expanded marketing of transit “to take advantage of the increasing ridership.”

The 2035 TDP aimed “to take advantage of increasing ridership” during a period when transit patronage was growing in response

To the extent that some of these are based on assumptions about continuing increases in both transit ridership and the cost of gasoline, they need to be reexamined in light of the actual decline in ridership and collapse of gas prices that has taken place since the 2035 TDP was adopted.

Recommended Local Mobility Program

The 2035 TDP presents a five-year Local Mobility Program based on the then-current (2010) level of funding and operating costs. It recognizes that local funding sufficient to match projected Federal grant amounts must be provided through passenger fares and direct appropriations in order to achieve a fiscally constrained transit program. Potential deficits will have to be covered in one of three ways:

- Allocation of Surface Transportation Program funds by the Metropolitan Planning Organization, assuming a local sponsor is willing to provide the requisite match;
- New or increased city or county contributions
- Other sources including competitive grant programs, demonstration grants or additional funding provided by the state.

Hancock County

The recommended short-term (2011-2015) Local Mobility Program for Hancock County included the following elements:

- ADA Plus paratransit service provided countywide on designated days, possibly expanding to operate Monday-Friday. Implementation would require coordination with the appropriate Hancock County human services agency.
- Bay Saint Louis fixed-route transit service to be provided 5-6 days per week, up to 14 hours each day, operating on a 45-minute headway with ADA parallel paratransit service available within ¾-mile of the route.
- Extension of the Beachcomber route from Gulfport to Bay Saint Louis, service to be provided 5-6 days per week, up to 14 hours each day, operating on a 45-minute headway with ADA parallel paratransit service available within ¾-mile of the route.

The 2035 TDP

envisioned extending the Beachcomber to the west, connecting Gulfport to Long Beach, Pass Christian, Bay Saint Louis and eventually Waveland.

The last improvement listed would be located in both Hancock and Harrison counties—and would link four different cities (Gulfport, Long Beach, Pass Christian and Bay Saint Louis)—although the Local Mobility Program is generally comprised of projects planned within individual cities or counties.

Recommended mid-term (2016-2025) elements of the Local Mobility Program for Hancock County included the following:

- Extension of the Beachcomber from Bay Saint Louis to Buccaneer State Park, operating initially on a seasonal basis five days per week, up to 14 hours each day, on a 45-minute headway with ADA parallel paratransit service available within ¾-mile of the route.
- Diamondhead fixed-route service connecting to Bay Saint Louis, operating initially on a seasonal basis 5-6 days per week, up to 14 hours each day, on a 90-minute headway with ADA parallel paratransit service available within ¾-mile of the route.
- Possible expansion of the ADA Plus countywide paratransit service to operate Monday-Friday if warranted by demand.

Harrison County

The recommended short-term (2011-2015) Local Mobility Program for Harrison County included the following elements:

- Addition of a second vehicle for the ADA Plus countywide paratransit service.
- Popp's Ferry Road fixed-route service 5-6 days per week, up to 14 hours each day, operating on a 90-minute headway with ADA parallel paratransit service available within ¼-mile of the route.
- Intercity commuter express bus service between Gulfport and Biloxi, initially operating Monday-Friday during the peak travel periods (6-9 AM and 4-7 PM), with two vehicles running in opposing directions on 30-minute headways.
- Reconfiguration of Gulfport Route 37 between downtown Gulfport and the Crossroads Mall to allow a scheduled departure every 45 minutes.
- Implementation of the Gulfport employment shuttle with one vehicle circulating from the downtown transit terminal to major employment centers in the general vicinity on a 7.5-minute headway during the peak AM and PM and midday hours on weekdays.
- Implementation of the Mississippi Gulf Coast Coliseum circulator, linking the all-purpose arena and adjacent Convention Center to the Gulfport and Biloxi business districts, during conventions and special events, initially by the addition of a vehicle to the Beachcomber line.

The short-term program included a new Popp's Ferry route, express bus service between Gulfport and Biloxi, a downtown shuttle in Gulfport and a circulator serving the Coliseum and Convention Center area.

The recommended mid-term (2016-2025) Local Mobility Program for Harrison County included the following elements:

- Expansion of the Gulfport employment shuttle to provide all-day service on weekdays.
- Upgrading the Coliseum circulator to stand-alone service if warranted.
- Expansion of the ADA Plus countywide paratransit service if warranted

Jackson County

The recommended short-term (2011-2015) Local Mobility Program for Jackson County included the following elements:

- Implementation of ADA Plus countywide paratransit service, initially operating with one vehicle but expanding to employ a second if warranted by demand.
- Reduction of the interval between scheduled trips on the Ocean Springs Route 7 line to 45 minutes with one vehicle operating between downtown Biloxi and the Ocean Springs WalMart.
- Implementation of Pascagoula fixed-route service five days per week (six if warranted), up to 14 hours each day, with one vehicle operating on a 45-minute headway and ADA parallel paratransit service to be made available within ¼-mile of the route.
- Implementation of fixed-route service between Gautier and Pascagoula Monday-Friday, up to 14 hours each day, with one vehicle possibly operating on a demand-response basis at start-up converting to fixed-route service in the short or mid-term period, connecting to the Pascagoula route at a designated downtown location.

The recommended mid-term (2016-2025) Local Mobility Program for Jackson County included the following elements:

- Implementation of Moss Point fixed-route service 5-6 days per week, operating on a 45-minute headway up to 14 hours each day on a schedule allowing for direct transfer to the Pascagoula line, with ADA parallel paratransit service available within ¼-mile of the route.
- Conversion of Gautier-to-Pascagoula demand-response operation to fixed-route service five days per week (and possible expansion to six-day schedule), up to 14 hours each day, with ADA parallel paratransit available within ¼-mile of the route.
- Initiate expansion of countywide ADA Plus paratransit service to include additional vehicles and appointment windows based on documented insufficiency of vehicular capacity.

The mid-term program called for fixed-route service in Moss Point, a new line connecting Gautier to Pascagoula, and expansion of the countywide ADA-Plus paratransit service in Jackson County.

The 14 projects listed in the fiscally constrained five-year implementation plan for the period from 2011 through 2015 have a projected total annual operating cost of \$2,966,000 (see Table 3-1). Five of the projects were proposed for implementation by 2012. Another five were tentatively scheduled to be initiated in 2013. The four remaining projects were assigned a start date of 2015. The plan assumed 39 percent of the funding required to operate new or restructured transit service would come from Federal transit grant programs and that just under 26 percent would be covered by passenger fares or revenues available from other unspecified sources. The state contribution was set at a little less than seven percent, leaving a local requirement in excess of 28 percent. Summing up the situation, the author of the 2035

TDP notes, “Without an increase in local sponsorships, CTA’s current transit services will continue [to] operate only in those areas which can provide financial assistance to fund operations.”

In addition to the cost of operating proposed new service, the projects outlined in the five-year implementation plan would involve significant expenditures for equipment and facilities. The projected total capital cost amounted to \$3,868,000 for 14 new vehicles and transit stop improvements on four new routes (see Table 3-2). The lion’s share (80 percent) of the bill for capital acquisitions would be paid with Federal Transit Administration (FTA) assistance. However, the balance of \$773,600, representing the requisite 20-percent match, would fall on state and local governments.

Table 3-1:
2035 TRANSIT DEVELOPMENT PLAN PROJECTED ANNUAL OPERATING COSTS
FOR PROPOSED IMPROVEMENTS (2011-2015)

COUNTY PROJECT (YEAR OF IMPLEMENTATION)	ESTIMATED ANNUAL OPERATING COST SHARE BY SOURCE					ESTIMATED TOTAL COST
	Federal	State	Local	Fare Revenue	Other	
Hancock County						
ADA Paratransit Plus Service (2011)	\$74,880	\$67,392	\$0	\$42,240	\$7,488	\$192,000
Bay Saint Louis Fixed-Route (2013)	\$106,080	\$0	\$95,472	\$59,840	\$10,608	\$272,000
Extension of Beachcomber (2015) ¹	\$57,330	\$0	\$51,597	\$32,340	\$5,733	\$147,000
Hancock County Subtotal	\$238,290	\$67,392	\$147,069	\$134,420	\$23,829	\$611,000
Harrison County						
Popp's Ferry Road Fixed-Route (2012)	\$147,420	\$0	\$132,678	\$83,160	\$14,742	\$378,000
Intercity Commuter Express (2012)	\$99,060	\$0	\$89,154	\$55,880	\$9,906	\$254,000
ADA Paratransit Plus Service (2013)	\$74,880	\$67,392	\$0	\$42,240	\$7,488	\$192,000
Route 37 Headway Reduction (2013)	\$83,460	\$0	\$75,114	\$47,080	\$8,346	\$214,000
Coast Coliseum Circulator (2013)	\$17,550	\$0	\$15,795	\$9,900	\$1,755	\$45,000
Gulfport Employment Shuttle (2015)	\$43,680	\$0	\$39,312	\$24,640	\$4,368	\$112,000
Extension of Beachcomber (2015) ¹	\$133,770	\$0	\$120,393	\$75,460	\$13,377	\$343,000
Harrison County Subtotal	\$599,820	\$67,392	\$472,446	\$338,360	\$59,982	\$1,538,000
Jackson County						
ADA Paratransit Plus Service (2012)	\$74,880	\$67,392	\$0	\$42,240	\$7,488	\$192,000
Pascagoula Fixed-Route Service (2012)	\$80,730	\$0	\$72,657	\$45,540	\$8,073	\$207,000
Route 7 Headway Reduction (2013)	\$88,140	\$0	\$79,326	\$49,720	\$8,814	\$226,000
Pascagoula-Gautier Phase I (2015)	\$74,880	\$0	\$67,392	\$42,240	\$7,488	\$192,000
Jackson County Subtotal	\$318,630	\$67,392	\$219,375	\$179,740	\$31,863	\$817,000
TOTAL	\$1,156,740	\$202,176	\$838,890	\$652,520	\$115,674	\$2,966,000
PCT OF TOT	39.0	6.8	28.3	22.0	3.9	100.0

¹Multi-county project: Cost split between Hancock County (30 percent) and Harrison County (70 percent).

Recommended Regional Mobility Program

As stated in the 2035 TDP, “The mobility program includes a combination of capital and planning activities.” Generally speaking, Regional Mobility Program projects do not have route-specific applicability, supporting instead system-wide enhancements, facilities planning, corridor investigations or other broad initiatives. The short-term (2011-1015) Regional Mobility Program outlined in the 2035 TDP included the following projects:

- Alternatives Analysis for a regional mobility/transit corridor, including consideration of bus rapid transit (BRT) service, a streetcar operating on U. S. Highway 90 or other light-rail transit initiative to be undertaken in 2011 with earmarked funds appropriated by the United States Congress. *(Project listed in the Statewide Transportation Improvement Program.)*

Table 3-2:

2035 TRANSIT DEVELOPMENT PLAN PROJECTED CAPITAL COSTS FOR SHORT-TERM IMPROVEMENTS

COUNTY PROJECT (YEAR OF IMPLEMENTATION)	CAPITAL COST ITEM(S)	PROJECTED CAPITAL COST SHARE BY SOURCE			ESTIMATED TOTAL COST
		Federal	State	Local	
Hancock County					
ADA Paratransit Plus Service (2011)	1 Vehicle	\$72,000	\$18,000	\$0	\$90,000
Bay Saint Louis Fixed-Route (2013)	1 Vehicle, Stops	\$160,000	\$18,000	\$22,000	\$200,000
Extension of Beachcomber (2015) ¹	1 Vehicle, Stops	\$147,200	\$21,000	\$15,800	\$184,000
Hancock County Subtotal		\$379,200	\$57,000	\$37,800	\$474,000
Harrison County					
Popp's Ferry Road Fixed-Route (2012)	1 Vehicle, Stops	\$383,200	\$65,000	\$30,800	\$479,000
Intercity Commuter Express (2012)	2 Vehicles	\$800,000	\$200,000	\$0	\$1,000,000
ADA Paratransit Plus Service (2013)	1 Vehicle	\$72,000	\$18,000	\$0	\$90,000
Route 37 Headway Reduction (2013)	1 Vehicle	\$72,000	\$18,000	\$0	\$90,000
Coast Coliseum Circulator (2013)	1 Vehicle	\$317,600	\$70,000	\$9,400	\$397,000
Gulfport Employment Shuttle (2015)	1 Vehicle	\$368,000	\$70,000	\$22,000	\$460,000
Extension of Beachcomber (2015) ¹	1 Vehicle, Stops	\$344,000	\$49,000	\$37,000	\$430,000
Harrison County Subtotal		\$2,356,800	\$490,000	\$99,200	\$2,946,000
Jackson County					
ADA Paratransit Plus Service (2012)	1 Vehicle	\$72,000	\$18,000	\$0	\$90,000
Pascagoula Fixed-Route Service (2012)	1 Vehicle, Stops	\$142,400	\$18,000	\$17,600	\$178,000
Route 7 Headway Reduction (2013)	1 Vehicle	\$72,000	\$18,000	\$0	\$90,000
Pascagoula-Gautier Phase I (2015)	1 Vehicle	\$72,000	\$18,000	\$0	\$90,000
Jackson County Subtotal		\$358,400	\$72,000	\$17,600	\$448,000
TOTAL		\$3,094,400	\$619,000	\$154,600	\$3,868,000
PCT OF TOT		80.0	16.0	4.0	100.0

¹Multi-county project: Cost split between Hancock County (30 percent) and Harrison County (70 percent).

- Alternatives Analysis for a regional mobility/transit corridor, including consideration of bus rapid transit (BRT) service, a streetcar operating on U. S. Highway 90 or other light-rail transit initiative to be undertaken in 2011 with earmarked funds appropriated by the United States Congress. *(Project listed in the Statewide Transportation Improvement Program.)*
- Implementation of the CTA fare payment card in 2011. *(Project listed in the Statewide Transportation Improvement Program.)*
- CTA website upgrade in 2011.
- Development of strategies for addressing air quality non-attainment status, including ridesharing, alternative fuels, park-and-ride facilities and technological innovation. *(Project listed in the MPO Unified Planning Work Program).*
- Final determination regarding the feasibility of a Gulf Coast Attractions route.
- Hire CTA Mobility Manager.
- Conduct CTA Travel Voucher Program demonstration in Hancock County.
- Participate in regional planning initiative to develop a regional bicycle access program. *(Project listed in the MPO Unified Planning Work Program).*
- Conduct comprehensive transit market analysis.
- Evaluate and acquire sites for future park-and-ride facilities.
- Promote college and university participation in the regional carpool/vanpool program. *(Project listed in the MPO Unified Planning Work Program.)*
- Implement general public vanpool program between park-and-ride lots and transit centers.
- Construct Gulfport West Intermodal Center. *(Project listed in Statewide Transportation Improvement Program.)*
- Construct D'Iberville Transit Center. *(Project listed in Statewide Transportation Improvement Program.)*

The mid-term (2016-2025) Regional Mobility Program outlined in the 2035 TDP included two projects:

- Implementation of additional park-and-ride facilities.

- Implementation of the first phase of a regional mobility alternative in Harrison County (Gulfport to Biloxi).

The long-term (2026-2035) Regional Mobility Program outlined in the 2035 TDP included three projects:

- Implementation of the second phase of the regional mobility alternative in Harrison County and Jackson County (Biloxi to Pascagoula).
- Implementation of the third phase of the regional mobility alternative in Hancock and Harrison County (Gulfport to Bay Saint Louis).
- Implementation of the regional light-rail mobility alternative in all three counties.

Financial Implications of the Short-Term Plan

Consistent with FTA requirements the short-term component of the 2035 TDP was fiscally constrained, limiting programmed projects to those that could be funded with financial resources expected to be available during the five-year period from 2011 through 2015. However, as noted in the TDP, “Beyond this point, there are questions concerning the availability of funding. . . . A strategy to address funding needs over the long term has been introduced as part of the plan, but involvement of the business community, tourism sector, gaming, those working to attract part-time residents and retirees is needed in finding a palatable and supportable solution for dedicated transit funding.”

The financial plan assumed that fare revenues would maintain current levels at least until the end of the short-term planning period. It was also assumed that local funding would increase to 30 percent of the total operating budget by Year 5 (2015). No increase in state funding was anticipated given the unpredictability of support at that level. The continuing availability of FTA-administered grant assistance for capital and operating needs was treated as a given.

3.3 COASTAL CONVENIENCES: IT’S ABOUT ALTERNATIVES

In 2011 CTA commissioned assembly of an *Alternatives Analysis Study Initiation Package for the Federal Transit Administration* as a first step toward development of the *regional mobility alternative* programmed in the 2035 TDP. The proposed Alternatives Analysis Study which CTA sought FTA authorization to initiate was, in fact, the first item identified in the TDP description of the recommended Regional Mobility Program. The project was described in *Coastal Conveniences* in the following terms:



CTA proposes to implement a high quality transit service aimed at enhancing workplace transportation options, as well as support[ing] higher speed service along portions of two of its most heavily traveled and well developed fixed-routes: Route 34 (Pass Road) and the Beachcomber [US Highway 90].

The study corridor was chosen based on current levels of transit patronage as well as perceived opportunities for growth in ridership. The Beachcomber (Highway 90) and Route 34 (Pass Road) lines carry almost half of all CTA passengers patronizing regularly scheduled fixed-route transit service.

Study Corridor

The proposed Alternatives Analysis study corridor extends—from west to east—from the Naval Construction Battalion Center (NCBC) in Gulfport to downtown Ocean Springs. The study corridor is 18.5 miles long and 1.5 miles wide. Within those limits there are more than 55,000 residents representing 42 percent of the population of Gulfport, Biloxi and Ocean Springs combined. There are also more than 62,000 workers employed at jobs located within the same limits, representing 35 percent of total employment in the region. In addition to the NCBC, Keesler Air Force Base (KAFB) is within the study corridor. Major medical installations include Memorial Hospital Gulfport, Biloxi Regional Medical Center and the Veterans Administration Hospital. Nearly 5,000,000 tourists visit attractions within the corridor annually, including nine casinos, the 400,000-square-foot Convention Center and 24,780-square-foot Mississippi Gulf Coast Coliseum. There are 9,000 multifamily housing units and over 1,000,000 square feet of retail commercial space within the Edgewater district alone. There are also 22 roadway segments or intersections within the corridor that have been identified by the GRPC Congestion Management Plan as having congested traffic conditions.

The study proposal identified an 18.5-mile corridor, 1.5 miles wide, stretching from the Seabee base in Gulfport to downtown Ocean Springs.

Service Alternatives

The three service alternatives outlined in the proposal track portions of Route 34 (Pass Road) and the Beachcomber line (US 90). The descriptions that follow represent the routes that vehicles would take traveling from west to east:

Alternative 1 would begin at the NCBC in Gulfport and proceed in an easterly direction on 25th Street (Pass Road to the west of 25th Avenue); continuing on Pass Road to Rodenberg Avenue in Biloxi; turning south on Rodenberg to US 90, then east again on US 90, continuing to Washington Avenue in Ocean Springs.

Alternative 2 would begin at the NCBC and proceed in an easterly direction on 25th Street and Pass Road to Rodenberg Avenue in Biloxi; turning south on Rodenberg to Irish Hill Drive, then east again on Irish Hill to Porter Avenue; turning north on Porter to Howard Avenue, then east again

on Howard to Reynoir Street; turning south on Reynoir to US 90, then east again on US 90 and continuing to Washington Avenue in Ocean Springs.

Alternative 3 would begin at the NCBC and proceed in an easterly direction on 25th Street and Pass Road to Eisenhower Drive in Biloxi; turning south on Eisenhower to US 90, then east again on US 90, continuing to Washington Avenue in Ocean Springs.

Existing Service

At the time of the proposal fixed-route transit service was limited to five cities: Long Beach, Gulfport, Biloxi, D'Iberville and Ocean Springs. ADA-compliant parallel paratransit and countywide ADA Paratransit-Plus services were provided in Harrison and Jackson counties. Demand-response transportation for age-eligible older individuals was provided in Hancock and Harrison counties. Parking was provided for park-and-ride passengers at the transit centers in Gulfport and Biloxi, at the Edgewater Mall in Biloxi, and at selected beachside stations along US 90. Coast Commuter carpool and vanpool services were also available to any interested employers in the three coastal counties.

Passenger Survey Data

On-board passenger surveys administered in 2010 indicate 89 percent of fixed-route riders are either residents or military personnel assigned to Keesler Air Force Base. Only two-in-five passengers (41 percent) were employed and nearly half (49 percent) did not own a vehicle. Most were adults (72 percent) and paid full fare (70 percent). Three routes accounted for more than three-quarters of total system ridership: Pass Road (30 percent), the Beachcomber (18 percent) and the Casino Hopper (28 percent).

Survey results indicated nearly 60 percent of CTA passengers are not employed and just under 50 percent do not own a vehicle.

According to the proposal, "Higher fuel prices and increased employer sponsorship of vanpool programs through the CTA has resulted in development of a multi-state commuter choice program . . ." serving Stennis Space Center and Northrop Grumman Ship Systems (now Huntington Ingalls Industries) with approximately 40 vanpools originating in Louisiana, Mississippi, Alabama and Florida.

Other Factors

Other factors cited in the proposal included the level of transit dependency in the area; multimodal connections, including bicycle and pedestrian accommodations; the potential for transit-oriented development; support for local planning objectives; the need to reduce traffic congestion and maintain air quality; and the ultimate purpose of the project: Making transit competitive as a viable mode choice for commuters.

Methodological Approach

The methodological approach described for the Alternatives Analysis is consistent with procedures outlined in FTA guidance, including the identification of goals and objectives; specification of alternatives; screening of service alternatives; and the adoption of appropriate measures for eliciting and encouraging public involvement by all potentially interested or affected parties.

3.4 GETTING ON BOARD WITH COAST TRANSIT AUTHORITY

This report, prepared for CTA by Burk-Kleinpeter in 2012, presents an analysis of the existing funding situation for transit operations, identifying future needs and potential sources of new revenue to close a projected gap of approximately \$1.7 million per year.

Potential Sources of Dedicated Funding

Potential sources of additional revenue to support transit operations were identified by a local advisory committee consisting of business and government leaders. The advisory committee met four times to discuss their findings and develop recommendations. After considering several dozen conceptual proposals, committee members identified four potentially implementable revenue measures: Imposition of targeted court fees; a rental car surcharge; dedication of some portion of the revenue generated by gambling taxes; and an areawide tourism-based tax on sales in selected locations such as casino-based hotels and restaurants. Their deliberations resulted in the following findings:

- *Court Fees* – Adding a fee of \$135 to each suspension of a driver’s license would generate between \$1.217 million and \$1.391 million annually. This measure would require legislative authorization and coordination with the clerk of court in each jurisdiction.
- *Rental Car Fees* – Possibilities put forth by the committee included imposing a \$5 fee on each vehicle or charging a daily fee of \$3. A third option would be to impose a two-percent sales tax on rental-car transactions. Any one of these measures would require formal approval at the county level and could be expected to face stiff opposition from the rental-car industry.
- *Casino-Based Revenue* – Various fees and taxes are already imposed on an industry that has gross annual receipts in excess of \$1.6 billion. The committee considered imposition of an additional fee not feasible and recommended instead that the casinos served by the Casino Hopper be asked to provide the \$202,000 local match required to operate that line as a voluntary contribution in recognition of the service provided.

The analysis identified future funding requirements and considered potential sources of new revenue needed to close a projected shortfall of \$1.7 million.

- *Tri-County Tourism-Based Tax* – Partnering with other regional tourism initiatives to support a 2-percent sales tax on hotel and restaurant sales would establish a dedicated funding source for transit operations for the first time in CTA history. The committee estimated if CTA were to receive 25 percent of additional revenue generated by the sales tax that would represent approximately \$2.06 million annually for the support of transit operations. Local voter approval would be required and might be difficult to secure.

The advisory committee recommended that these four revenue measures, culled from 40 initially identified for consideration, be put forth for possible action but said other funding opportunities should remain under consideration.

4.0 TRANSIT SYSTEM OVERVIEW

Initially authorized by an act of the Mississippi Legislature in 1970, the Mississippi Coast Transportation Authority has been providing public transit service in the study area since 1974, operating under the name *Coast Transit Authority* (CTA) since 1992. The initiation of non-profit public transportation service on August 16, 1974 followed a period of more than three years during which no service was available. The previous operator, Municipal Transit Lines, Inc., had been unable to sustain privately provided service in the face of declining passenger revenues and the devastating loss of ridership following Hurricane Camille in August of 1969.

As a non-profit provider of public transportation in the three coastal counties of Mississippi, CTA is an independently managed public utility governed by a Board of Commissioners. The nine-member board includes appointees representing the City of Biloxi, City of Gulfport, City of D'Iberville, Harrison County and Jackson County. Day-to-day operations are the responsibility of an executive director and his staff. The administrative offices of the agency are located at 333 DeBuys Road in Gulfport. Vehicle maintenance and storage facilities are located adjacent to the administration building.



CTA Administrative Offices

CTA is the designated recipient of state and Federal funds for urban transit in the Gulfport-Biloxi and Pascagoula-Moss Point urbanized areas. Operations are also supported by four cities—Biloxi, Gulfport, D'Iberville and Ocean Springs—as well as Harrison County and Jackson County. There is no dedicated local source of funding, and the agency relies to a significant degree on Federal grants to acquire capital and sustain operations. The State of Mississippi also provides some assistance to supplement revenues generated by fares, advertising sales and other means. The Coast Commuter vanpool program is supported by user fees paid by passengers and participating employers, but these revenues are retained within the program and managed by the third-party vanpool provider, vRide.

CTA is one of seven paratransit service providers working together as Southern Mississippi Transit, a regional transportation coordination group set up by the Mississippi Department of Transportation (MDOT) under its statewide program for specialized transportation services. Participating organizations include service providers in Hancock, Harrison, Jackson and a dozen more southern Mississippi counties. Southern Mississippi Transit is one of six regional coordination groups in the state, each of which seeks to achieve the efficient use of available resources and optimal delivery of services in its respective region through a cooperative planning approach.

4.1 TRANSIT FACILITIES

CTA maintains downtown transit centers in both Gulfport and Biloxi, and most of its fixed-route transit lines terminate at one or the other of these facilities. The Gulfport Transit Center is located on 15th Street

at the corner of 21st Avenue, across the street from the Dan M. Russell Jr. United States Courthouse. The transit center includes a four-story parking garage with space for 450 vehicles, public restrooms and

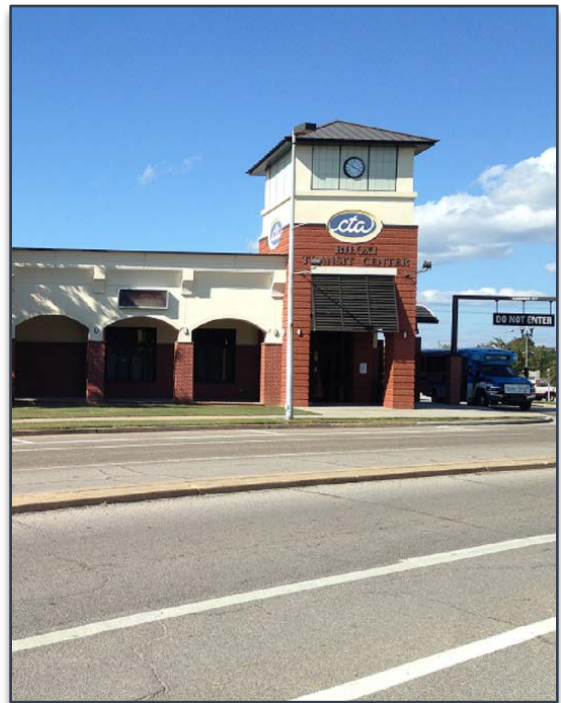


passenger lobbies. The facility is well-lit and monitored by video surveillance.

Ground-level parking is free of charge. Space on the upper levels is available for lease. Payment for self-service parking is made by means of a pay machine located in the ground-floor lobby. The Gulfport Transit Center is the hub for CTA fixed-route operations in the city, and all four routes in Gulfport are anchored on one end at the terminal.

Gulfport Transit Center (Left)

The Biloxi Transit Center is located on Martin Luther King Jr. Boulevard at the corner of Reynoir Street. A well-lit landscaped parking lot has space for 60 vehicles. The terminal building provides restrooms and lobbies for CTA patrons and also features retail commercial space currently occupied by a restaurant, a store selling Biloxi Shuckers baseball apparel and memorabilia, and a bicycle rental business. The facility is well-lit and monitored by video surveillance. Additional surface parking, amounting to several hundred spaces, is also available at no charge directly across the boulevard in the municipal parking lot. Martin Luther King Jr. Boulevard loops around the parking facility from Reynoir to Lameuse Street. Previously a four-lane thoroughfare with raised median, the street was restriped in 2015 to dedicate the outside lane on either side for bicycle use only. Thus the Biloxi Transit Center serves as a hub for not only regular bus service in the city but for the popular Bike 'n' Bus service as well. All routes in Biloxi, except Keesler Route 24, begin or end at the transit center. Keesler Route 24 buses run between the Air Force base and Edgewater Mall on Friday and Saturday only.



Biloxi Transit Terminal

A third transit center opened for business in 2015 on a triangular plot of ground between Church Avenue and Gorenflo Road, south of Rodriguez Street, in D'Iberville.

The facility supports service on the D'Iberville Route 4 line and serves as a transfer point for shuttle service to and from the nearby Scarlet Pearl Casino which opened for business in late 2015. In addition to ample surface parking the D'Iberville Transit Center, located almost directly across the street from the Town Green and Visitor Center, offers a large covered area to support festivals and other outdoor events.

In addition to the three transit centers, CTA has a major transfer facility located on the south side of the



D'Iberville Transit Center

parking garage at Edgewater Mall. Situated on Beach Boulevard (U.S. Highway 90) almost midway between the Gulfport and Biloxi transit terminals, Edgewater is not only a major attraction in its own right but provides an ideal location for linking bus lines that serve both cities. Buses operating on Beach Boulevard and Pass Road make intermediate stops at Edgewater, and the Keesler route is specifically designed to transport airmen from the base to the mall where they can transfer to one of the other bus lines.

CTA beachfront comfort stations have been constructed at four locations on the south side of U. S. Highway 90 (US 90) to replace facilities destroyed by Hurricane Katrina in 2005. The stations are located at Cleveland Avenue in Long Beach; 20th Avenue in Gulfport at the entrance to Jones Park; at Courthouse Road in Gulfport; and across from the Mississippi Coast Coliseum entrance in Biloxi. Paved parking lots are located immediately adjacent to the Courthouse Road and Cleveland Avenue facilities; there is abundant parking in close proximity to the 20th Avenue station at Jones Park; and beachfront parking spaces are provided on the seawall in the vicinity of the comfort station across Highway 90 from the Coliseum. All four comfort stations have public restrooms and were constructed in compliance with the stricter building codes adopted after Hurricane Katrina.



Buses queued at Edgewater Transfer Facility (Right)

There are 630 designated stop locations on CTA bus routes, all of them posted and many furnished with benches or passenger waiting shelters.

4.2 TRANSIT FUNDING

Although there is no dedicated local source of funding for the services provided by CTA, the four cities and two counties whose annual appropriations support transit operations collectively account for approximately 15 percent of the funds available to the agency (see Table 4-1). The total amount available to pay all CTA expenses incurred in Fiscal Year (FY) 2014—including capital, operating, administrative and other expenditures—was \$8.15 million. Of that total, a little more than \$1.21 million was provided by local sources.



CTA Beachfront Comfort Station at Cleveland Avenue in Long Beach

Over the past 10 years the Federal share made available through grants administered by the Federal Transit Administration (FTA) has averaged 60.5 percent of the total. The State of Mississippi has provided roughly seven percent, and 17.5 percent has come from other sources—principally revenue generated by user fees. However, the *other* category has exceeded that 10-year average in each of the last four years reported (2011-2014), accounting for as much as one-quarter of all funds in one year (2012).

A somewhat different picture emerges when one considers only those funds applied to the operating expenses incurred for services provided by CTA. Operations consume about 72 percent of agency funds: \$5 million a year over the past decade, rising to \$6 million annually over the last four years reported (see Table 4-2). Local contributions provided nearly 20 percent of the funding required for transit operations over the decade from 2005 through 2014, collectively exceeding \$1 million in each of the last five years. Fares covered 18.6 percent of operating expenses over the same period, generating \$1.2 million per year from 2009 through 2013. However, in 2014 fare revenues fell by more than half a million dollars. Federal grants cover more than half the operating cost for CTA services, state grants only about two percent. Funding from *other* sources—in this case a category that does not include revenues generated by user fees—represented 5.4 percent of all operating funds; but in 2014, when fare revenue fell to 13 percent, *other* revenue jumped to 15.

Table 4-1:
COAST TRANSIT AUTHORITY TOTAL FUNDING BY SOURCE: 2005-2014

FISCAL YEAR	SOURCE OF FUNDS				
	FEDERAL	STATE	LOCAL	OTHER	TOTAL
2005	\$2,717,901	\$334,258	\$1,040,035	\$845,265	\$4,937,459
2006	\$3,244,357	\$360,000	\$667,438	\$472,793	\$4,744,588
2007	\$3,205,640	\$480,000	\$1,193,078	\$931,375	\$5,810,093
2008	\$4,075,702	\$500,000	\$677,111	\$1,217,341	\$6,470,154
2009	\$7,221,097	\$523,850	\$901,375	\$1,363,007	\$10,009,329
2010	\$4,317,823	\$480,000	\$1,192,691	\$1,113,177	\$7,103,691
2011	\$3,801,136	\$480,000	\$1,056,544	\$1,318,319	\$6,655,999
2012	\$3,824,011	\$480,000	\$1,084,470	\$1,809,000	\$7,197,481
2013	\$4,840,801	\$480,000	\$1,132,009	\$1,481,572	\$7,934,382
2014	\$4,801,289	\$480,000	\$1,215,487	\$1,653,408	\$8,150,184
TOTAL	\$42,049,757	\$4,598,108	\$10,160,238	\$12,205,257	\$69,013,360
AVERAGE	\$4,204,976	\$459,811	\$1,016,024	\$1,220,526	\$6,901,336

FISCAL YEAR	PERCENTAGE DISTRIBUTION OF TOTAL FUNDING BY SOURCE: 2005-2014				
	FEDERAL	STATE	LOCAL	OTHER	TOTAL
2005	55.0	6.8	21.1	17.1	100.0
2006	68.4	7.6	14.1	10.0	100.0
2007	55.2	8.3	20.5	16.0	100.0
2008	63.0	7.7	10.5	18.8	100.0
2009	72.1	5.2	9.0	13.6	100.0
2010	60.8	6.8	16.8	15.7	100.0
2011	57.1	7.2	15.9	19.8	100.0
2012	53.1	6.7	15.1	25.1	100.0
2013	61.0	6.0	14.3	18.7	100.0
2014	58.9	5.9	14.9	20.3	100.0
AVERAGE	60.5	6.8	15.2	17.5	100.0

Source: U. S. Department of Transportation, Federal Transit Administration: National Transit Database (2015).

Capital expenditures vary from year to year but averaged \$1.89 million per annum between 2005 and 2014 inclusive (see Table 4-3). Of that total more than \$1.5 million was made available on an average annual basis by FTA. That represented nearly 75 percent of all capital funds. The State of Mississippi provided another 23 percent, local governments the balance of 2.4 percent. However, no local funds have been appropriated for transit capital expenditures since 2008; and no funds at all have come from *other* unspecified sources during the 10-year period examined. Of the \$50 million expended for operations, the bulk—\$34.75 million or nearly 70 percent—went to fixed-route transit service (see Table 4-4).

Table 4-2:
COAST TRANSIT AUTHORITY OPERATING FUNDING BY SOURCE: 2005-2014

FISCAL YEAR	SOURCE OF FUNDS					
	FARES	FEDERAL	STATE	LOCAL	OTHER	TOTAL
2005	\$687,932	\$1,649,293	\$67,106	\$1,040,035	\$157,333	\$3,601,699
2006	\$328,716	\$2,240,471	\$0	\$667,438	\$144,077	\$3,380,702
2007	\$701,580	\$2,192,048	\$0	\$760,976	\$229,795	\$3,884,399
2008	\$987,317	\$2,321,448	\$240,000	\$652,851	\$230,024	\$4,431,640
2009	\$1,153,232	\$2,432,900	\$122,500	\$901,375	\$209,775	\$4,819,782
2010	\$868,662	\$3,200,203	\$145,000	\$1,192,691	\$244,515	\$5,651,071
2011	\$1,140,163	\$3,441,527	\$170,000	\$1,056,544	\$178,156	\$5,986,390
2012	\$1,558,419	\$3,307,161	\$180,000	\$1,084,470	\$250,581	\$6,380,631
2013	\$1,281,624	\$3,173,357	\$266,510	\$1,132,009	\$199,948	\$6,053,448
2014	\$771,506	\$3,024,392	\$0	\$1,215,487	\$881,902	\$5,893,287
TOTAL	\$9,479,151	\$26,982,800	\$1,191,116	\$9,703,876	\$2,726,106	\$50,083,049
AVERAGE	\$947,915	\$2,698,280	\$119,112	\$970,388	\$272,611	\$5,008,305

FISCAL YEAR	PERCENTAGE DISTRIBUTION OF OPERATING FUNDING BY SOURCE: 2005-2014					
	FARES	FEDERAL	STATE	LOCAL	OTHER	TOTAL
2005	19.1	45.8	1.9	28.9	4.4	100.0
2006	9.7	66.3	0.0	19.7	4.3	100.0
2007	18.1	56.4	0.0	19.6	5.9	100.0
2008	22.3	52.4	5.4	14.7	5.2	100.0
2009	23.9	50.5	2.5	18.7	4.4	100.0
2010	15.4	56.6	2.6	21.1	4.3	100.0
2011	19.0	57.5	2.8	17.6	3.0	100.0
2012	24.4	51.8	2.8	17.0	3.9	100.0
2013	21.2	52.4	4.4	18.7	3.3	100.0
2014	13.1	51.3	0.0	20.6	15.0	100.0
AVERAGE	18.6	54.1	2.2	19.7	5.4	100.0

Source: U.S. Department of Transportation, Federal Transit Administration: National Transit Database (2015).

Paratransit operations consumed nearly 22 percent (\$10.88 million). The balance OF \$4.2 million went to vanpool operations which didn't actually get started until 2007. It should be noted that the operating expense totals by source in Table 4-2 and by mode in Table 4-4 do not agree in all cases. In fact, they differ somewhat for five of the 10 years for which data were extracted from the *National Transit Database* (NTD).

Table 4-3:
COAST TRANSIT AUTHORITY CAPITAL FUNDING BY SOURCE: 2005-2014

FISCAL YEAR	SOURCE OF FUNDS				
	FEDERAL	STATE	LOCAL	OTHER	TOTAL
2005	\$1,068,608	\$267,152	\$0	\$0	\$1,335,760
2006	\$1,003,886	\$360,000	\$0	\$0	\$1,363,886
2007	\$1,013,592	\$480,000	\$432,102	\$0	\$1,925,694
2008	\$1,754,254	\$260,000	\$24,260	\$0	\$2,038,514
2009	\$4,788,197	\$401,350	\$0	\$0	\$5,189,547
2010	\$1,117,620	\$335,000	\$0	\$0	\$1,452,620
2011	\$359,609	\$310,000	\$0	\$0	\$669,609
2012	\$516,850	\$300,000	\$0	\$0	\$816,850
2013	\$1,667,444	\$213,490	\$0	\$0	\$1,880,934
2014	\$1,776,897	\$480,000	\$0	\$0	\$2,256,897
TOTAL	\$15,066,957	\$3,406,992	\$456,362	\$0	\$18,930,311
AVERAGE	\$1,506,696	\$340,699	\$45,636	\$0	\$1,893,031

FISCAL YEAR	PERCENTAGE DISTRIBUTION OF TOTAL FUNDING BY SOURCE: 2005-2014				
	FEDERAL	STATE	LOCAL	OTHER	TOTAL
2005	80.0	20.0	0.0	0.0	100.0
2006	73.6	26.4	0.0	0.0	100.0
2007	52.6	24.9	22.4	0.0	100.0
2008	86.1	12.8	1.2	0.0	100.0
2009	92.3	7.7	0.0	0.0	100.0
2010	76.9	23.1	0.0	0.0	100.0
2011	53.7	46.3	0.0	0.0	100.0
2012	63.3	36.7	0.0	0.0	100.0
2013	88.6	11.4	0.0	0.0	100.0
2014	78.7	21.3	0.0	0.0	100.0
AVERAGE	74.6	23.1	2.4	0.0	100.0

Source: U. S. Department of Transportation, Federal Transit Administration: National Transit Database (2015).

Federal Funding

As indicated above, CTA relies heavily on transit assistance programs administered by FTA. A substantial majority of the funds used to buy and operate buses is supplied by Federal grants. Without that support public transportation in the Mississippi Gulf Coast area would almost certainly cease to exist. Funding for CTA capital and operating needs comes primarily from three Federal transit programs reauthorized by the *Fixing America's Surface Transportation Act* (FAST Act) adopted in December 2015:

Table 4-4:
COAST TRANSIT AUTHORITY OPERATING EXPENSES BY MODE: 2005-2014

FISCAL YEAR	DEMAND-RESPONSE	FIXED-ROUTE TRANSIT	COMMUTER VANPOOL	TOTAL ALL MODES
2005	\$1,072,517	\$2,529,182	NA	\$3,601,699
2006	\$852,884	\$2,527,818	NA	\$3,380,702
2007	\$906,748	\$2,836,487	\$141,164	\$3,884,399
2008	\$940,558	\$3,142,197	\$320,575	\$4,403,330
2009	\$1,067,676	\$3,502,498	\$309,570	\$4,879,744
2010	\$1,176,298	\$4,060,350	\$414,423	\$5,651,071
2011	\$1,347,592	\$4,061,917	\$576,881	\$5,986,390
2012	\$1,257,494	\$3,989,879	\$994,307	\$6,241,680
2013	\$1,145,046	\$4,082,184	\$780,198	\$6,007,428
2014	\$1,122,949	\$4,026,371	\$663,219	\$5,812,539
TOTAL	\$10,889,762	\$34,758,883	\$4,200,337	\$49,848,982
AVERAGE	\$1,088,976	\$3,475,888	\$525,042.13	\$4,984,898

FISCAL YEAR	PERCENTAGE DISTRIBUTION OF OPERATING EXPENSES BY MODE: 2005-2014			
	DEMAND-RESPONSE	FIXED-ROUTE TRANSIT	COMMUTER VANPOOL	TOTAL ALL MODES
2005	29.8	70.2	--	100.0
2006	25.2	74.8	--	100.0
2007	23.3	73.0	3.6	100.0
2008	21.4	71.4	7.3	100.0
2009	21.9	71.8	6.3	100.0
2010	20.8	71.9	7.3	100.0
2011	22.5	67.9	9.6	100.0
2012	20.1	63.9	15.9	100.0
2013	19.1	68.0	13.0	100.0
2014	19.3	69.3	11.4	100.0
AVERAGE	21.8	69.7	8.4	100.0

Source: U. S. Department of Transportation, Federal Transit Administration: National Transit Database (2015).

Section 5307 (Urbanized Area Formula Grants) provides funds to transit operators in urbanized areas for capital, planning, job access and reverse-commute projects. Section 5307 funds can also be used for operating expenses in certain circumstances. According to FTA, “These funds constitute a core investment in the enhancement and revitalization of public transportation systems in the nation’s urbanized areas, which depend on public transportation to improve mobility and reduce congestion.” Section 5307 funds may not be used to cover more than 80 percent of the cost of a capital project, unless a grantee is purchasing vehicle-related equipment necessary to comply with the *Americans with Disabilities Act* (ADA) or the *Clean Air Act* (CAA), in which case Federal funds may be applied to as much as 90 percent of the total cost. The Federal share may not exceed 50 percent of the net project cost for operating expenses.

Section 5310 (Enhanced Mobility of Seniors & Individuals with Disabilities) provides funds to states on a formula basis for the purpose of assisting private nonprofit groups in meeting the transportation needs of the elderly and persons with disabilities. Federal cost sharing under the Section 5310 program is limited to 80 percent for capital projects and 50 percent for operating expenses, with this one exception: The 10 percent of a grant provided for administrative use does not require any match.

Section 5339 (Bus and Bus Facilities) provides capital funding through a competitive process to states and transit agencies for the replacement or rehabilitation of rolling stock; for the purchase of new buses and related equipment; and for construction of bus-related facilities. The FAST Act added a Section 5339(a) grant program providing capital assistance in accordance with a statutorily established formula for the distribution of appropriated funds. Funds can be used for the same purposes as those made available under the competitive grant program, i.e., replacement, rehabilitation, purchase or construction. Section 5339 provides 80-percent Federal funding for capital projects, but the Federal share may be higher for projects related to ADA or CAA compliance, or for certain bicycle projects.

CTA has programmed approximately \$5.36 million per year, expected to be available from these programmatic sources, for expenditure during the period from 2016 through 2019 (see Table 4-5). More than 40 percent of that total would go to meet actual operating expenses for regularly scheduled fixed-route service. In excess of 20 percent would be used to cover costs for preventive maintenance. A little more than 15 percent would support paratransit operations; a little less than 15 percent would be applied to capital expenditures for the rehabilitation of facilities, acquisition of office equipment and computers, communications and fare collection equipment, revenue and support vehicles, shop tools and other maintenance items. The balance of considerably less than 10 percent would go for planning and

administrative services. Overall CTA has programmed just under \$3.05 million a year in local funds to match the Federal grants expected to be awarded for transit capital and operating projects in Hancock, Harrison and Jackson counties from 2016 through 2019. That represents approximately 36 percent of the anticipated total cost for transit capital and operating projects of \$8.41 million per year.



CTA Beachfront Comfort Station at 20th Avenue (Jones Park) in Gulfport (Left)

Table 4-5:

2016-2019 PROGRAMMED ANNUAL FEDERAL FUNDING FOR COAST TRANSIT AUTHORITY

PROGRAM	DESCRIPTION	ANNUAL AMOUNT PROGRAMMED ¹		
		FEDERAL	LOCAL	TOTAL
Section 5307	Operating Assistance	\$2,210,000	\$2,210,000	\$4,420,000
	Preventive Maintenance ²	\$1,140,000	\$285,000	\$1,425,000
	In-House Planning	\$300,000	\$75,000	\$375,000
	Computer Equipment	\$16,000	\$4,000	\$20,000
	Shop Equipment	\$16,000	\$4,000	\$20,000
	ADA Operating Expenses ³	\$320,000	\$80,000	\$400,000
	Associated Transit Improvements	\$40,000	\$10,000	\$50,000
	Facility Rehab and Renovations	\$160,000	\$40,000	\$200,000
	Office Equipment	\$8,000	\$2,000	\$10,000
	Fare Box Equipment	\$40,000	\$10,000	\$50,000
	Communication Equipment	\$80,000	\$20,000	\$100,000
	Support Vehicles	\$36,000	\$9,000	\$45,000
	JARC Purchased Transportation	\$365,000	\$0	\$365,000
	Mobility Manager - Outreach and Awareness	\$40,000	\$10,000	\$50,000
Section 5310	New Freedom Services	\$190,000	\$190,000	\$380,000
Section 5307/5339	Revenue Vehicles	\$400,000	\$100,000	\$500,000
TOTAL		\$5,361,000	\$3,049,000	\$8,410,000

¹Programmed amounts are for 2016, 2017, 2018 and 2019 respectively except where noted.

²Amounts programmed for 2016 are slightly lower than those listed for subsequent years: Federal amount is \$1,092,000; Local match amount is \$273,000; Total amount programmed is \$1,365,000.

³Amounts programmed for 2016 are slightly lower than those listed for subsequent years: Federal amount is \$300,000; Local match amount is \$75,000; Total amount programmed is \$375,000.

Source: Mississippi Department of Transportation, Statewide Transportation Improvement Program: 2015-2019.

4.3 SYSTEM PROFILE

Public transportation service of one kind or another is provided throughout all three Mississippi Gulf Coast counties. CTA fixed-route operations are largely limited to five incorporated municipalities: Gulfport, Biloxi and D'Iberville in Harrison County; Ocean Springs in Jackson County; and Bay Saint Louis in Hancock County. The notable exception is the D'Iberville route which extends into the unincorporated St. Martin area in Jackson County. The transit agency offers countywide demand-response paratransit service in Harrison County. The Hancock County Public Transportation System provides demand-response curb-to-curb service (door-to-door if needed) for the elderly and disabled and other residents of Hancock County. CTA operates the system under the name, *Hancock County Handy Ride Transportation Service*. In Jackson County the Civic Action Committee offers transportation services to individuals 60 years of age or older, including trips to shopping centers and medical facilities in the other Mississippi Gulf Coast counties. CTA's

Coast Commuter third-party vanpool program transports workers living in four different states to destinations in all three Mississippi Gulf Coast counties.

CTA provides regularly scheduled service on nine separate bus routes. All buses operating on fixed routes are handicapped-accessible in compliance with the ADA and feature front-end bicycle racks for the convenience of *Bike 'n' Ride* passengers. There are actually two distinct paratransit programs: The complementary ADA Paratransit operation offers curb-to-curb service on a demand-response basis for qualifying individuals living within three-quarters of a mile of a regular bus route. The ADA Paratransit-Plus service, provided by CTA under the terms of an agreement with the Harrison County Board of Supervisors, is available for use by senior citizens living anywhere in the county. The Coast Commuter service is oriented to very large employment sites where there are likely to be numerous workers who live in proximity to one another at considerable distance from the job location and are interested in joining together to reap the benefits of ridesharing.

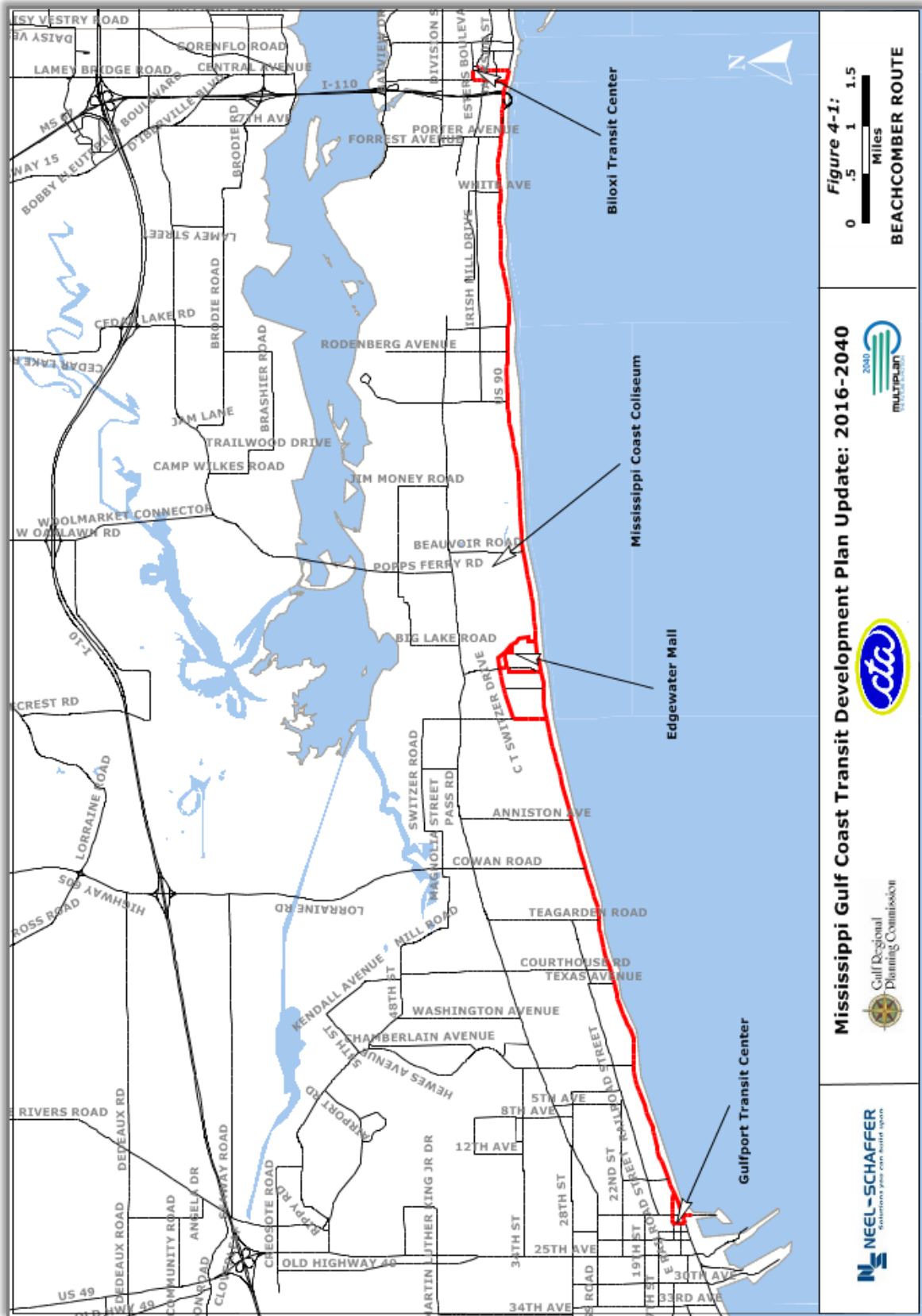
Fixed-Route Service

The standard adult fare for CTA fixed-route service is \$1.50 for a single ride. An individual with a Medicare card pays half-fare, as do senior citizens (60 years of age or older) and disabled individuals with identification cards provided by CTA at a cost of \$2.00 each. Anyone over 90 with a CTA identification card can ride free of charge; the same applies to children five or under. Discounts are also available for older children and public school students. Discounted monthly passes are available for senior citizens and disabled individuals for \$32.00 and for public school students for \$40.00. Others can purchase a 31-day pass, allowing an unlimited number of rides, for \$50.00. Daily passes, good for an unrestricted number of rides, can be purchased for \$6.00; and three-day passes cost \$14.00. The ADA Paratransit fare is \$2.00 for a single trip. CTA operates on a zone fare system: No free or reduced-fare transfers are allowed. Customers pay the appropriate fare when boarding and must pay an additional fare when crossing a zone boundary. Zone boundaries are located at the WalMart in Ocean Springs, at the transit centers in Gulfport and Biloxi, at Edgewater Mall, and at Grocery Depot on Dedeaux Road in Gulfport. CTA fixed-route bus lines include the following:

The Beachcomber is a beachfront bus line that attracts ridership among both visitors to the area and residents who live or work near the waterfront. Replica vintage trolleys travel on Beach Boulevard (Highway 90) between the Gulfport Transit Center on 15th Street at 21st Avenue and the Biloxi Transit Center on Dr. Martin Luther King Jr. Boulevard at Reynoir Street (see Figure 4-1).



CTA Clean Air Hybrid Electric Bus

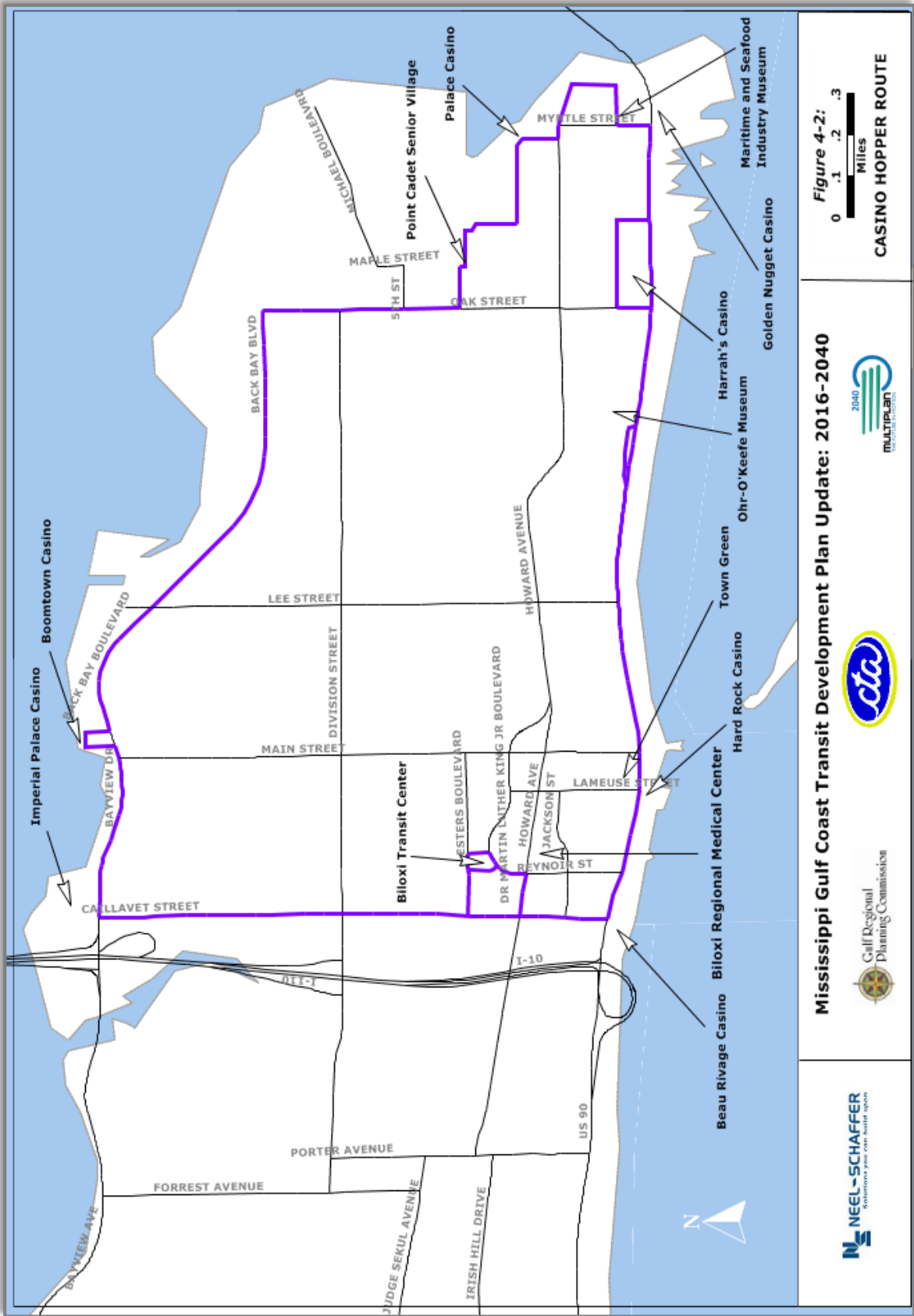


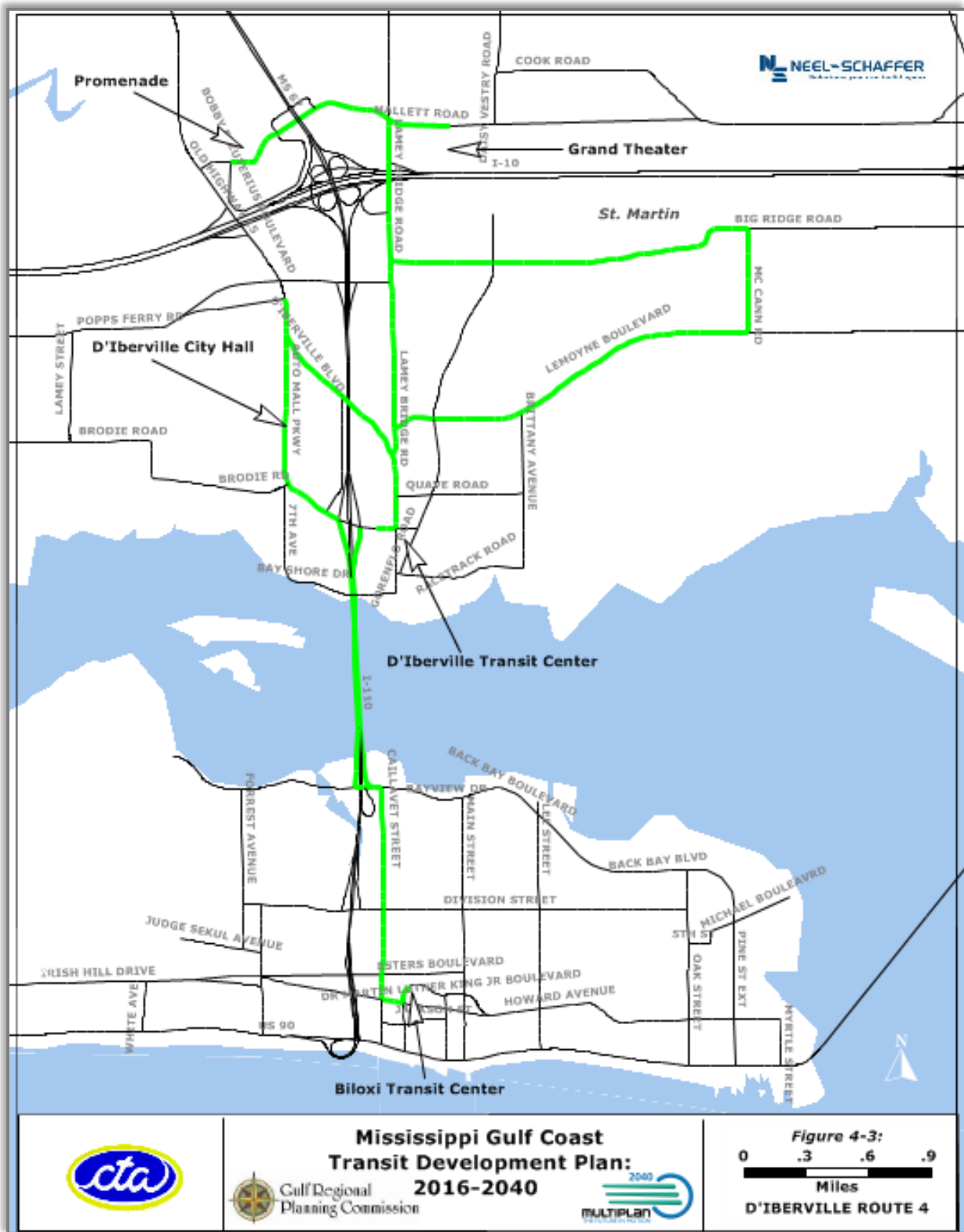
The distance between transit centers is just over 12 miles, but the Beachcomber route also includes an intervening loop in the vicinity of the Edgewater Mall, approximately midway between the start and end-points. Edgewater is a principal hub of the CTA system. Passengers can transfer from The Beachcomber to any one of six other CTA routes linked to one of the three transit centers or the hub at Edgewater Mall: D'Iberville Route 4, Ocean Springs Route 7, Pass Road Route 34, the Casino Hopper, Gulfport Route 37 or Gulfport Route 38. The Beachcomber operates on a 45-minute headway six days a week (Monday-Saturday) between the hours of 5:30 a.m. and 8:48 p.m.

The Casino Hopper is a two-way loop route located at the east end of peninsular Biloxi between I-110 and the Bay of Biloxi (see Figure 4-2). As its name implies, the line primarily serves visitors to the area and Mississippi Gulf Coast residents patronizing casinos located along the route. Replica vintage trolleys (*like the one shown blow right*) circulate around the periphery of the peninsula, beginning at the Biloxi Transit Center and proceeding in both clockwise and counter-clockwise directions along opposing six-mile paths that bring them back to the CTA facility. The principal streets traveled by the Casino Hopper are Caillavet Street, Bayview Avenue, Back Bay Boulevard, Oak Street and Beach Boulevard. Stop locations include casinos on the Mississippi Sound, Bay of Biloxi and Back Bay; Point Cadet Senior Village near the east end of the route; the Maritime and Seafood Industry Museum; and the Ohr-O'Keefe Museum. Biloxi Regional Medical Center is also located on the route. Passengers have the opportunity to transfer from The Casino Hopper to any one of the other four lines connecting to the Biloxi Transit Center: D'Iberville Route 4, Ocean Springs Route 7, Pass Road Route 34 or the Beachcomber. Buses run on 45-minute headways six days a week (Monday-Saturday) between the hours of 5:30 a.m. and 9:06 p.m.



D'Iberville Route 4 buses operate between the Biloxi Transit Center and the Promenade shopping center north of Interstate 10 (I-10). The route is somewhat circuitous north of the Back Bay of Biloxi, including two looping extensions, one within the limits of D'Iberville and the other diverging into the unincorporated St. Martin area in neighboring Jackson County (see Figure 4-3). The principal north-south roadways traveled by Route 4 buses include Caillavet Street in Biloxi; Interstate 110 (I-110) crossing the Back Bay to D'Iberville; Central Avenue, Lamey Bridge Road and Auto Mall Parkway in D'Iberville; and McCann Road in St. Martin. The principal east-west streets are LeMoyne Boulevard and Big Ridge Road in D'Iberville and St. Martin; and Sangani Boulevard, Promenade Parkway and Rodriguez Street in D'Iberville. Passengers can transfer at the Biloxi Transit Center to any one of the four previously identified bus routes linked to the same facility. Route 4 buses operate six days a week (Monday-Saturday) between 5:30 a.m. and 6:45 p.m. and on Sundays between 7:00 a.m. and 5:15 p.m. The lengthy route—a loop of almost 17 miles—requires a 90-minute headway between scheduled bus departures.

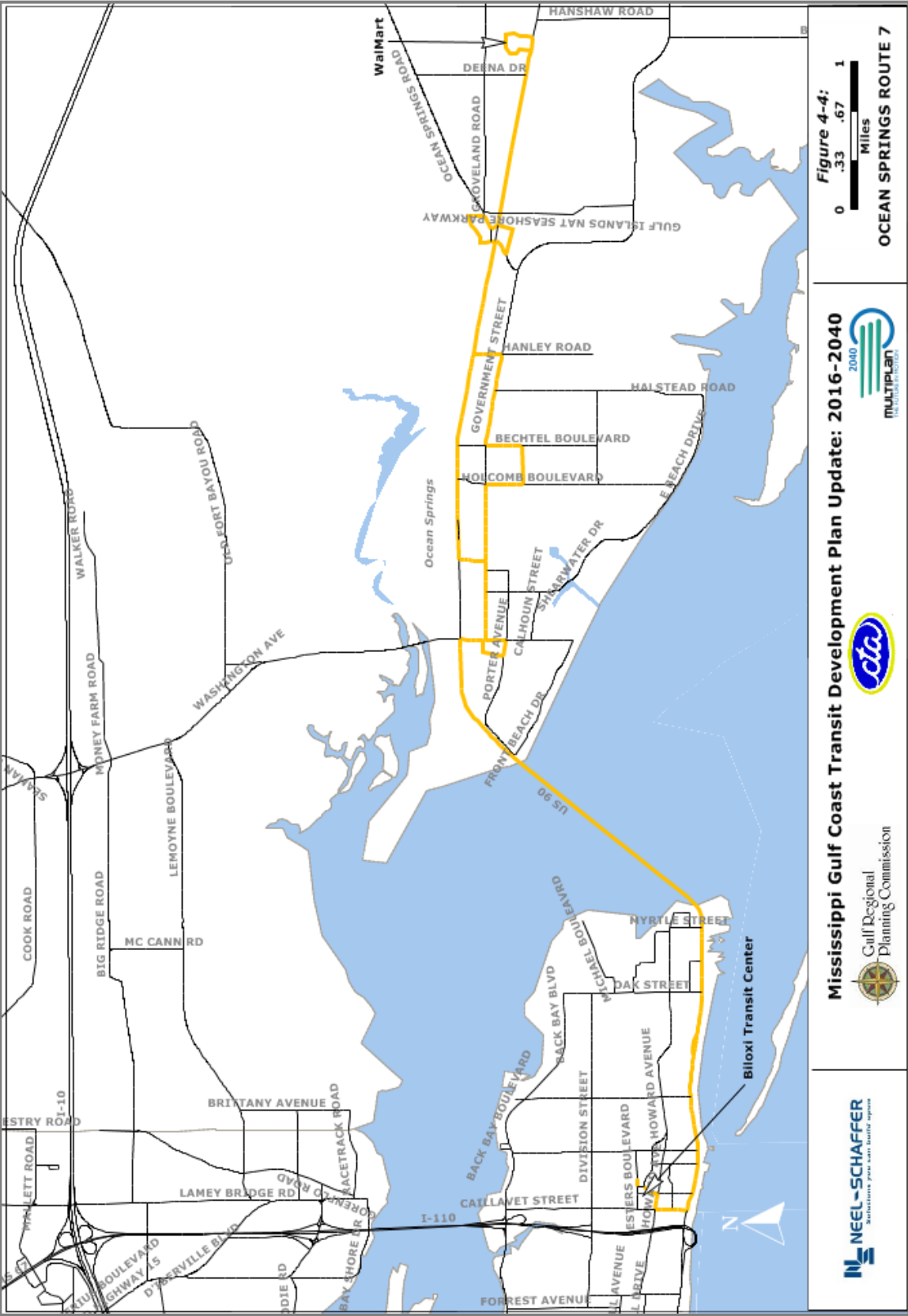


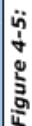


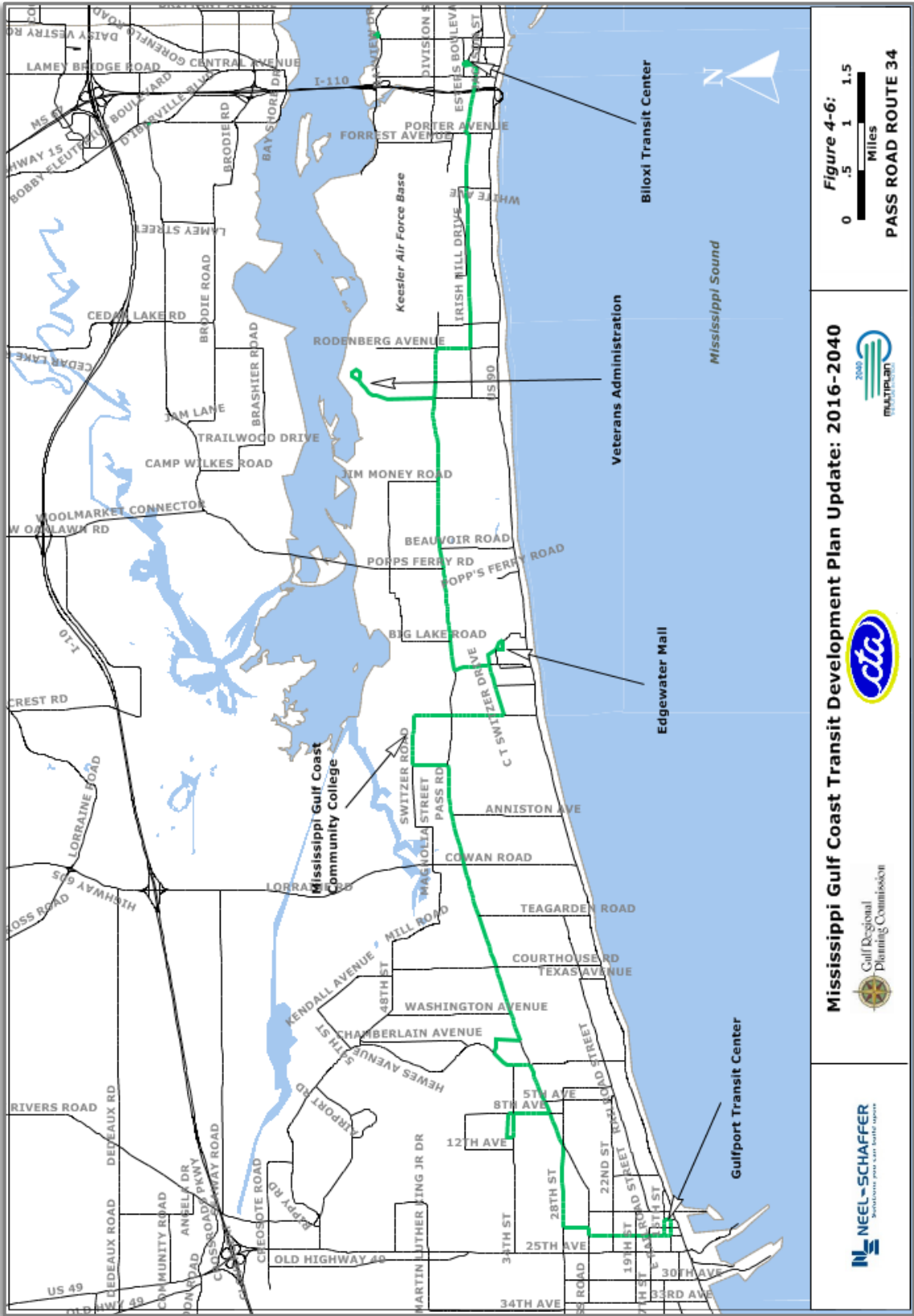
Ocean Springs Route 7 buses travel between the Biloxi Transit Center and the WalMart on Bienville Boulevard (US 90) in Ocean Springs, a distance of approximately nine miles. The eastbound route follows Highway 90 from Caillavet Street in downtown Biloxi to Washington Avenue in Ocean Springs. Arriving in Ocean Springs, buses make a loop around the business district via Washington, Porter Street, Jackson Avenue and DeSoto Street before proceeding east on Government Street (see Figure 4-4). The route diverges from Government at Holcomb Boulevard in order to incorporate a stop at the Westbrook Apartments, returning to Government Street via Bechtel Boulevard. At Hanley Road, eastbound buses turn north and return to Bienville Boulevard, continuing on US 90 to the end of the line at WalMart with an intervening route deviation at Ocean Springs Road to make a stop at America's Thrift Store. Westbound buses diverge from Bienville Boulevard at the same location in order to take on or discharge passengers at Ocean Springs Hospital. The route follows US 90 from there to Vermont Avenue, shifting from highway to parallel service road to make stops at the U. S. Post Office and Winn-Dixie, before turning south to Government Street. The rest of the route reverses the eastbound travel path, making the loop around the Ocean Springs commercial district, returning to US 90 via Washington Avenue and then proceeding across the Biloxi Bay and on to the Biloxi Transit Center. Passengers can transfer at the west end of the route to any one of the four other bus lines terminating at that location. Route 7 buses operate six days a week, providing service between 5:30 a.m. and 8:15 p.m. on weekdays and between 8:30 a.m. and 8:15 p.m. on Saturdays. Buses do not run on Sunday. The headway between scheduled departures at each end of the route is 90 minutes.

Keesler Route 24 provides targeted service between Keesler Air Force Base (KAFB) and Edgewater Mall six days a week, not including Saturday. The route consists of a five-mile stretch of Beach Boulevard with access at the west end to WalMart and the mall via WalMart Drive, C. T. Switzer Sr. Drive and Eisenhower Drive (see Figure 4-5). On the east end buses enter or exit the base at the White Avenue gate immediately north of Irish Hill Drive. Buses operate on two different schedules: On Fridays the first trip leaves Keesler at 5:30 p.m., and the last arrives at the base at 9:25 p.m. On the other five days (Sunday-Thursday) buses run from 10:30 a.m. until 9:25 p.m., departing from Keesler every hour on the half-hour, and from Edgewater every hour on the hour.

Gulfport-Biloxi Pass Road Route 34 buses operate between the Gulfport and Biloxi transit centers, traveling generally east or west on Pass Road, Irish Hill Drive and other similarly oriented streets, but with numerous deviations to the north or south along the way (see Figure 4-6). Route deviations in Gulfport occur at 8th Avenue, Hewes Avenue and Lindh Road. The first two involve side-trips to the north to serve apartment complexes, with buses looping back to continue traveling on Pass Road. But the diversion at Lindh separates the eastbound route from Pass Road for some distance. Buses headed for Biloxi turn east on Switzer Road to run along the southern edge of the Mississippi Gulf Coast Community College Jeff Davis Campus. At the east end of Switzer buses turn south, cross Pass Road and continue to C. T. Switzer Sr. Drive, turning east again there towards the Edgewater Mall. Leaving the mall, buses return to Pass Road via Eisenhower Drive. Near the east end of Pass Road, there is a major diversion to the north into the site occupied by the Veterans Administration. The east-west route transitions between Pass Road and Irish Hill Drive at Rodenberg Avenue and connects to the Biloxi Transit Center via Howard Avenue.





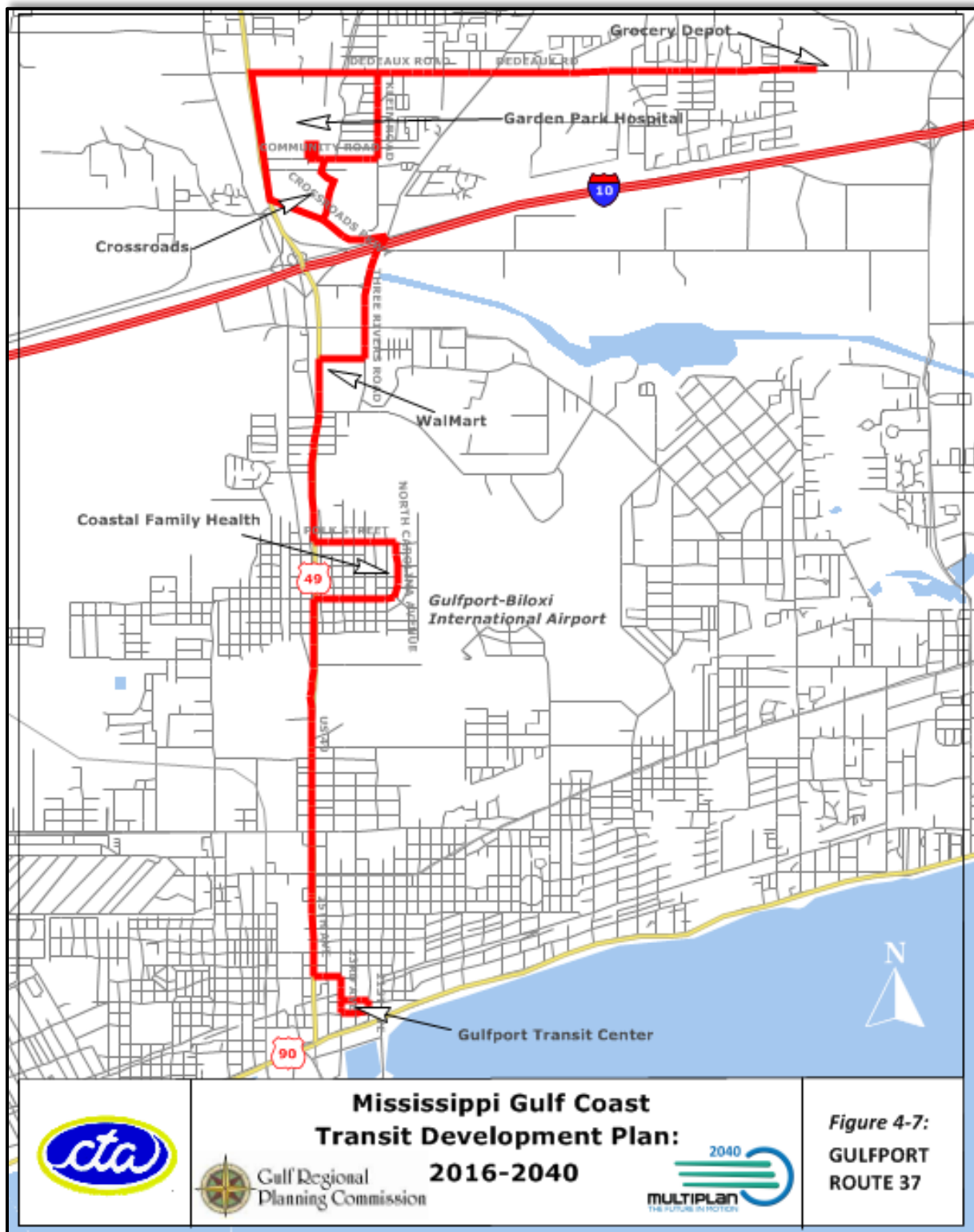


The various diversions from the main travel axis provide direct access to transit for passengers boarding or disembarking at the Sanderson Village Apartments, Bayou View Apartments and Mississippi Gulf Coast Community College in Gulfport; and at WalMart, Edgewater Mall and the Veterans Administration in Biloxi. The total length of the route, including side-trips, exceeds 18.5 miles. Less than half of that (a little more than seven miles) is actually located on Pass Road. A trip from one end of the route to the other takes one hour and 16 minutes. The total time consumed by a round-trip between transit centers (including a 14-minute layover at each end) is three hours; so four buses are required to provide service at 45-minute intervals from Monday through Saturday. On those days service begins at 4:39 a.m. and continues until 8:23 p.m.

Reduced service on Sundays operates on a split-route basis with two buses running between the Gulfport and Biloxi transit centers and one bus running between the Gulfport Transit Center and Edgewater Mall. Buses running the full route make the round-trip in 180 minutes, including 14 minutes of layover time built into the schedule. Buses running the half-route do so in 90 minutes, with a 14-minute layover scheduled at the Gulfport terminal between one-way trips. This results in an eastbound Route 34 bus leaving Gulfport every 45 minutes, with every third bus traveling only as far as Edgewater. Eastbound buses depart from Edgewater every 90 minutes. Westbound trips leaving the Biloxi Transit Terminal are also scheduled every 90 minutes. Westbound buses depart from Edgewater every 45 minutes. Sunday operations begin at 6:09 a.m. and end at 6:53 p.m. On weekdays passenger can transfer to the Beachcomber or to either one of the two Gulfport lines (Route 37 and Route 38) originating at the transit center in that city. At the Biloxi end of the line passengers can transfer to the Beachcomber, Casino Hopper, D'Iberville or Ocean Springs lines. On Sunday transfer opportunities are limited to two other routes operating on that day: Gulfport Route 37 on one end and D'Iberville Route 4 on the other.

Gulfport Route 37 runs between the Gulfport Transit Center and the Orange Grove area north of I-10, operating primarily on Highway 49. South of Interstate 10 the route diverges into the neighborhood east of US 49 between Martin Luther King Jr. Boulevard and Polk Street (see Figure 4-7). Northbound buses returning to the highway at Polk continue on US 49 as far as Middle Road, turning east at that point to stop at WalMart before proceeding once again in a northerly direction on Three Rivers Road. After passing under I-10, buses make a left turn onto Crossroads Parkway and traverse the shopping center to reach Garden Park Hospital on Community Road. Proceeding from Community Road to Dedeaux Road (via Klein Road) buses travel east for roughly 2.5 miles to the end of the northbound route at Grocery Depot.

The southbound route follows Dedeaux Road from Grocery Depot all the way to Highway 49. Turning onto the highway, southbound buses travel on US 49 as far as Crossroads Parkway, turning east there and running along the southern edge of the mall property to reach Three Rivers Road. From that point on the southbound route reverses the path traveled by northbound buses. The total distance traveled by northbound buses is 13 miles. The southbound route is slightly longer at 13.4 miles. A single bus provides service seven days a week, departing from the Gulfport Transit Terminal every 90 minutes. The scheduled round-trip travel time is 77 minutes with a 13-minute layover between one round-trip and the next. Buses operate between the hours of 5:30 a.m. and 6:47 p.m. six days a week (Monday-Saturday) and between the hours of 7:00 a.m. and 5:17 p.m. on Sunday. Connecting routes include The Beachcomber, Pass Road Route 34 and Gulfport Route 38.



Gulfport Route 38 features a trunk section and two separate legs served by a single bus, alternating between them, six days a week (Monday-Saturday). The trunk section connects the Gulfport Transit Center to the Island View Casino site just west of the downtown commercial district (see Figure 4-8). Trips originating at the transit center pursue a westerly path across downtown Gulfport on a succession of east-west streets (15th, 14th, 13th, 11th) and intervening north-south avenues (21st, 23rd, 24th and 30th). Commencing at the Island View, bus trips alternate between a southern Blue route and a northern Red route. The Blue route traverses the west side of the city on a dozen or more different streets south of the Naval Construction Battalion Center (NCBC), terminating at the William Bell Apartments near the southwest corner of the Seabee base. Memorial Hospital Gulfport is located on Broad Avenue in the middle of the Blue route.

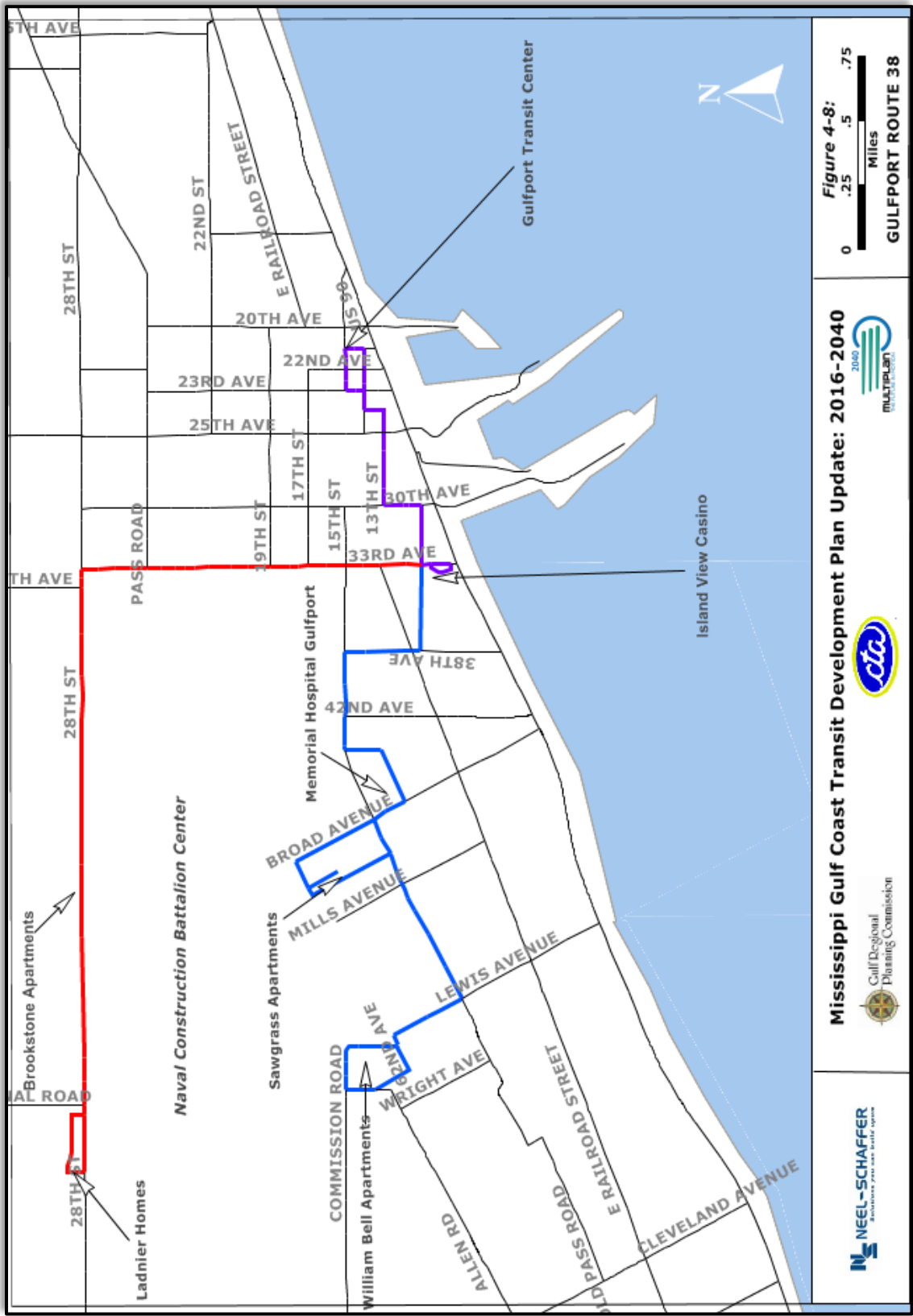
The Red route pursues a more direct course, following 33rd Avenue north from the Island View all the way to 28th Street. Turning west onto 28th Street, Red route buses continue to the end of the line at the Ladnier Homes, just past Canal Road near the northwest corner of the NCBC, before looping back to the east for the return trip to the transit center. Service begins on the Blue line at 5:30 a.m. and terminates at 6:07 p.m. The first trip scheduled on the Red line leaves the transit terminal at 6:15 a.m.; the last trip scheduled arrives at the same location at 6:52 p.m. Service is provided by a single bus which departs from the transit terminal every 45 minutes but alternates between the red and blue route legs. This results in a 90-minute headway between trips on each of the differentiated routes. Passengers can transfer to The Beachcomber, Route 34 or Route 37 at the transit center.

D'Iberville Route 8 - Coast Transit Authority also provides shuttle bus service on a short loop connecting the D'Iberville Transit Center to the nearby Scarlet Pearl Casino. Operating continuously with no set schedule, buses shuttle passengers from the transit terminal to the casino and from the casino to guest parking, valet parking and employee parking locations before returning to the terminal.

System Ridership

CTA ridership declined drastically in the aftermath of Hurricane Katrina which devastated not only homes and businesses but transportation infrastructure as well. The center of the storm made landfall at the west end of the study area on August 29, 2005, one month prior to the end of the 2005 operating year. The ensuing interruption of service resulted in an immediate and lasting loss of ridership and operating revenue. In the preceding operating year (2004) CTA had carried more than 51,000 passengers per month for a year-end total of 615,255 (see Table 4-6). The lost month at the end of Fiscal Year (FY) 2005 caused an immediate decline of 51,593 in total ridership for the operating year. In the following fiscal year (2006) ridership fell off another 159,000—an additional 28.2 percent—as the Mississippi Gulf Coast struggled to regain some semblance of normality.

CTA leaped to the forefront of relief efforts, getting buses back out on the streets as fast as they could be rebuilt or repaired, and providing free transportation to all in the time of need. A year after the hurricane recovery efforts were well underway; and CTA ridership recovered rapidly, rebounding by more than 26 percent in FY 2007. New service in Biloxi (the Casino Hopper) and Gulfport (Route 38), along with the initiation of Coast Commuter vanpool operations, pushed the total number of unlinked passenger-trips back over the half-million mark.



CTA experienced phenomenal growth in ridership (over 41 percent) in the 2008 operating year as the nation sank into recession. Major infrastructure repairs were completed, including the construction of new US 90 bridges across the Bay of Biloxi and Bay of Saint Louis; and in 2009 service on the beachfront highway finally resumed.

Despite service cutbacks necessitated by strained finances the following year, the number of riders on CTA buses, complementary paratransit vehicles and commuter service vans continued to climb steadily, exceeding one million in 2011 and each of the succeeding three years. However, ridership began to decline in FY 2014 and then fell off drastically in FY 2015 as the price of gasoline collapsed. Analysis has shown there is a strong correlation between transit ridership and the cost of fuel on the Mississippi Gulf Coast, as elsewhere, and CTA ridership is likely to remain depressed until the price drivers pay at the pump recovers somewhat.

Over the past two years the loss in total ridership exceeded 260,000 passengers, falling more than 23 percent from a system-record 1,139,302 in 2013 to fewer than 875,000 in 2015. Regular bus service was hit hardest, incurring a 27.6-percent loss in patronage over two years and accounting for 95 percent of the overall decline. Demand-response and vanpool patronage both peaked in 2012, registering combined ridership of 238,039 in that year. The combined figure for 2015 (212,137) was 10.9 percent lower. (Individual annual totals have not yet been released.)

Table 4-6:
COAST TRANSIT AUTHORITY TOTAL RIDERSHIP BY TYPE OF SERVICE: 2004-2015

TYPE OF SERVICE	OPERATING YEAR					
	2004	2005	2006	2007	2008	2009
Bus Transit	533,522	490,705	363,010	451,630	617,741	690,886
Demand-Response	81,733	72,957	41,636	42,780	43,319	47,222
Vanpool	--	--	--	17,010	61,447	105,574
TOTAL	615,255	563,662	404,646	511,420	722,507	843,682
<i>Year-to-Year Change</i>	--	-51,593	-159,016	106,774	211,087	121,175
<i>Percent Change</i>	--	-8.4	-28.2	26.4	41.3	16.8

TYPE OF SERVICE	OPERATING YEAR					
	2010	2011	2012	2013	2014	2015
Bus Transit	759,456	781,364	843,678	914,782	819,734	662,756
Demand-Response	53,862	54,575	63,132	52,029	48,533	44,769
Vanpool	133,017	177,080	174,907	172,491	156,440	167,368
TOTAL	946,335	1,013,019	1,081,717	1,139,302	1,029,450	874,893
<i>Year-to-Year Change</i>	102,653	66,684	68,698	57,585	-109,852	-154,557
<i>Percent Change</i>	12.2	7.0	6.8	5.3	-9.6	-15.0

Source: National Transit Database (2015); Coast Transit Authority (2015).

It is reasonable to infer that the demand for paratransit and vanpool service is less elastic than demand for fixed-route transit for various reasons: Many paratransit users are likely not to have the option of operating a private vehicle due to disability; others may simply prefer not to drive because of age. Vanpool riders typically travel longer distances commuting to work and, because they share the cost with other passengers, already pay significantly less than they would driving their own vehicles. The cost-sharing arrangement also makes it possible for vanpool participants to reap the benefits of lower fuel prices. Moreover, many vanpool commuters have made a commitment to ridesharing because they prefer to let someone else do the driving and appreciate the advantages of simply being a passenger. In addition to the benefits associated with the ride itself, vanpoolers do not have to worry about parking. Not having to find a good place to park every day can be a significant factor for someone choosing to rideshare who would otherwise have to compete with hundreds or even thousands of other workers for coveted space on a daily basis.

Fixed-Route Ridership

Monthly data for the eight regularly scheduled bus lines that have been operating continuously since 2010 indicate that, at the end of FY 2015, almost all had been steadily declining in ridership for nearly two years (see Table 4-7). The system's strongest line, Pass Road Route 34, attracted fewer riders in each of the 15 months (and 21 of the 22 months) prior to the end of the last fiscal year than were carried in the corresponding month one year before. Annual ridership peaked at over 280,000 passengers in 2013 but has since fallen off to less than 245,000, the lowest total since 2010. The second-most productive route, the Casino Hopper, experienced year-to-year monthly declines in each of the 20 months prior to September 30, 2015. Service cutbacks in March of 2014, necessary due to reduced public funding, were certainly a contributing factor.

Annual patronage was nearly halved from 260,000 in 2013 to 137,000 in 2015. The Beachcomber, also affected by service cuts in 2014, registered year-to-year monthly losses in 22 of the 23 months prior to the end of FY 2015. Annual ridership exceeded 140,000 in 2013 but in 2015 dropped off to less than 110,000 passengers. The other route included in the March 2014 service reductions, Keesler Route 24, was already in decline but lost the lion's share of its patronage in the month following the cuts. Annual ridership, which had already fallen from 33,000 in 2012 to 24,000 in 2013, fell by half in 2014 and was halved again in 2015.

Two routes connecting Biloxi to other nearby cities have also experienced significant reductions in ridership during the last two operating years. D'Iberville Route 4 suffered year-to-year monthly losses in 19 of the 21 months spanning the period from January 1, 2014 through September 30, 2015. FY 2015 ridership was nearly 12,000 below the peak annual figure of 44,403 recorded in 2013. Ocean Springs Route 7 actually showed gains in six of the last eight months in 2015, but annual ridership continued to fall, from 38,876 in 2013 to 32,158 two years later. Bucking the downward trend, the Gulfport lines fared surprisingly well in fiscal years 2014 and 2015. Gulfport Route 37 actually showed increases over the previous year in 15 of the last 16 months during that period. Moreover, annual ridership hit a new peak in 2015—45,373 passengers compared to 37,973 the year before and 39,384 the year before that. Gulfport Route 38 recorded increases in six of the 12 months in FY 2015, and for seven of the 12 months in FY 2014.

Table 4-7:

COAST TRANSIT AUTHORITY FIXED-ROUTE RIDERSHIP BY ROUTE AND MONTH FOR FY 2010 THROUGH 2015

FISCAL YEAR	MONTH (UNLINKED PASSENGER-TRIPS)												TOTAL
	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept	
Beachcomber Note: CTA reduced service on March 9, 2014.													
2010	9,615	8,897	7,960	8,300	8,318	10,750	11,300	10,556	11,061	11,944	12,206	11,760	122,667
2011	11,246	10,344	9,267	9,238	8,044	7,413	8,542	9,367	10,093	9,662	10,478	9,345	113,039
2012	8,827	8,775	8,850	9,078	9,523	10,361	10,909	11,321	11,246	10,773	10,222	11,017	120,902
2013	11,919	11,429	11,354	11,542	11,674	12,681	12,314	12,589	11,870	12,591	12,064	11,183	143,210
2014	11,941	10,742	10,536	10,451	10,890	10,059	9,713	9,454	9,277	10,342	10,194	9,341	122,940
2015	9,522	8,821	8,664	8,546	7,688	8,192	9,147	9,385	10,419	9,836	9,476	8,305	108,001
Casino Hopper Note: CTA reduced service on March 9, 2014.													
2010	20,692	17,975	13,433	14,380	15,373	19,722	20,689	19,000	19,208	21,333	20,231	19,536	221,572
2011	20,856	16,481	11,760	14,272	17,038	20,486	19,499	22,192	19,750	21,443	22,618	20,500	226,895
2012	21,654	18,459	16,078	17,985	18,712	22,796	22,134	22,560	23,894	23,532	18,908	20,746	247,458
2013	23,625	19,058	17,475	17,300	20,576	23,969	23,812	24,675	21,764	22,650	22,358	23,249	260,511
2014	26,840	20,240	16,103	17,353	19,705	21,376	19,027	19,514	18,316	14,866	17,693	18,270	229,303
2015	18,096	14,235	12,828	12,117	8,435	11,440	10,328	9,941	9,791	10,119	10,002	9,972	137,304
D'Iberville Route 4													
2010	2,946	2,615	2,704	2,666	2,484	2,728	2,631	2,478	2,694	2,716	2,961	2,975	32,598
2011	3,107	3,052	2,999	2,554	2,958	3,068	3,210	3,528	3,521	3,165	3,307	2,996	37,465
2012	3,418	3,326	3,612	3,345	3,279	2,868	3,190	3,250	3,111	2,980	3,079	3,184	38,642
2013	3,455	3,577	3,973	4,699	3,458	4,086	3,372	3,365	3,996	3,428	3,645	3,349	44,403
2014	3,611	3,630	4,072	4,186	3,281	3,096	3,083	2,573	2,308	2,561	2,811	2,517	37,729
2015	2,558	2,601	2,719	3,417	3,085	2,572	2,484	2,778	2,697	2,509	2,710	2,431	32,561
Ocean Springs Route 7													
2010	2,691	2,647	2,381	2,021	2,129	2,546	2,610	2,367	2,986	2,673	2,901	2,829	30,781
2011	2,780	2,445	2,483	2,462	2,453	2,859	3,065	2,965	3,135	2,794	3,156	2,905	33,502
2012	2,854	2,903	3,054	2,863	2,688	3,177	2,797	2,870	3,193	3,081	3,343	3,165	35,988
2013	3,840	3,361	3,211	3,310	3,072	3,469	3,403	3,203	3,181	2,897	3,173	2,756	38,876
2014	3,097	5,013	2,656	2,574	2,512	2,372	2,575	2,540	2,639	2,872	3,106	2,730	34,686
2015	2,857	2,343	2,471	2,378	2,584	2,650	2,691	2,848	2,902	2,822	2,859	2,753	32,158
Keesler Route 24 Note: CTA reduced service on March 9, 2014.													
2010	3,913	2,851	1,080	1,438	3,302	3,521	3,708	2,887	2,647	3,278	2,651	2,820	34,096
2011	2,237	1,931	1,281	1,071	2,608	5,897	3,341	3,024	2,992	3,186	2,876	3,375	33,819
2012	2,769	2,652	2,362	1,758	2,840	4,292	3,216	3,373	2,471	1,723	2,561	3,362	33,379
2013	2,593	2,775	1,948	1,599	2,279	2,778	1,934	1,501	1,759	1,579	2,002	1,414	24,161
2014	1,191	1,954	1,279	1,279	1,512	1,165	748	540	608	393	879	521	12,069
2015	763	819	386	325	469	300	434	659	499	428	679	420	6,181

Table 4-7 (Continued):
COAST TRANSIT AUTHORITY FIXED-ROUTE RIDERSHIP BY ROUTE AND MONTH FOR FY 2010 THROUGH 2015

FISCAL YEAR	MONTH (UNLINKED PASSENGER-TRIPS)												TOTAL
	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept	
Pass Road Route 34													
2010	22,742	20,021	19,014	19,141	17,351	19,315	18,049	17,895	17,999	17,383	18,096	18,981	225,987
2011	19,542	18,490	19,269	19,519	18,604	21,882	22,009	21,669	21,691	20,053	22,903	21,402	247,033
2012	22,280	20,832	21,339	22,314	21,106	22,238	20,212	20,914	21,809	21,819	21,245	21,668	257,776
2013	24,527	23,266	21,883	24,594	22,507	23,449	22,425	23,187	22,115	23,325	25,284	23,637	280,199
2014	25,547	23,817	22,215	22,171	22,152	22,359	21,556	20,793	22,531	22,453	22,709	21,728	270,031
2015	23,857	20,362	20,693	20,605	19,031	19,082	19,759	20,235	20,135	20,569	19,959	20,369	244,656
Gulfport Route 37													
2010	2,689	2,178	2,366	2,826	2,403	2,608	2,598	2,570	2,900	2,976	2,884	3,115	32,113
2011	2,884	2,581	2,585	2,358	2,489	2,922	3,054	2,808	3,050	2,629	3,454	2,985	33,799
2012	2,791	2,927	3,047	2,863	2,973	2,862	2,779	2,879	3,265	2,781	2,939	3,196	35,302
2013	3,363	3,255	3,201	3,426	2,934	3,285	3,296	3,564	3,081	3,179	3,680	3,120	39,384
2014	3,604	2,956	2,753	2,891	3,091	3,030	2,926	2,853	3,114	3,529	3,837	3,389	37,973
2015	3,510	2,959	3,197	3,522	3,682	3,622	3,964	4,207	4,162	4,392	4,169	3,987	45,373
Gulfport (Red/Blue) Route 38													
2010	1,530	1,320	1,307	1,277	1,321	1,356	1,195	1,236	1,488	1,370	1,341	1,352	16,093
2011	1,474	1,466	1,472	1,327	1,587	1,928	2,142	2,937	2,655	2,555	2,985	2,699	25,227
2012	2,728	2,491	2,619	2,506	2,357	2,477	2,555	2,596	2,865	2,659	3,072	2,982	31,907
2013	3,363	3,338	2,929	3,341	3,042	3,070	3,278	3,548	3,187	3,737	3,907	3,505	40,245
2014	3,833	3,286	3,135	3,309	3,231	3,310	3,448	3,301	3,189	3,485	3,617	3,576	40,720
2015	3,847	2,804	2,950	3,452	2,854	2,819	2,893	3,149	3,642	3,672	3,700	3,669	39,451
Totals for Existing Routes													
2010	66,818	58,504	50,245	52,049	52,681	62,546	62,780	58,989	60,983	63,673	63,271	63,368	715,907
2011	64,126	56,790	51,116	52,801	55,781	66,455	64,862	68,490	66,887	65,487	71,777	66,207	750,779
2012	67,321	62,365	60,961	62,712	63,478	71,071	67,792	69,763	71,854	69,348	65,369	69,320	801,354
2013	76,685	70,059	65,974	69,811	69,542	76,787	73,834	75,632	70,953	73,386	76,113	72,213	870,989
2014	79,664	71,638	62,749	64,214	66,374	66,767	63,076	61,568	61,982	60,501	64,846	62,072	785,451
2015	65,010	54,944	53,908	54,362	47,828	50,677	51,700	53,202	54,247	54,347	53,554	51,906	645,685
Percent Change from Preceding Year													
2010	--	--	--	--	--	--	--	--	--	--	--	--	--
2011	-4.0	-2.9	1.7	1.4	5.9	6.2	3.3	16.1	9.7	2.8	13.4	4.5	4.9
2012	5.0	9.8	19.3	18.8	13.8	6.9	4.5	1.9	7.4	5.9	-8.9	4.7	6.7
2013	13.9	12.3	8.2	11.3	9.6	8.0	8.9	8.4	-1.3	5.8	16.4	4.2	8.7
2014	3.9	2.3	-4.9	-8.0	-4.6	-13.0	-14.6	-18.6	-12.6	-17.6	-14.8	-14.0	-9.8
2015	-18.4	-23.3	-14.1	-15.3	-27.9	-24.1	-18.0	-13.6	-12.5	-10.2	-17.4	-16.4	-17.8

Source: Coast Transit Authority for monthly route ridership; calculations by Neel-Schaffer.

Annual ridership, which passed 40,000 in 2013, was slightly higher in 2014 and only slightly lower in 2015. Overall ridership for the eight routes totaled almost 871,000 in 2013 but fell off to 785,451 in 2014, then dropped even more precipitously to 645,685 in 2015. Aggregate fixed-route ridership was down from year to year in each of the 22 months from December of 2013 through September of 2015. The number of passengers carried on regularly scheduled buses fell by roughly 10 percent in 2014 and by approximately 18 percent in 2015.

Mid-year returns for FY 2016 are somewhat encouraging, suggesting as they do that the overall downward trend in ridership is slowing and may be reversed before the operating year is over. As the price of gasoline at the pump has inched up in recent months, transit ridership has improved on most CTA lines. Overall the number of passengers carried in 2016 is down 11.4 percent compared to the first six months in 2015 (see Table 4-8). However, most of that loss has been incurred on a single route. Ridership on the Casino Hopper is down 31,694 passengers for the period from October 1, 2015 through March 31, 2016. That represents 85.3 percent of the systemwide loss of 37,168 passengers. Three of the eight routes have actually recorded gains in the range of 8-10 percent. Losses on the other four all amount to less than 10 percent. Perhaps more importantly, most routes—and the system as a whole—showed significant improvement in February and March. If ridership continues to rebound during the second half of the operating year, it is possible that the total number of fixed-route passengers carried in 2016 will approach or even exceed the corresponding figure for the previous operating year.

Fixed-Route Operating Expenses

Data for the operating years from 2010 through 2013 show that during this growth period, as ridership was increasing steadily and fare revenues were rising, operating expenses remained relatively unchanged (see Table 4-9). The operating cost in 2012 was actually lower than in 2010 and 2011, and operating expenses in 2013 exceeded those in 2010 by only one-half of one percent. This was directly attributable to judicious paring of the system itself as well as daily operations: Route-miles were reduced by 13.3 percent, revenue-miles by 12.9 percent, and revenue-hours by 9.2 percent. Significantly, while fare revenue per passenger-trip actually declined slightly (two cents), the operating cost per trip went down every year—89 cents in all from 2010 to 2013—and the farebox recovery of cost increased from 16.2 percent to 18.7 percent. No doubt these numbers have been adversely affected by the decline in ridership since 2013, but data for 2014 and 2015 are not yet available from the National Transit Database.

Demand-Response Service

Three of the seven paratransit service providers affiliated with the Southern Mississippi Transit regional transportation coordination group operate demand-response systems in Mississippi Gulf Coast counties. The Jackson County Civic Action Committee (JCCAC) operates within Jackson County; Southern Mississippi Planning and Development District (SMPDD) has subcontractors in Harrison and Jackson counties; and Coast Transit Authority provides service in Hancock and Harrison counties.

Table 4-8:
FISCAL YEAR 2016 CTA FIXED-ROUTE RIDERSHIP BY MONTH (FIRST HALF-YEAR)

ROUTE	OCT	NOV	DEC	JAN	FEB	MAR	TOTAL
Beachcomber	8,838	8,329	9,020	7,908	8,078	8,329	50,502
Casino Hopper	9,252	6,790	6,667	7,027	7,430	8,291	45,457
D'Iberville Route 4	2,737	2,931	3,334	3,603	3,126	2,741	18,472
Ocean Springs Route 7	2,977	2,732	2,923	2,530	2,587	2,804	16,553
Keesler Route 24	661	660	261	353	389	433	2,757
Pass Road Route 34	20,428	19,177	19,998	18,676	19,011	18,838	116,128
Gulfport Route 37	4,115	3,771	3,754	3,515	3,745	3,615	22,515
Gulfport West Route 38	3,455	2,763	3,035	2,681	2,642	2,601	17,177
TOTAL	52,463	47,153	48,992	46,293	47,008	47,652	289,561
2015 Fixed-Route Ridership:							
ROUTE	OCT	NOV	DEC	JAN	FEB	MAR	TOTAL
Beachcomber	9,522	8,821	8,664	8,546	7,688	8,192	51,433
Casino Hopper	18,096	14,235	12,828	12,117	8,435	11,440	77,151
D'Iberville Route 4	2,558	2,601	2,719	3,417	3,085	2,572	16,952
Ocean Springs Route 7	2,857	2,343	2,471	2,378	2,584	2,650	15,283
Keesler Route 24	763	819	386	325	469	300	3,062
Pass Road Route 34	23,857	20,362	20,693	20,605	19,031	19,082	123,630
Gulfport Route 37	3,510	2,959	3,197	3,522	3,682	3,622	20,492
Gulfport West Route 38	3,847	2,804	2,950	3,452	2,854	2,819	18,726
TOTAL	65,010	54,944	53,908	54,362	47,828	50,677	326,729
Percent Change 2015 to 2016:							
ROUTE	OCT	NOV	DEC	JAN	FEB	MAR	TOTAL
Beachcomber	-7.18	-5.58	4.11	-7.47	5.07	1.67	-1.81
Casino Hopper	-48.87	-52.30	-48.03	-42.01	-11.91	-27.53	-41.08
D'Iberville Route 4	7.00	12.69	22.62	5.44	1.33	6.57	8.97
Ocean Springs Route 7	4.20	16.60	18.29	6.39	0.12	5.81	8.31
Keesler Route 24	-13.37	-19.41	-32.38	8.62	-17.06	44.33	-9.96
Pass Road Route 34	-14.37	-5.82	-3.36	-9.36	-0.11	-1.28	-6.07
Gulfport Route 37	17.24	27.44	17.42	-0.20	1.71	-0.19	9.87
Gulfport West Route 38	-10.19	-1.46	2.88	-22.33	-7.43	-7.73	-8.27
TOTAL	-19.30	-14.18	-9.12	-14.84	-1.71	-5.97	-11.38

(1) Ridership from October 1, 2014 through March 31, 2015.

Source: Coast Transit Authority; calculations by Neel-Schaffer, Inc.

JCCAC offers transportation services to individuals 60 years of age or older five days a week (Monday-Friday). The program strives to maintain the mobility and independence of aging Jackson County residents by providing access to available services in the community. The JCCAC demand-response transit operation enables elderly individuals to make trips necessary to obtain essential goods and services such as groceries, prescription medicines and medical care. In order to qualify for transportation services, an applicant must submit a completed Consumer Information Form issued by the Mississippi Department of Human Services (MDHS) Division of Aging and Adult Services.

SMPDD subcontracts with local transportation providers to make transportation available for eligible older individuals traveling to and from community resource sites for the purpose of obtaining needed goods and services. In order to qualify an individual must be at least 60 years of age and must not be a resident of a long-term care facility. Local partners include the Harrison County Senior Resources Agency and the Jackson County Civic Action Committee.

Table 4-9:
CTA BUS TRANSIT OPERATING DATA FOR FISCAL YEARS 2010 THROUGH 2013

DATA ITEM/STATISTIC	2010	2011	2012	2013
Passenger-Trips	759,456	781,364	843,678	914,782
Passenger-Miles	5,445,300	5,602,380	6,049,171	6,648,720
Fare Revenue	\$656,415	\$672,503	\$705,517	\$765,203
Operating Expenses	\$4,060,350	\$4,061,917	\$3,989,879	\$4,082,184
Directional Route Miles	205.4	174.5	178.0	178.0
<i>Average Trip Length (Miles)</i>	7.17	7.17	7.17	7.27
<i>Fare Revenue per Trip</i>	\$0.86	\$0.86	\$0.84	\$0.84
<i>Operating Cost per Trip</i>	\$5.35	\$5.20	\$4.73	\$4.46
<i>Revenue/Cost (Percent)</i>	16.2	16.6	17.7	18.7
<i>Revenue/Route-Mile</i>	\$3,195.79	\$3,853.89	\$3,963.58	\$4,298.89
Vehicle Revenue Miles	1,177,622	1,042,940	1,035,742	1,025,716
Vehicle Revenue Hours	81,094	68,677	74,105	73,603
Peak Vehicles in Service	18	15	17	17
<i>Passengers/Vehicle Mile</i>	0.64	0.75	0.81	0.89
<i>Passengers/Vehicle Hour</i>	9.37	11.38	11.38	12.43
<i>Fare Revenue/Vehicle Mile</i>	\$0.56	\$0.64	\$0.68	\$0.75
<i>Fare Revenue/Vehicle Hour</i>	\$8.09	\$9.79	\$9.52	\$10.40
<i>Operating Cost/Vehicle Mile</i>	\$3.45	\$3.89	\$3.85	\$3.98
<i>Operating Cost/Vehicle Hour</i>	\$50.07	\$59.15	\$53.84	\$55.46
<i>Revenue Vehicle Miles/Hour</i>	14.52	15.19	13.98	13.94

Source: National Transit Database (2015) for data; calculations by Neel-Schaffer, Inc.

CTA provides demand-response paratransit service in Harrison County and operates the HandyRide elderly-and handicapped transportation system in Hancock County. HandyRide service is available to any Hancock County resident with a disability or aged at least 60 years. CTA will transport a qualified individual to any destination within Hancock County. Fares vary according to trip length but average about four dollars. County residents can schedule a trip by appointment on either Tuesday or Thursday.

In Harrison County CTA offers two types of demand-response service. The first is the complementary parallel paratransit service offered along existing fixed-route bus lines as required under the *Americans with Disabilities Act* (Public Law 101-336, 104 Stat. 327). This ADA paratransit system offers qualified individuals demand-response curb-to-curb service within three-quarters of a mile of any established fixed-route transit line. The target population includes disabled individuals unable to use the regular handicapped-accessible fixed-route service. The second kind of demand-response service, ADA Paratransit-Plus, provides demand-response curb-to-curb service outside the three-quarter-mile buffer, throughout the county. Pick-ups for all paratransit operations are scheduled by appointment on a space-available basis. Customers must be certified for the regular ADA program. The standard fare for paratransit service is \$2.00, with an additional charge of \$2.00 imposed upon crossing from one zone into another.

Total ridership on demand-response vehicles operated by CTA averaged 64,000 passengers per year during the period from FY 2010 through FY 2012 (see Table 4-10). However, patronage fell off 18 percent in 2013 to just over 52,000. After averaging \$82,000 a year for three years, fare revenues were reduced by almost half in 2013. On the other hand, operating expenses were only down about nine percent. As might be expected, operating data for the CTA paratransit service vary considerably from year to year. For example, while the average trip-length for regularly scheduled bus service remained essentially unchanged from FY 2010 to FY 2013, the average trip by a paratransit passenger increased from 20 miles in 2010 to 32 miles in 2012. Operating revenues and expenses varied similarly. The demand-response service generates about 50 percent more in fare revenue per passenger-trip than does the regularly scheduled fixed-route bus service. However, the operating cost per passenger-trip is typically several times higher.

The operating cost per mile for paratransit vehicles is a little higher than the corresponding cost for buses running scheduled routes, but the cost per vehicle-hour is significantly lower. Presumably this is because paratransit vehicles spend less time actually underway (i.e., burning fuel) and more time boarding and disembarking passengers than do regular transit service coaches. Although the average fare collected from paratransit passengers was as much as 50 percent higher during the period studied, the annual fare recovery-of-cost rate was more than 50 percent lower every year compared to fixed-route service.

Commuter Vanpool Service

Commuter vanpool service is provided by CTA on a *purchased transportation* basis. The program is equipped and managed by vRide, a company that has provided third-party vanpool services for over 30

years. The *Coast Commuter* program offers ridesharing services to all interested employers located in the study area. The service has been of particular benefit in areas of very high employment concentration such as Ingalls Shipyards in Jackson County and the Stennis Space Center in Hancock County. There are now more than 40 vanpools, serving workers from four different states travelling to work sites on the Mississippi Gulf Coast. Vanpool riders share the cost of the commute on a monthly basis and provide drivers from among their numbers. The vans are furnished and maintained by vRide.

Both fare revenues and operating expenses associated with the Coast Commuter program fluctuated considerably in the operating years from 2010 through 2013. While average trip length varied only about 15 percent between the low in 2010 (43.73 miles) and the high in 2012 (50.53 miles), the average fare was less than \$1.00 in 2010 and more than \$4.00 in 2012 (see Table 4-11). Similarly, the operating cost per passenger-trip was \$3.05 in 2010 and \$5.68 in 2012.

Table 4-10:**CTA DEMAND-RESPONSE TRANSIT OPERATING DATA FOR FISCAL YEARS 2010 THROUGH 2013**

DATA ITEM/STATISTIC	2010	2011	2012	2013
Passenger-Trips	61,222	67,138	63,763	52,029
Passenger-Miles	1,276,529	1,763,864	2,040,426	1,681,577
Fare Revenue	\$84,500	\$83,676	\$78,226	\$42,470
Operating Expenses	\$1,176,298	\$1,347,592	\$1,257,494	\$1,145,046
<i>Average Trip Length (Miles)</i>	20.85	26.27	32.00	32.32
<i>Fare Revenue per Trip</i>	\$1.38	\$1.25	\$1.23	\$0.82
<i>Operating Cost per Trip</i>	\$19.21	\$20.07	\$19.72	\$22.01
<i>Fare Revenue/Cost (Percent)</i>	7.2	6.2	6.2	3.7
Vehicle Revenue Miles	316,711	336,101	266,373	270,527
Vehicle Revenue Hours	27,900	30,125	26,175	24,739
Peak Vehicles in Service	14	15	13	14
<i>Passengers/Vehicle Mile</i>	0.19	0.20	0.24	0.19
<i>Passengers/Vehicle Hour</i>	2.19	2.23	2.44	2.10
<i>Fare Revenue/Vehicle Mile</i>	\$0.27	\$0.25	\$0.29	\$0.16
<i>Fare Revenue/Vehicle Hour</i>	\$3.03	\$2.78	\$2.99	\$1.72
<i>Operating Cost/Vehicle Mile</i>	\$3.71	\$4.01	\$4.72	\$4.23
<i>Operating Cost/Vehicle Hour</i>	\$42.16	\$44.73	\$48.04	\$46.29
<i>Revenue Vehicle Miles/Hour</i>	11.35	11.16	10.18	10.94

Source: National Transit Database (2015) for data; calculations by Neel-Schaffer, Inc.

Table 4-11:
COAST COMMUTER OPERATING DATA FOR FISCAL YEARS 2010 THROUGH 2013

DATA ITEM/STATISTIC	2010	2011	2012	2013
Passenger-Trips	135,846	178,085	174,935	172,491
Passenger-Miles	5,940,483	7,857,440	8,840,108	7,902,991
Fare Revenue	\$127,747	\$383,984	\$774,676	\$473,951
Operating Expenses	\$414,423	\$576,881	\$994,307	\$780,198
<i>Average Trip Length (Miles)</i>	43.73	44.12	50.53	45.82
<i>Fare Revenue per Trip</i>	\$0.94	\$2.16	\$4.43	\$2.75
<i>Operating Cost per Trip</i>	\$3.05	\$3.24	\$5.68	\$4.52
<i>Fare Revenue/Cost (Percent)</i>	30.8	66.6	77.9	60.7
Vehicle Revenue Miles	1,095,268	1,117,859	1,034,590	983,463
Vehicle Revenue Hours	17,337	20,613	20,377	19,582
Peak Vehicles in Service	42	48	47	46
<i>Passengers/Vehicle Mile</i>	0.12	0.16	0.17	0.18
<i>Passengers/Vehicle Hour</i>	7.84	8.64	8.58	8.81
<i>Fare Revenue/Vehicle Mile</i>	0.12	0.34	0.75	0.48
<i>Fare Revenue/Vehicle Hour</i>	7.37	18.63	38.02	24.20
<i>Operating Cost/Vehicle Mile</i>	0.38	0.52	0.96	0.79
<i>Operating Cost/Vehicle Hour</i>	23.90	27.99	48.80	39.84
<i>Vehicle Revenue Miles/Hour</i>	63.18	54.23	50.77	50.22

Source: National Transit Database (2015) for data; calculations by Neel-Schaffer, Inc.

Fare revenues and operating expenses per vehicle-mile and vehicle-hour also varied widely from year to year. Vehicle revenue miles and hours peaked in 2011 when 48 vehicles were in service daily. Average ridership increased from a little less than eight passengers per vehicle-hour in 2010 to nearly nine in 2013. While data for the last two operating years are not yet available, they can be expected to show a decline in average operating expense due to lower fuel costs.

5.0 NEEDS ANALYSIS

The development of recommendations for updating the 2035 Transit Development Plan (TDP) relied on analysis of Coast Transit Authority (CTA) operations and funding over the five-year period since adoption of the previous plan and input from stakeholder groups and the general public. The goals and objectives adopted for maintaining, improving and expanding transit service in the region were previously presented in Chapter 3. Public involvement is discussed in Chapter 6. The present chapter identifies the principal issues affecting transit service in the Mississippi Gulf Coast area, provides a summary overview of the needs CTA seeks to address in planning future operations, and describes the analytical approach adopted for identifying and evaluating unmet needs.

While particular emphasis is afforded the short-term element of the program, covering the five-year period from 2016 through 2020, appropriate attention is also given the mid-range (2021-2030) and long-range (2031-2040) implementation stages. The overarching purpose of the program is to establish the basis for continuing growth and development, over the next 25 years, of a transit system that not only survived Hurricane Katrina in 2005 but has grown and prospered over the decade since that catastrophe.

5.1 TRANSIT FUNDING

The primary issue with respect to public transportation on the Mississippi Gulf Coast is the lack of a stable and sufficient source of funding for transit operations. During the period from 2010 through 2013, the share of CTA fixed-route transit operating expenses covered by fare revenues increased steadily, topping out at a little less than 19 percent. Of nine transit systems in Mississippi, Alabama and Louisiana with service area population between 50,000 and 200,000, only the City of Monroe did better than 19 percent in 2013, with a 19.8 percent fare recovery rate (see Table 5-1). The median value was 12 percent.

Table 5-1:

COAST TRANSIT AUTHORITY FARE RECOVERY COMPARED TO OTHER SYSTEMS IN TRI-STATE REGION

SYSTEM	URBANIZED AREA (UZA)	SERVICE AREA POPULATION	FARE REVENUE	OPERATING EXPENSES	PCT FARE RECOVERY
Coast Transit Authority	Gulfport MS	113,222	\$765,203	\$4,082,184	18.7%
Hub City Transit	Hattiesburg MS	51,084	\$31,526	\$867,600	3.6%
City of Jackson Transit	Jackson MS	173,514	\$529,954	\$3,125,387	17.0%
Tuscaloosa County Park & Transit	Tuscaloosa AL	136,487	\$151,386	\$1,257,289	12.0%
City of Huntsville AL Public Transit	Huntsville AL	127,000	\$246,903	\$2,084,007	11.8%
City of Alexandria	Alexandria LA	62,924	\$434,767	\$2,304,265	18.9%
City of Monroe Transit System	Monroe LA	50,000	\$858,545	\$4,327,135	19.8%
Lafayette Transit System	Lafayette LA	148,843	\$528,435	\$4,736,618	11.2%
Terrebonne Consolidated Govt	Houma LA	82,803	\$120,673	\$1,688,608	7.1%

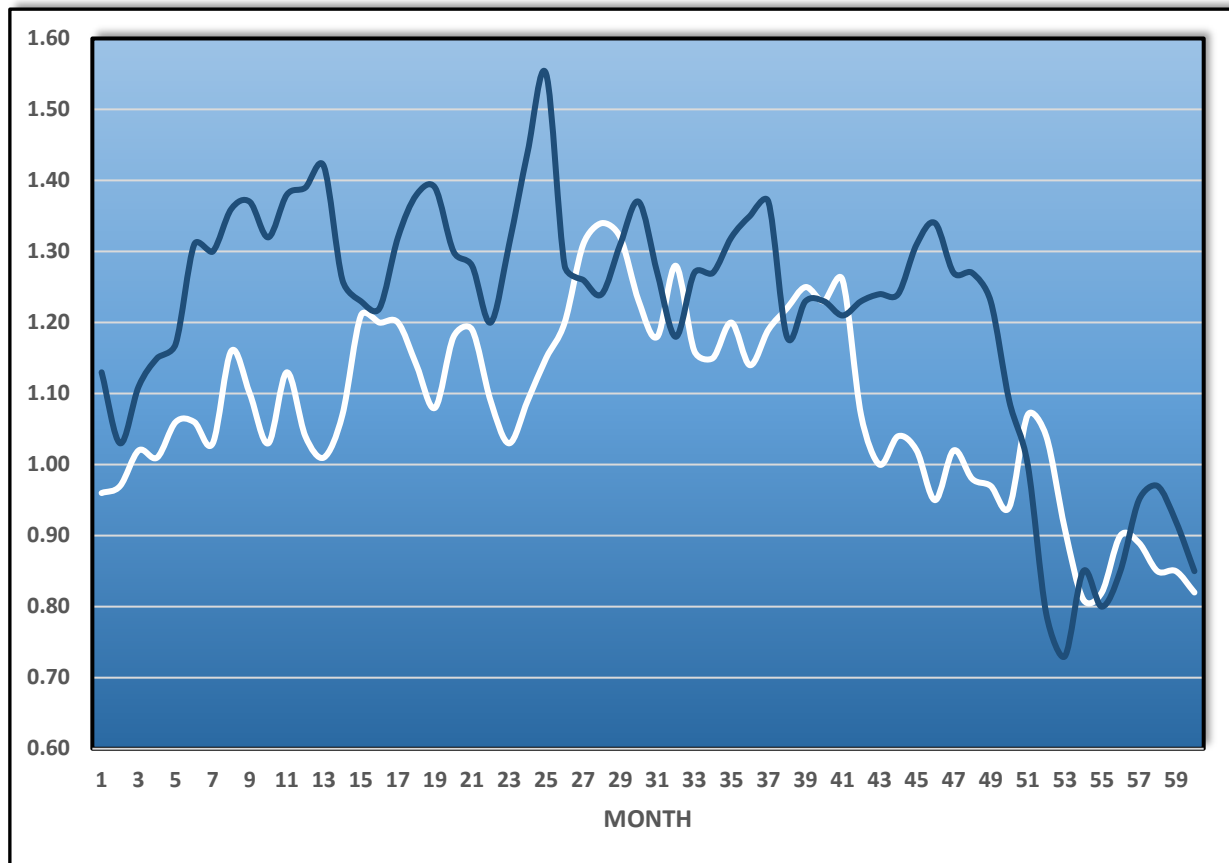
Note: Survey included all systems in Alabama, Louisiana and Mississippi with service area population equal to at least 50,000 but less than 200,000.

Source: National Transit Database (2015) for data; calculations by Neel-Schaffer, Inc.

The fact that CTA has done so well at recovering costs through fare revenues, compared to other operators in Mississippi and adjoining states, suggests that there is not much more that can be done to improve a well-designed and well-managed operation. Nevertheless, there are always steps that can be taken to make the system even better, and perhaps there are things that must be done in order to maintain the present level of performance.

While financial data for 2014 are not yet available from the *National Transit Database* (NTD), it is apparent that since 2013 ridership and fare revenues have been adversely affected by the collapse of oil prices and resulting low cost of gasoline to the consumer (see Figure 5-1). Ridership on regularly scheduled CTA routes was down by more than 95,000 passengers from 2013 to 2014 and fell almost 157,000 in the 2015 operating year.

Figure 5-1:
CTA FIXED-ROUTE RIDERSHIP BY MONTH COMPARED TO PRICE OF GASOLINE (FY 2011-2015)



Note: Ridership (white) represents ratio of passenger-trips in month i of year j to passenger-trips in month i of fiscal year 2010. Price of gasoline (blue) represents ratio of price in month i of year j to price in month i of fiscal year 2010. Month 1 is October of calendar year 2010; month 60 is September of calendar year 2015. Price used was Gulf Coast Area average for week beginning first Monday of month.

Source: Coast Transit Authority; U. S. Department of Energy, Energy Information Agency.

It is to be hoped that fare revenues can be restored to the 2013 level and further expanded in the future—and that operating expenses can be held in check or even reduced by judicious route planning and scheduling—but the major obstacle confronting CTA is the lack of a local funding source that can be counted on from year to year. While the overall operating cost for all public transportation services provided by CTA exceeded the total cost of services provided by the City of Jackson in 2013, the Jackson transit system benefited from local support that surpassed local funding for CTA by more than \$3.1 million (see Table 5-2). The aggregate local contribution to transit operations in the Mississippi Gulf Coast area has declined in absolute terms in recent years, forcing cutbacks that have had a deleterious effect on ridership. Moreover, as noted in the 2010 TDP and reiterated in a report on funding prepared for CTA by Burk-Kleinpeter, Inc. in 2012, the local percentage of operating funds has been decreasing since 2001.

Table 5-2:**2013 COAST TRANSIT AUTHORITY FUNDING BY SOURCE COMPARED TO OTHER MISSISSIPPI SYSTEMS**

SYSTEM	URBANIZED AREA	FUNDING SOURCE					
		FARES	FEDERAL	STATE	LOCAL	OTHER	TOTAL
Coast Transit Authority <i>Percent</i>	Gulfport	\$1,281,624 21.2%	\$3,173,357 52.4%	\$266,510 4.4%	\$1,132,009 18.7%	\$199,948 3.3%	\$6,053,448 100.0%
Hub City Transit <i>Percent</i>	Hattiesburg	\$41,548 3.6%	\$752,768 66.0%	\$0 0.0%	\$346,401 30.4%	\$0 0.0%	\$1,140,717 100.0%
City of Jackson <i>Percent</i>	Jackson	\$601,436 10.4%	\$344,002 6.0%	\$480,000 8.3%	\$4,267,055 74.0%	\$75,675 1.3%	\$5,768,168 100.0%

Note: Funding amounts are for all services, including fixed-route, paratransit and commuter.

Source: National Transit Database (2015) for data; calculations by Neel-Schaffer, Inc.

A little more than two-thirds of all operating funds available to CTA in 2013 were used to cover expenses incurred for fixed-route bus service (see Table 5-3). Fare revenue generated by fixed-route service represented a little less than 60 percent of the total amount collected from users of all services. Fixed-route operations consumed 68.0 percent of all funds expended by CTA for operational purposes. This represents a fairly modest gap in the proportionality of resources consumed and earnings produced.

Table 5-3:**2013 COAST TRANSIT AUTHORITY OPERATING EXPENSE AND FARE REVENUE BY MODE**

MODE	OPERATING EXPENSE	PCT OF EXP TOT	FARE REVENUE	PCT OF REV TOT	FARE PCT OF EXPENSE
Demand-Response	\$1,145,046	19.1	\$42,470	3.3	3.7
Fixed-Route Bus	\$4,082,184	68.0	\$765,203	59.7	18.7
Vanpool	\$780,198	13.0	\$473,951	37.0	60.7
TOTAL	\$6,007,428	100.0	\$1,281,624	100.0	21.3

Source: National Transit Database (2015); calculations by Neel-Schaffer, Inc.

A very different situation exists with regard to the other services provided by CTA. The Coast Commuter vanpool operation, with a farebox recovery rate of just over 60 percent, generated 37 percent of all fare revenue collected while incurring only 13 percent of total operating expenses. The balance of costs associated with the ridesharing program were covered by a combination of Federal Transit Administration (FTA) Job Access Reverse Commute Program funds and contributions from participating employers. The greatest disparity between income and expenses was attributable to the demand-response service which required 19 percent of the available operating funds in 2013 but only generated 3.3 percent of the revenue collected from fares.

“With undedicated local general fund dollars continually in demand, transit must compete with other important community services for sustained funding”

The report prepared for CTA by BKI noted that local funding is appropriated annually by participating cities and counties from their general funds and added, “With undedicated local general fund dollars continually in high demand, transit must continually compete with other important community services for sustained funding levels” (*Getting on Board with Coast Transit Authority*, July 31, 2012, page 28). Four potential sources of funding, culled from an initial 40 considered in consultation with a stakeholder study group, were recommended for further exploration (page 39):

- *Court fees* imposed as a penalty stemming from a motorist violation resulting in suspension of the driver’s license;
- *Rental car fees* primarily targeting non-resident visitors to the area;
- *Casino-based revenue* provided by operators under an agreement reimbursing CTA for casino-oriented transit service such as the Casino Hopper line;
- *Tri-county tourism-based tax* primarily targeting non-resident visitors by imposing a sales tax on accommodations and retail food and beverage purchases.

It remains to be seen whether any one of these or another revenue measure can attract the broad-based public and political support necessary to secure adoption at the local and/or state level. Nevertheless, it is likely that in the absence of some dedicated local funding source, CTA will be hard-pressed to continue providing regularly scheduled fixed-route transit service at the present level; and upgrading operations to attract additional patronage will be almost impossible.

5.2 MAINTENANCE OF THE EXISTING SYSTEM

The immediate challenge confronting CTA is to maintain the existing system, consolidating the gains of the past 10 years, in order to provide a stable platform for future growth and expansion. While the overall performance of the system has been very good in recent years, it is possible that fare revenue could be increased or operating expense reduced by modifying service on routes that do not perform up to the system-wide standard.

Two modifications proposed for implementation during the five-year short-range planning period from 2016 to 2020 could make a significant contribution to the efficiency of fixed-route transit operations: The first would eliminate so-called “hail stops” made when someone wishing to board flags down a bus at a non-designated location. Eliminating such flag stops and maintaining proper signage at all designated stop locations could help improve schedule adherence and even reduce the time required to complete a scheduled trip. The second reform would involve eliminating unnecessary deviations from main travel routes. At the present time some buses turn in at designated locations to pick up passengers waiting at establishments set back from the street. The process of leaving the street to travel up a private drive, pick up passengers, return to the street and then merge into moving traffic consumes time that could be pared from the schedule by simply providing a properly signed stop location on the street and making curbside pick-up standard policy for all fixed-route service.

Eliminating “hail stops” could improve schedule adherence and even reduce the time required to complete a trip

Another very important alteration that needs to be implemented over the next five years involves reducing the time between scheduled trips in order to increase the frequency of service. Headways presently range from 45 to 90 minutes. CTA proposes to reduce 45-minute headways to 30 minutes wherever possible and to cut 90-minute trip intervals to 60 minutes. In some cases time-savings might be realized by redesigning routes, eliminating unnecessary stops and implementing *transit signal priority* systems or other innovative technology. Others might require additional equipment and operating funds, but increasing the frequency of service is essential if the transit system is to build a solid base of support among riders who consider public transportation a convenient and reliable alternative to private-vehicle travel.

Proper maintenance of rolling stock and replacement of aging vehicles are also necessary measures if the transit system is to be kept in a state of good repair and service is to remain safe and reliable. CTA currently has on order seven new low-floor hybrid-electric buses with reclining seats, overhead luggage racks, wireless internet and electrical outlets. These vehicles will have a major impact on the public perception of transit as an attractive alternative to driving. The implementation of new technology will

Increasing the frequency of service is essential if transit is to become a convenient and reliable alternative to private-vehicle travel

also serve to pique interest and appreciation of enhanced transit service. The *RouteShout* mobile app launched in 2015 allows riders to find out where a bus is located and when it will arrive at a specified stop. An individual waiting at a stop location or preparing to leave home to catch the bus no longer has to wonder when the transit vehicle will arrive; that information is

readily available on his computer or cellular phone. There is also an obvious need to maintain current performance standards for other CTA services—the demand-response paratransit and commuter vanpool operations. Regular parallel paratransit service will necessarily grow as the fixed-route system expands, and expanded ADA Paratransit Plus operations will provide transportation for qualified individuals throughout all three Mississippi Gulf Coast counties.

CTA also remains committed to its highly successful commuter ridesharing program and will continue its outreach to large employers and efforts to secure or provide parking and other facilities needed to encourage public support and patronage. In addition, the Bike-n-Bus program has been extremely successful in attracting riders from among the cycling population by enabling them to mount their bikes on racks attached to the front end of buses so that they can easily shift from riding a bicycle to traveling in a transit vehicle and back again. The Bike-n-Bus Program will continue to be a staple of the CTA system.

5.3 FACILITY UPGRADES

In order to expand the transit system to meet the growing need for public transportation in the Mississippi Gulf Coast area it will be necessary to optimize utilization of the existing transit centers in Gulfport, Biloxi and D'Iberville. These are important transit hubs at which lines converge and from which they radiate to serve people living, working, shopping or engaging in recreational activities in their respective cities or traveling from one city to the other for these or other purposes. CTA is in the process of developing plans for expansion of the Gulfport Transit Center into the adjacent structure which served as the Gulfport Main Library for many years prior to Hurricane Katrina. The structure, gutted by the storm and abandoned by the Harrison County Library System, will be rehabilitated and reconfigured to serve as a multimodal transportation center. It will function as a base for downtown shuttle service connecting Jones Park, the new aquarium and other waterfront attractions to office buildings, the post office, the new library, the county courthouse, Federal building and other destinations in the central business district of the city. The new facility will be linked to Jones Park on the south side of Highway 90 by a pedestrian bridge and tramway spanning the beachfront arterial.

The downtown Gulfport Library, gutted by Hurricane Katrina, will be rehabbed and reconfigured to serve as a multimodal transportation center with a pedestrian bridge and tramway connecting to Jones Park

CTA also plans to locate transit super-stops at new hubs located at key transfer-points for travel in the region. One located in the vicinity of the I-10 interchange with US 49 will provide an opportunity to implement park-and-ride service for residents of the Orange Grove area and other more remote portions of Harrison County who work in or near downtown Gulfport or along the Highway 90 corridor served by

Super-stops will be located at key transfer points in order to support park-and-ride operations and express bus service

the Beachcomber line. Another located in the vicinity of the I-10 interchange with I-110 will facilitate park-and-ride service for people who live in outlying portions of either Harrison or Jackson County and work in D'Iberville or Biloxi. A third hub is proposed for the planned Coliseum Hotel and Convention District identified in the

City of Biloxi Comprehensive Plan. This hub would be a major transfer-point for the Beachcomber, new express bus service linking the Gulfport and Biloxi transit centers, and a planned Popp's Ferry route. The new line would connect to the Coliseum hub by way of the Popp's Ferry Road extension from Pass Road to US 90 currently under development. CTA will pursue negotiations with the owners and operators of major retail shopping malls, as well as the Mississippi Coast Coliseum Authority, to secure the necessary space at suitable locations for development of the proposed hubs and associated parking facilities.

In order to optimize planned express bus service in the Highway 90 corridor, and possibly along other major routes, CTA will seek the implementation of intelligent transportation systems (ITS) technology to facilitate the movement of transit vehicles. The first item on the ITS agenda is the installation of transit signal priority equipment on traffic lights and buses in order to increase the green time for approaching transit vehicles. This will be another key element of efforts to cut travel time and reduce headways.

5.4 EXPANSION OF THE EXISTING SYSTEM

In addition to improving service by tightening up the schedule and cutting down the time between scheduled bus trips, CTA intends to expand the existing fixed-route transit network to areas where latent demand remains unmet. A key objective in this regard relates to the need for more service connecting east-west routes in the older urban areas located along the Mississippi Sound to the areas that have been annexed or incorporated in the years since the City of D'Iberville achieved municipal status in 1988. Since then, both Gulfport and Biloxi have annexed large areas lying north of their old city limits, as did the City of Gautier in Jackson County. More recently, residents of the Diamondhead community in Hancock County voted to incorporate, and the one-time haven for retirees developed in the 1970s became the newest Mississippi Gulf coast municipality in January of 2012. The last 10 years have also seen a steady push to the north occasioned by the destruction of homes and businesses during Hurricane Katrina and the ensuing impact of stricter building requirements and drastically higher insurance costs. New bus routes need to follow the inland progression of development.

At the same time, there is clearly a need for more expeditious service in the east-west corridor running roughly parallel to the coastline in Harrison County. As traffic builds on Beach Boulevard (US 90) it becomes increasingly difficult for Beachcomber and Casino Hopper drivers to stay on schedule. This is especially the case during special events such as the annual weeklong *Cruisin' the Coast* celebration that attracts thousands of vintage automobile owners to the Coast. Adding as many as 10,000 cars to the traffic mix can result in serious congestion, especially when the drivers of those vehicles are only cruising and in no hurry to get anywhere. Two major studies undertaken in the past 20 years have focused on the need for a new roadway, running east and west somewhere between Highway 90 and Pass Road, which could provide relief for those two principal arterials. Both studies recommended development of a multimodal transportation corridor capable of carrying longer, faster vehicular trips so that Beach Boulevard could serve principally as a scenic route for more leisurely sightseeing trips, beach-bound travel or gaming-related trip-making. The proposed new corridor would also accommodate transit, initially facilitating express bus service on the limited-access roadway, and later providing a path for bus rapid transit (BRT) service between Gulfport and Biloxi.

Past studies recommended development of an east-west multimodal transportation corridor capable of accommodating express bus service, bus rapid transit, light-rail or other fixed-guideway options

Future research should address the feasibility of expanding the corridor to accommodate regional passenger rail service, making use of the existing rail line and providing a second track where needed to allow the unimpeded flow of freight

The previous studies focused on developing a multimodal transportation corridor adjacent to the CSX railroad right-of-way. A pending study, being sponsored jointly by CTA and GRPC, will seek environmental clearance for an initial segment of independent utility. Future research and analysis should address the feasibility of expanding development of the corridor to include regional passenger rail transit. This could involve making use of existing trackage while double-tracking selected segments of the corridor to allow the unimpeded movement of freight by rail across the Mississippi Gulf Coast.

Other proposed new routes were identified by analyzing base-year and projected future land use and demographic conditions. The evaluation of proposed new or modified routes assumed several key criteria:



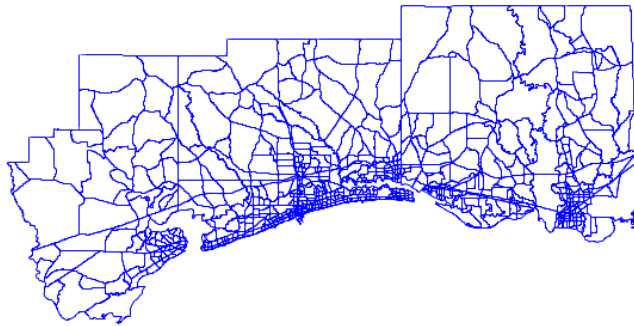
CSX Train on Track Section with Parallel Siding

- Service should be provided in currently unserved areas where socioeconomic conditions are such as to suggest a significant level of latent demand for public transportation.
- Service should be extended to areas with population and/or employment density sufficient to support transit patronage.
- System continuity should be maintained and strengthened by connecting new routes to existing lines at hubs or other locations conducive to passenger transfers.
- Wherever possible new routes should follow well-traveled arterial routes with adequate roadway capacity.
- New or modified routes should be designed both to be seen by potential riders and to make sense as alternative travel choices, avoiding time-consuming indirect or circuitous paths.
- New or modified routes should be designed to allow the scheduling of service at 30 to 60-minute intervals in order to advance the CTA objective relating to reduced headways for regularly scheduled fixed-route service.

CTA bus routes presently provide fairly extensive coverage within a large portion of the Gulfport-Biloxi Urbanized Area, including the cities of Gulfport, Biloxi, D'Iberville and Ocean Springs. Limited service was provided in Bay Saint Louis on a free trial basis beginning on July 4, 2015; but the Bay Trolley was terminated when a new schedule, incorporating changes to several CTA routes, went into effect on March 27, 2016. Regularly scheduled bus service is no longer available in Hancock County.

In the western part of Harrison County, Pass Christian and Long Beach have no transit service. There are also large portions of Gulfport and Biloxi that remain unserved, including much of the Orange Grove area and North Biloxi. Nor is service available anywhere in the Pascagoula-Moss Point Urbanized Area.

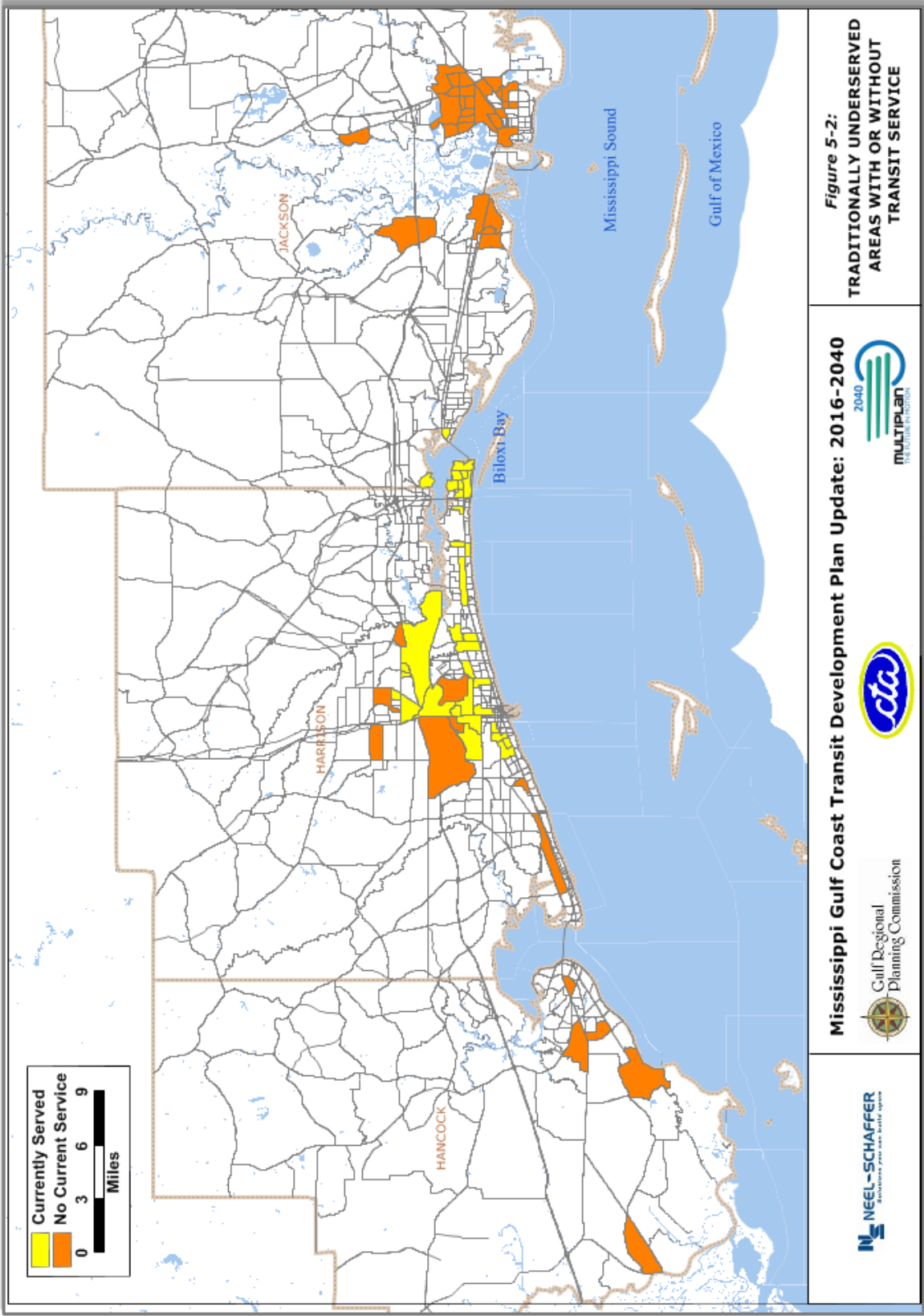
The initial criterion applied in assessing the potential suitability of these areas for new service was their degree of correspondence with *traditionally underserved* areas identified by Gulf Regional Planning Commission (see Figure 5-2). These areas were designated by GRPC in accordance with the environmental justice mandate, regarding minority and low-income populations, established by Executive Order 12898. They include portions of Bay Saint Louis and Waveland, as well as areas in the vicinity of the Lakeshore-Clermont Harbor and Pearlington communities, in Hancock County. Five designated areas in or around Gulfport also do not have public transportation. CTA currently serves all designated portions of Biloxi. However, traditionally underserved areas in Jackson County—in or near Gautier, Pascagoula, Moss Point and the unincorporated communities of Vancleave and Escatawpa—have no transit service at all.

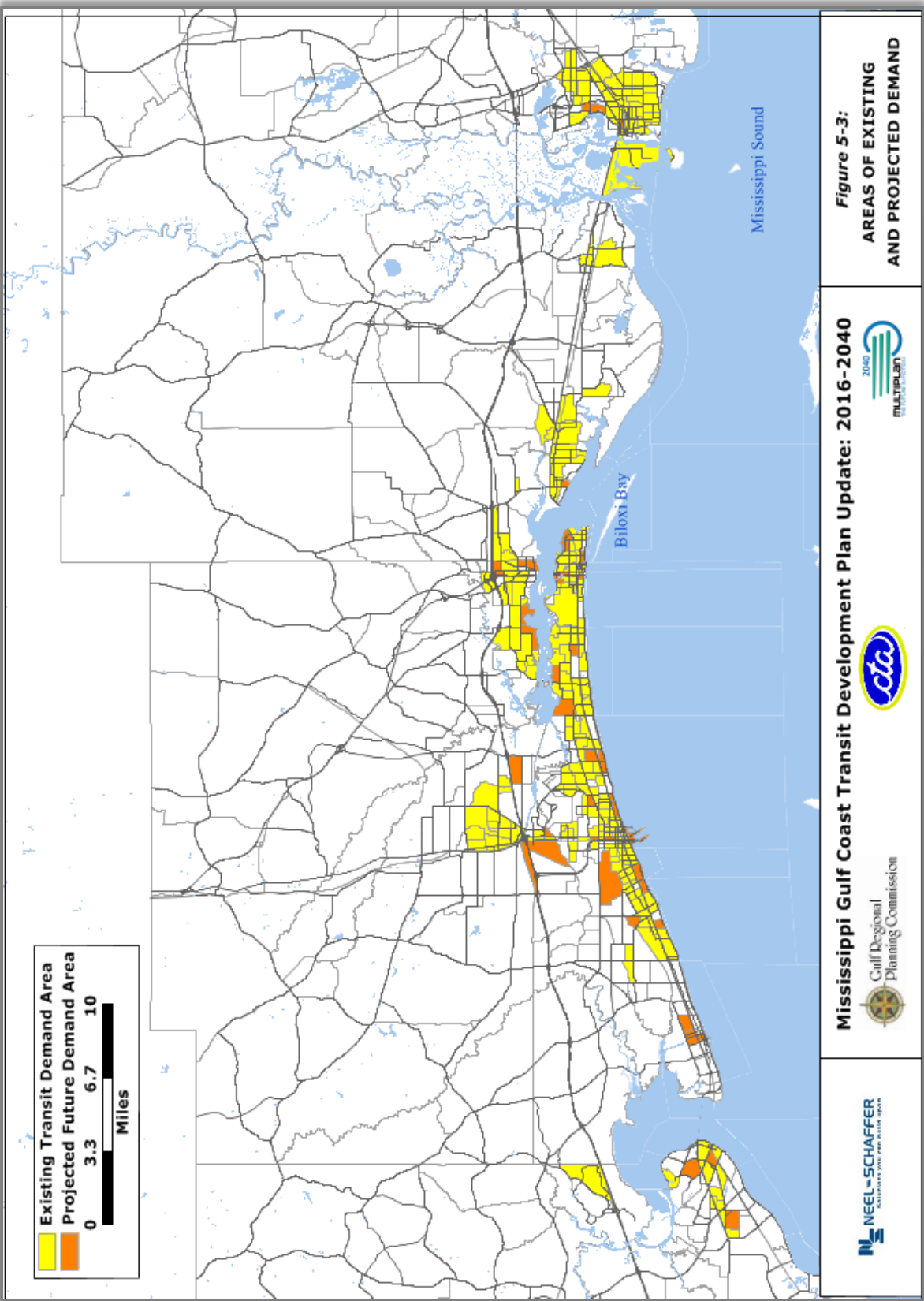


The second criterion relates to the concentration of population and employment. Density statistics were derived for the 797 traffic analysis zones in the three-county area delineated for the regional travel demand forecasting model (*see figure above*). The criterion adopted to identify zones that might be capable of supporting transit service was based on the median densities for zones traversed by the CTA bus line with the highest ridership, Pass Road Route 34. This measure established a threshold of either 1,736 residents per square mile or 1,933 workers per square mile.

Nearly 300 traffic zones were identified as areas of existing transit demand based on recent (2013) population and employment estimates. Almost 50 more were projected to be areas of future transit demand based on population and employment projections for the year 2040 (see Figure 5-3). In Hancock County, Diamondhead and portions of Waveland and Bay Saint Louis qualified as areas of existing or potential future demand. The same was true for portions of Pass Christian and Long Beach in the western part of Harrison County. A majority of the zones in Gulfport, Biloxi and D'Iberville met the threshold at either current levels of population and employment or at projected future levels. The same was true for the municipalities in Jackson County: Ocean Springs, Gautier, Pascagoula and Moss Point.

The criterion relating to continuity presents an obstacle to the implementation of new service in eastern Jackson County and will have to be waived if transit is to establish a foothold in the Pascagoula-Moss Point Urbanized Area. There is certainly an unmet need for transit in Pascagoula, Moss Point and Gautier; but it is difficult to see how it could be linked to the existing network, given the large gap in service-area potential east of Ocean Springs. On the other hand, new routes in Gulfport, Biloxi or Long Beach could easily be connected to existing lines at new or previously established transit hubs. West of Gulfport, Highway 90 provides the most likely path for the extension of transit service. Major streets in Gulfport that currently do not accommodate bus routes include Highway 49 north of Dedeaux Road, Airport Road, Hewes Avenue, Cowan Road, Lorraine Road and Courthouse Road.





In Biloxi the entire length of Popp's Ferry Road is located in an area that could support transit. In Jackson County the numerous arterials presently lacking transit include the Gautier-Vancleave Road, Highway 90 and MS 63; Main Street and Martin Luther King Boulevard in Moss Point; Pascagoula Street, Telephone Road, and Market Street in Pascagoula; and others.

New Service Alternatives

Applying the criteria identified above, the following new service alternatives were evaluated regarding their capacity for attracting the patronage of people living, working or traveling in areas of latent transit demand:

Beachcomber - Bay Saint Louis – This proposed new route would provide service between Bay Saint Louis and the WalMart in Pass Christian, connecting on the east end to the proposed Beachcomber-Long Beach line described below. Most of the route would be located on Highway 90 (see Figure 5-4). Westbound buses would turn south on Beach Boulevard after crossing the Bay of Saint Louis, continue to Main Street, turn onto Main and proceed to the Hollywood Casino via Main, Blue Meadow Road and Hollywood Boulevard. Eastbound buses would retrace the same route. Total one-way trip length would be approximately 12.83 miles and require an estimated 40 minutes to traverse. Two buses traveling in opposite directions could provide continuous service at 45-minute intervals. Alternatively a single bus could operate on a 90-minute headway.

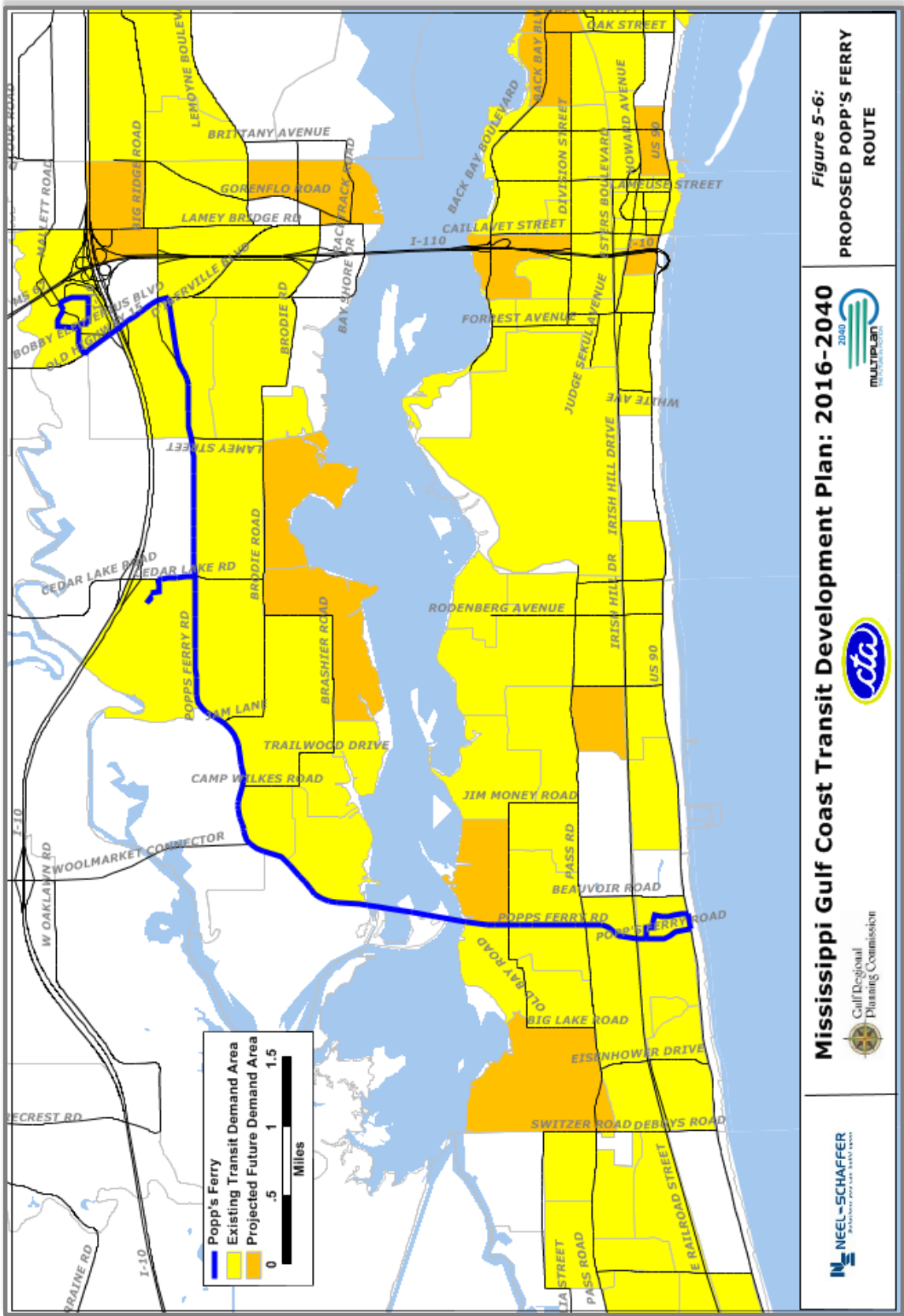
The Beachcomber Bay Saint Louis and Long Beach routes would extend transit service on Highway 90 from Bay Saint Louis in Hancock County to Ocean Springs in Jackson County

Beachcomber – Long Beach – This link in the Beachcomber chain would connect on its west end to the proposed Bay Saint Louis line at the WalMart in Pass Christian (see Figure 5-5). On its east end the Long Beach line would connect to the existing Beachcomber at the Gulfport Transit Terminal. The relatively short length of the proposed route—approximately 7.6 miles—means that a single bus could provide service in both directions within a 45-minute timeframe. This would allow for direct connections to the other Beachcomber lines, minimizing the wait-time delay experienced by transfer passengers traveling on two or even three different trolleys.

Popp's Ferry Road – The proposed new route would initially be anchored on the south end at Edgewater Mall with buses traveling from there via Eisenhower Drive and Pass Road to Popp's Ferry Road (see Figure 5-6). The route would encompass the length of existing Popp's Ferry Road from Pass Road to D'Iberville Boulevard. Buses would leave the principal thoroughfare briefly to run up Cedar Lake Road to Medical Park Drive. At the east end of the route, buses would travel between Popp's Ferry and the Promenade via D'Iberville Boulevard. Once the pending extension of Popp's Ferry Road from Pass Road to Beach Boulevard is completed, buses will travel exclusively on Popp's Ferry between Highway 90 and D'Iberville except for the Cedar Lake Road diversion from the main route. The one-way travel distance for the initial route will be 11 miles, requiring about 40 minutes to traverse; so two buses traveling in opposite directions could provide regular service at 45-minute intervals.





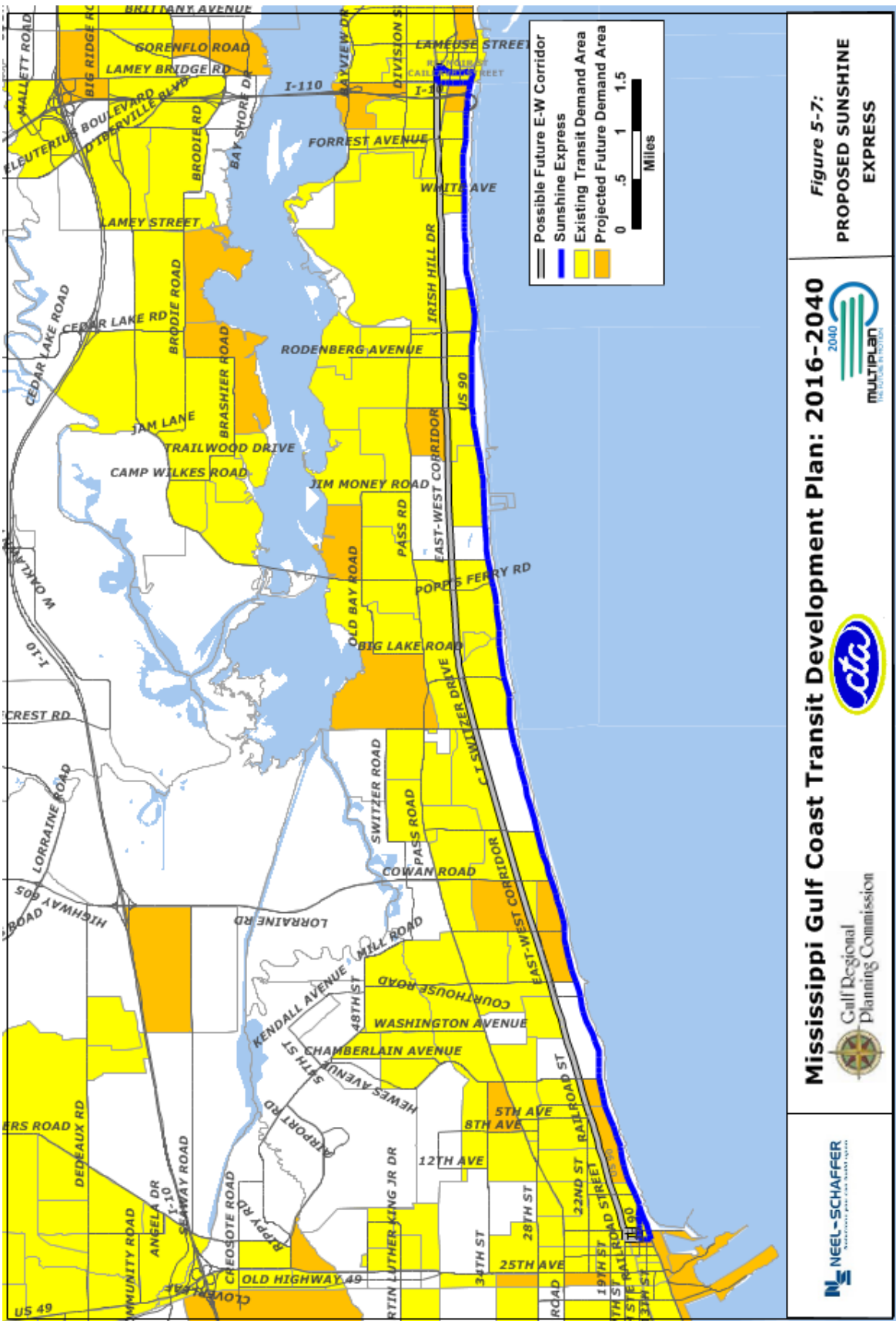


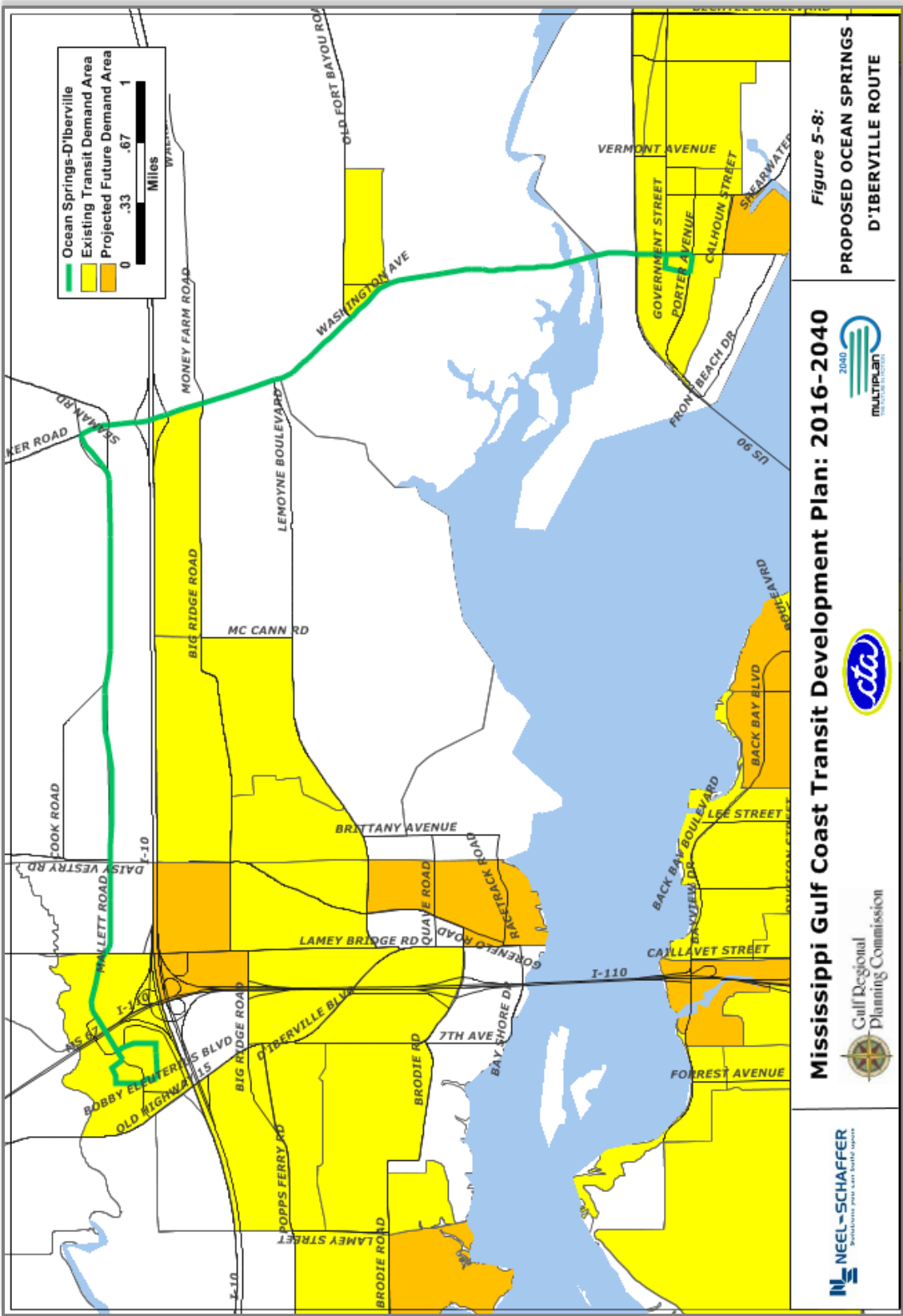


Ready to roll – Sunshine Express fully equipped over-the-road transit coach

Sunshine Express – This proposed line would operate on approximately the same route as the existing Beachcomber but would provide express bus service between the Gulfport and Biloxi transit terminals with a limited number of stops between those end-points (see Figure 5-7). Buses would operate on Highway 90 for the foreseeable future; eventually the route would be transferred to the proposed East-West Multimodal Transportation Corridor. Coast Transit Authority is already in the process of acquiring low-floor hybrid-electric buses with reclining seats, overhead luggage racks, wireless internet and electrical outlets for deployment on this 12.25-mile express route. Two buses running in opposite directions could provide continuous service during peak travel periods with one leaving each transit terminal every 30 minutes.

Ocean Springs-D'Iberville – This new route would connect downtown Ocean Springs to the Promenade in D'Iberville via Washington Avenue (Highway 609), the planned I-10 Connector Road, Mallette Road and Sangani Boulevard (see Figure 5-8). Initiation of service on this route will follow completion of the I-10 Connector Road between Tucker Road (Highway 609) and the east end of Mallette Road at Daisy Vestry Road. Connecting service at the Promenade will include the new Popp's Ferry line and D'Iberville Route 4. At the opposite end the route will connect to Ocean Springs Route 7 at its point of origin on Washington Avenue in the vicinity of either Bienville Boulevard or Government Street. The total centerline length of the route is approximately 8.26 miles. A round-trip could probably be accomplished in less than an hour, making it possible for a single bus to provide service on the route at 60-minute intervals.





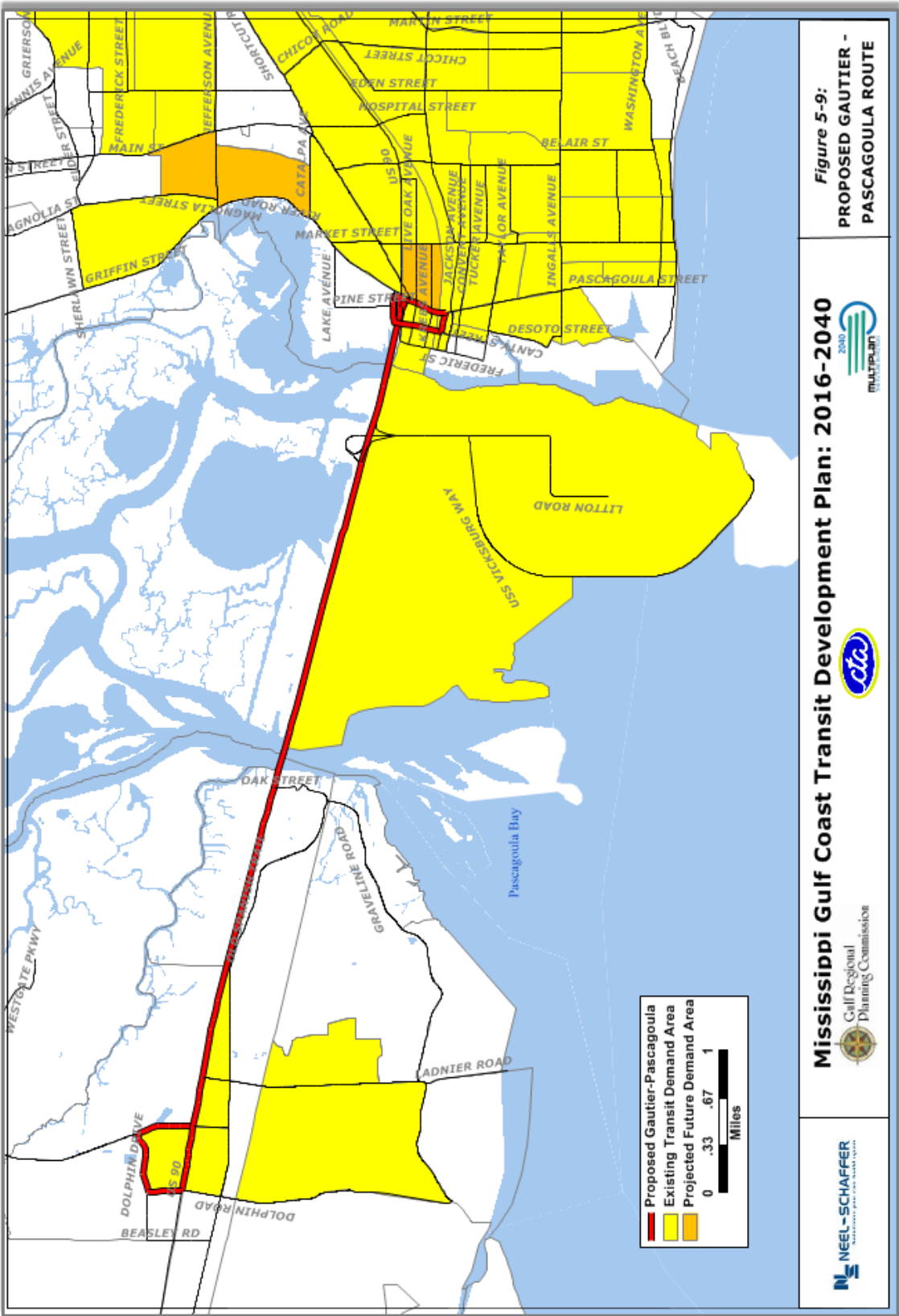
Gautier-Pascagoula – This proposed new route would provide service between the Gautier-Vancleave Road and downtown Pascagoula, via Highway 90 and Pascagoula Street, terminating at Delmas Avenue (see Figure 5-9). This is one of two new routes that would establish transit service within the Pascagoula-Moss Point Urbanized Area. The route would be roughly 7.25 miles from end to end and require about 25 minutes to complete, so a single bus could provide regularly scheduled service at 60-minute intervals.

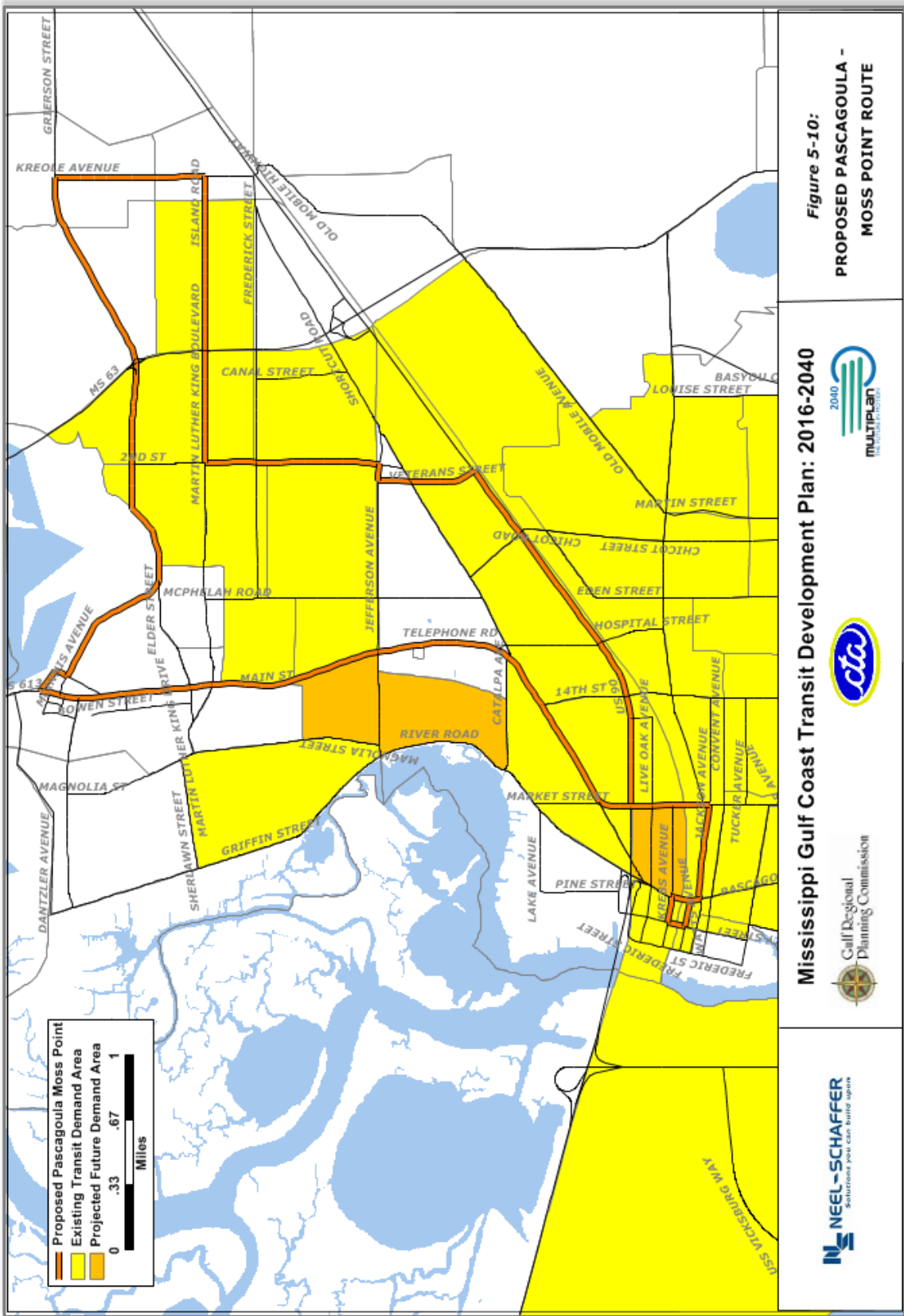
Pascagoula-Moss Point – This new route would provide service between the two cities located in eastern Jackson County. Buses would execute a long loop via Jackson Avenue, Market Street, Telephone Road, Main Street, Highway 613, Highway 63, Grierson Street, Highway 90 and other major streets in the area (see Figure 5-10). The total length of the route would be approximately 17.41 miles. A single bus could provide regularly scheduled service at 60-minute intervals.

Orange Grove – This new route would provide service in the Orange Grove area north of I-10 in Gulfport, connecting to Route 37 at Crossroads (see Figure 5-11). Buses would run an 8.2-mile loop on Crossroads Parkway, U. S. Highway 49 (US 49), O’Neal Road and Three Rivers Road. A single bus could complete the trip in 25 minutes, and provide regularly scheduled service at 30-minute intervals, running in the same direction continuously. Alternatively, a single bus could reverse direction at the end of each circuit, running one trip clockwise around the loop and the next counter-clockwise. This would effectively provide service on two opposing routes at 60-minute intervals. Another option would be to have a single bus running counter-clockwise in the morning and clockwise in the afternoon in accordance with the prevailing flow of traffic on Highway 49. Ideally two buses would run continuously in opposite directions, providing service each way every 30 minutes.

In addition to the existing transit centers in Gulfport, Biloxi and D’Iberville, an expanded system including the potential new routes outlined above would require appropriate accommodations for passengers transferring from one bus to another at Crossroads in Gulfport, the Promenade in D’Iberville, downtown Ocean Springs or the WalMart in Pass Christian. New routes would require new rolling stock. Two of the eight lines described above would require deployment of two buses if CTA is to achieve the objective of limiting headways to no more than 60 minutes (see Table 5-4). A single vehicle would suffice for the other six, but the Sunshine Express will require two if it is to provide the higher level of service envisioned for express bus service in the East-West Corridor. A second bus would allow the scheduling of a departure at either end of the route every 30 minutes.

A 45-minute interval between trips would be possible for a single bus operating on the Beachcomber-Long Beach line, because the proposed route is barely seven miles in length and located almost entirely on Highway 90. Buses running on this route could almost certainly attain average speeds commensurate with those achieved by buses on the Beachcomber line in Gulfport and Biloxi. The Sunshine Express would outpace all other lines by running directly between the Gulfport and Biloxi transit centers and making only a few stops along the way. The proposed installation of a transit signal priority system along the route could also help lead to reduce running times. Headways could be held to 60 minutes or less on all of the proposed routes by assigning a second transit vehicle to the Beachcomber-Bay Saint Louis and Popp’s Ferry Road lines.





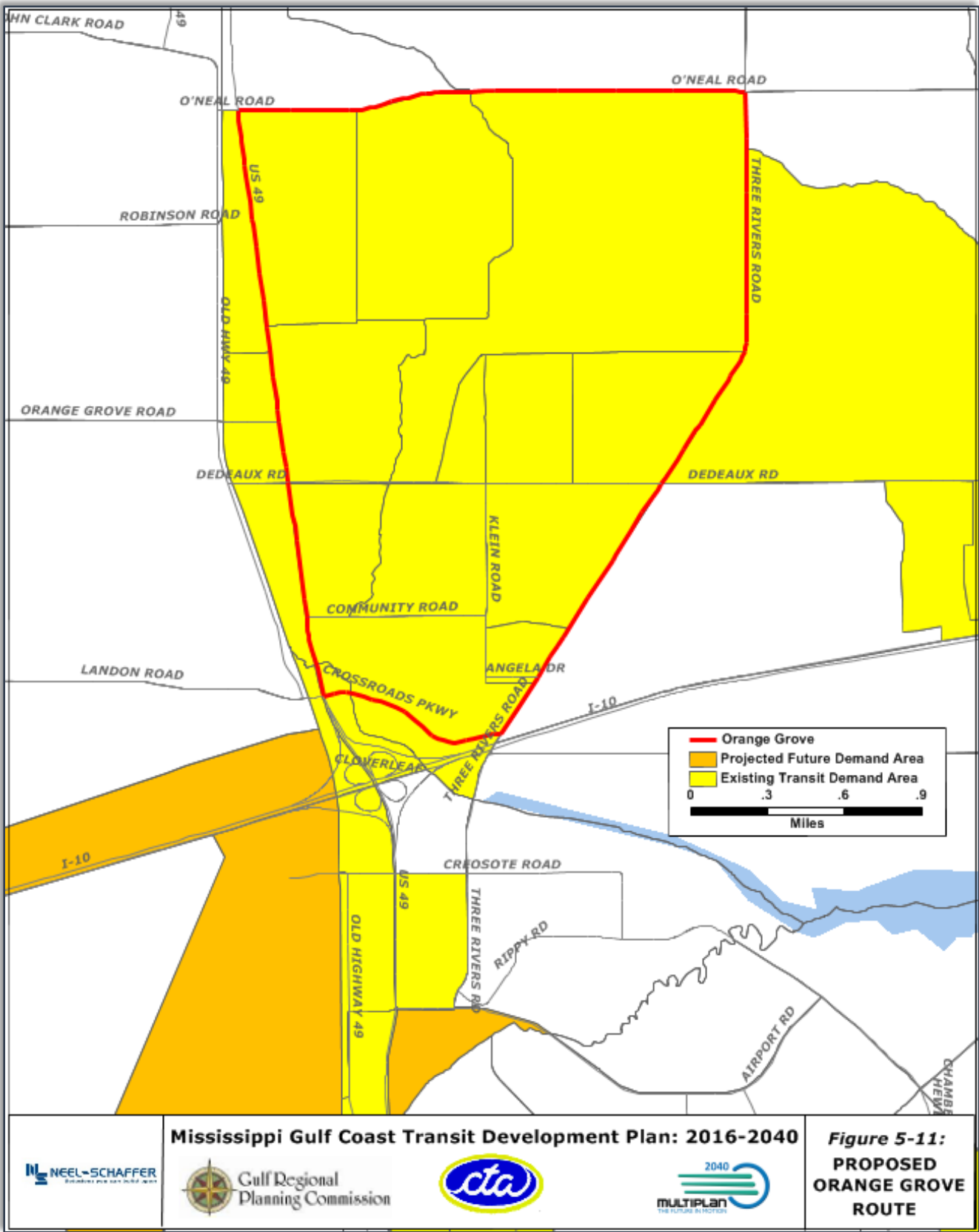


Table 5-4:

ALTERNATIVE OPERATING DATA FOR PROPOSED NEW COAST TRANSIT AUTHORITY BUS ROUTES

ROUTE (45 TO 90-MINUTE HEADWAYS)	DIR	LENGTH (MILES)	TIME (MIN)	HEAD- WAY	AVG SPEED (MPH)	NO OF BUSES	DAILY TRIPS
Beachcomber Bay St Louis	East	12.69	41	90	18.57	1	10
	West	12.53	40	90	18.80	--	10
Beachcomber Long Beach	East	7.11	20	45	21.33	1	20
	West	7.02	20	45	21.06	--	20
East-West Corridor	East	12.61	27	60	28.02	1	12
	West	12.61	27	60	28.02	--	12
Popp's Ferry Road	North	10.93	43	90	15.25	1	10
	South	10.04	40	90	15.06	--	10
Orange Grove	East	8.20	25	60	19.68	1	15
	West	8.20	25	60	19.68	--	15
Ocean Springs-D'Iberville	North	7.58	27	60	16.84	1	15
	South	7.70	28	60	16.50	--	15
Gautier-Pascagoula	East	6.98	24	60	17.46	1	15
	West	8.02	27	60	17.83	--	15
Pascagoula-Moss Point	Loop	15.28	55	60	16.67	1	15

ROUTE (30 TO 60-MINUTE HEADWAYS)	DIR	LENGTH (MILES)	TIME (MIN)	HEAD- WAY	AVG SPEED (MPH)	NO OF BUSES	DAILY TRIPS
Beachcomber Bay St Louis	East	12.69	41	45	18.57	1	20
	West	12.53	40	45	18.80	1	20
Beachcomber Long Beach	East	7.11	20	45	21.33	1	20
	West	7.02	20	45	21.06	--	20
East-West Corridor	East	12.61	27	30	28.02	1	24
	West	12.61	27	30	28.02	1	24
Popp's Ferry Road	North	10.93	43	45	15.25	1	20
	South	10.04	40	45	15.06	1	20
Orange Grove	East	8.20	25	30	19.68	1	30
	West	8.20	25	30	19.68	1	30
Ocean Springs-D'Iberville	North	7.58	27	60	16.84	1	15
	South	7.70	28	60	16.50	--	15
Gautier-Pascagoula	East	6.98	24	60	17.46	1	15
	West	8.02	27	60	17.83	--	15
Pascagoula-Moss Point	Loop	15.28	55	60	16.67	1	15

Note: Times are approximate and in most cases based on assumed operating speeds. In some cases times were based on empirical data collection by Gulf Regional Planning Commission staff. All estimates are based on current conditions.

Planning for future development of the system should also explore the possibility of establishing transit service in Diamondhead, and linking it to Bay Saint Louis, and the feasibility of service connecting Gautier to Ocean Springs. Other developing corridors in Gulfport, Biloxi and Long Beach will likely warrant further articulation of the existing system in the future. The planning basis for eventual implementation of bus rapid transit (BRT) and/or passenger rail transit in the East-West Corridor should be established, and conceptual plans for beachfront fixed-guideway service on or adjacent to Highway 90 in Gulfport and Biloxi should be developed.

6.0 PLAN DEVELOPMENT

Preparation of an updated Transit Development Plan for the period from 2016 through 2040 involved three principal activities. The first was the collection and analysis of input from the public involvement program conducted for the 2040 Mississippi Unified Long-Range Transportation Infrastructure Plan (MULTIPLAN) and 2040 Mississippi Gulf Coast Metropolitan Transportation Plan (MTP). The second was a review of the 2035 Transit Development Plan (TDP) undertaken in order to determine which improvements identified in that plan actually had been implemented and which had not. The third was an evaluation of the fixed-route alternatives, related improvements and other transit initiatives described in the previous chapter.

6.1 PUBLIC INVOLVEMENT

As a collaborative venture undertaken by the Mississippi Department of Transportation (MDOT) and the respective metropolitan planning organizations (MPOs) in the state, development of the 2040 Mississippi Unified Long-Range Transportation Infrastructure Plan (MULTIPLAN) made use of combined outreach efforts to raise public awareness of the long-range transportation planning process and to elicit public input regarding both statewide needs and those within the respective metropolitan planning areas. The intention was to maximize the impact of public participation activities in order to make the best use of available funds.

Planning team members—including MDOT, the MPOs and the Federal Highway Administration (FHWA)—developed a balanced approach for providing communication, coordination and educational opportunities that made use of social media, electronic communication platforms, public meetings, hands-on activities, listening sessions and surveys. For the Mississippi Gulf Coast area, the team devised a public involvement strategy with the goal of providing opportunities for meaningful participation by all interested area residents. Emphasis was placed on engaging those with special needs, including the underserved, environmental justice communities, individuals with disabilities, and non-English speaking populations by reaching out to non-profit organizations, civic associations and community leaders. Electronic messages and telephone calls were made to known minority-group leaders, and fliers were placed in various communities, inviting residents to participate in the long-range planning process. To encourage the involvement of Native Americans, communication with the Tribal Preservation Office of Mississippi was facilitated by the Federal Highway Administration Mississippi Division.

Key elements of the outreach strategy included the following tasks:

- Conducting surveys to better understand citizen needs and wants;
- Facilitating listening sessions early in the process;
- Holding public meetings to gain input on the draft plan;
- Providing multiple and diverse opportunities for citizens to review materials and offer comment;
- Engaging stakeholders and seeking partnerships with interested agencies and organizations.

Education-based messaging and materials helped participants better understand the long-range planning process as well as how to take part in shaping the future transportation system. Internet-based technology was used to help maximize opportunities for participation, provide educational information and measure the program's effectiveness.

Survey

In order to gain a true understanding of the state's transportation needs, as seen by the people of Mississippi, a representative survey was conducted statewide from November 26 to December 12, 2014. The survey asked respondents to share their thoughts regarding the condition and performance of the existing transportation system, specifically addressing the following topics:

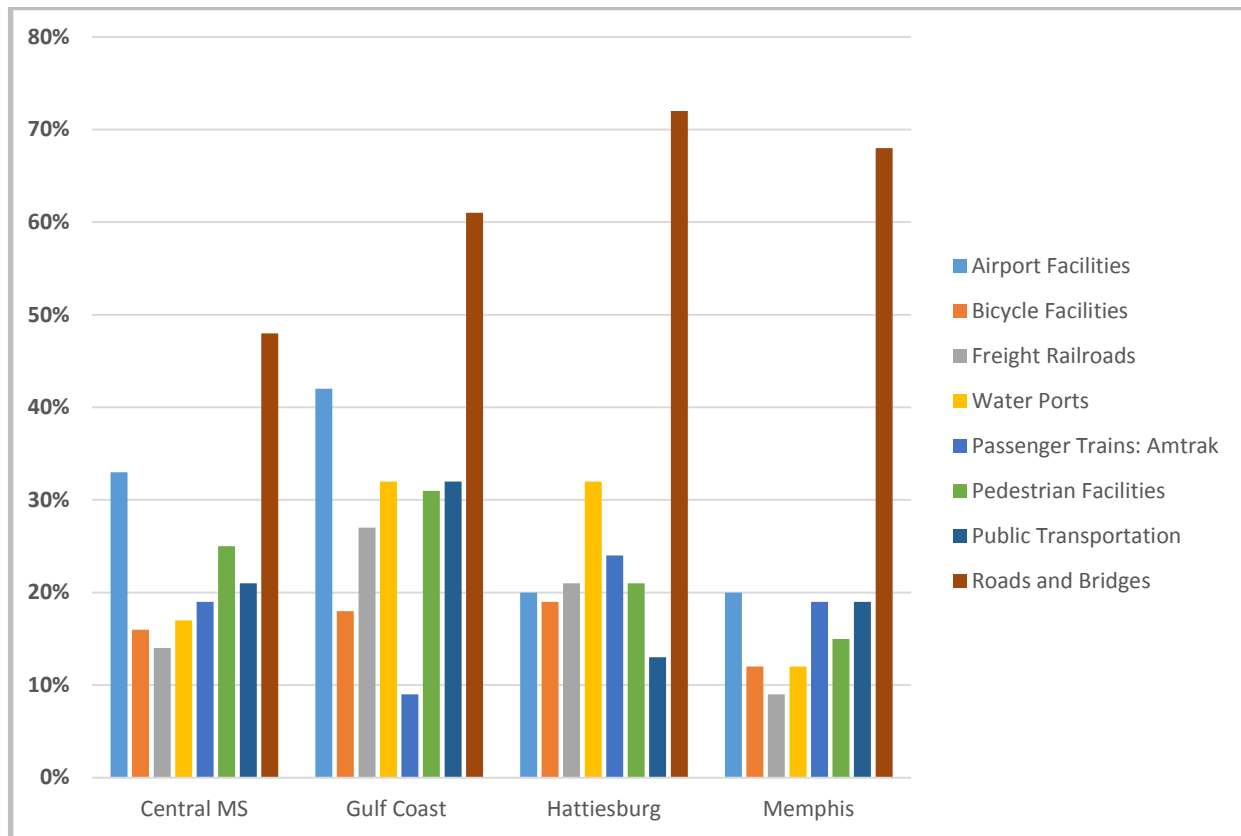
- Overall performance
- Accessibility
- Safety
- Mode usage
- Needed improvements
- Future challenges

The survey was administered by Nielsen Interactive using a panel polling method that allowed for engagement of a representative sample of Mississippi's general population while identifying and eliciting input from underrepresented and hard-to-reach populations. The survey was administered in either English or Spanish to individuals 18 years of age or older. There were a total of 1,205 respondents, 719 residing in rural areas and 486 in urban areas (including that portion of the Memphis Urban Area located in Mississippi counties). The data gathered were weighted based on a Census representation of population distribution throughout the state.

Some interesting differences among metropolitan areas were revealed by the survey data. Mississippi Gulf Coast respondents showed significantly greater approval of their public transportation system, airports, freight railroads and pedestrian facilities than was evident in other areas. Understandably, given the absence of passenger railroad service in the area, Gulf Coast survey participants indicated much less satisfaction with Amtrak than did those in the other metropolitan areas, all of which are served by the national rail carrier.

Overall, Mississippi residents who participated in the statewide transportation perspectives survey indicated a moderate-to-high level of satisfaction with the transportation system as a whole (See Figure 6-1). The majority of respondents seemed satisfied with roads, bridges and other basic aspects of the state's transportation system. However, when asked to identify priorities for future transportation investment, a third of the respondents in metropolitan areas selected "More public transit options."

Figure 6-1:
SURVEY RESPONSES TO THE QUESTION:
“WHAT ARE THE BEST FEATURES OF MISSISSIPPI’S TRANSPORTATION SYSTEM?”



Source: Neel-Schaffer, Inc.

Public Meetings

MDOT and GRPC collaborated to hold two rounds of public meetings: Initial listening sessions to gain input from citizens prior to the development of a draft long-range transportation plan; then meetings to provide an opportunity for public review and comment on the draft document. The meetings were advertised in the print news media and promoted through various social media platforms. These included *MindMixer*, an online meeting facilitator designed to generate community discussion and citizen input; the GRPC website; and electronic mail. All of the public and stakeholder meeting materials and outreach activities were made available electronically to accommodate those who were not able to attend a meeting but wished to participate online.

The initial listening sessions hosted by GRPC were held between February 24 and February 26, 2015, on three successive afternoons in three different counties. The first was held in Hancock County at the Bay Saint Louis Community Hall located at 301 Blaize Avenue. The Jackson County meeting was held on Wednesday, February 25th at the Gautier Convention Center, 2012 Library Lane. The third meeting in the first round was held in Harrison County at the Donal Snyder Community Center located at 2520 Pass Road

in Biloxi. Transportation planners guided participants through the planning process and facilitated participation in activities designed to gather input for use in development of the draft plan.

Visitors were able to review exhibits relating to statewide transportation goals, the funding process, safety data, highway mobility, and bridge and highway preservation. MPO exhibits presented information about traffic safety conditions in the area, the travel demand model roadway network, the existing and projected future distribution of employment in the study area, and population density patterns now and at the long-range planning horizon. Planning team members were available to answer questions and provide supplemental information from past, and in some cases, ongoing initiatives.

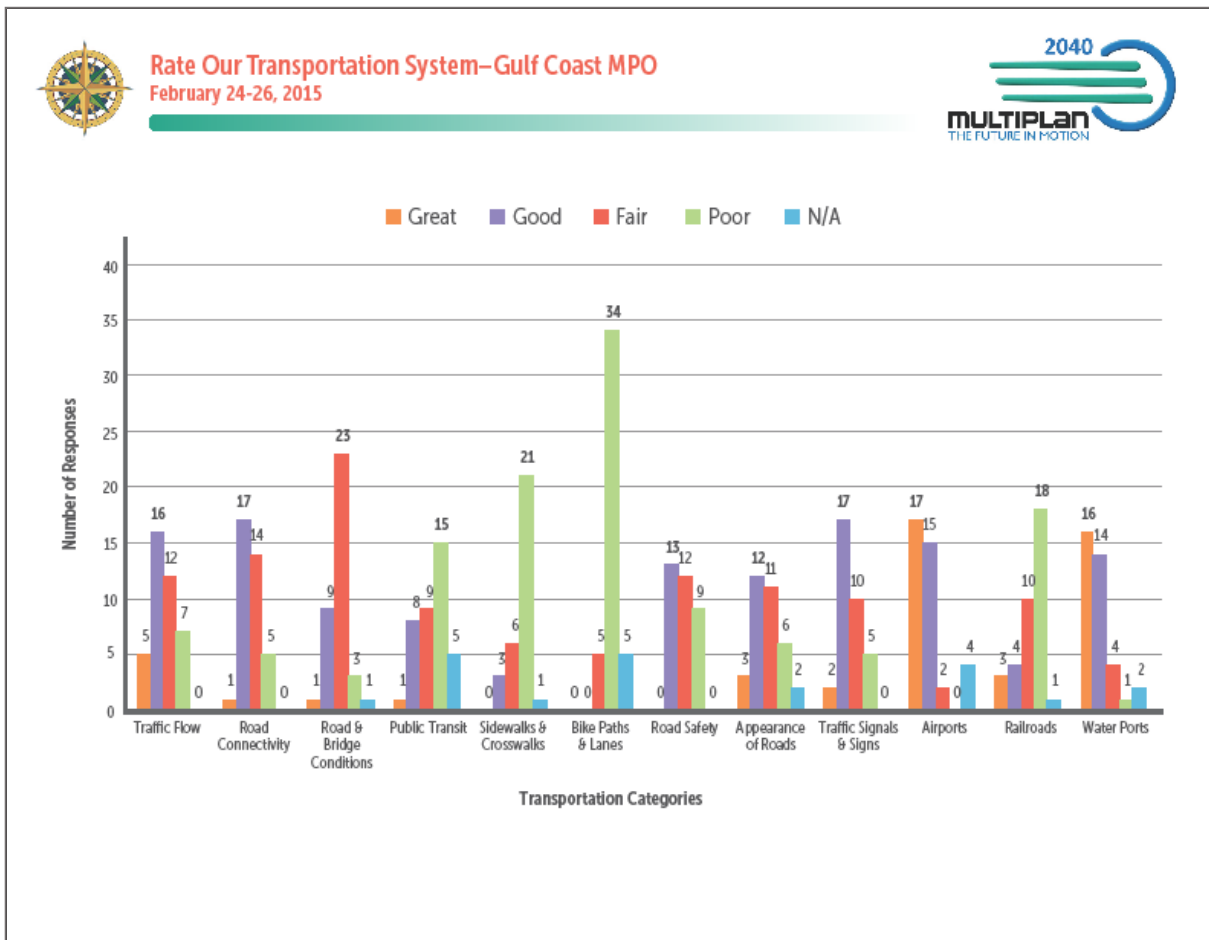
The planning team offered three activities designed to elicit input from public meeting participants:

- Participants reviewed maps locating state-maintained highways and multimodal facilities and marked them up, providing written comments identifying needed transportation improvements.
- Participants also had the opportunity to rate the condition of a dozen different aspects or components of the transportation system, including sidewalks and crosswalks, traffic flow, the appearance of roads, public transit, airports, railroads and maritime ports, among others (see Figure 6-2).
- Finally, meeting participants were provided a form to use in expressing how they felt the state should invest transportation funds expected to be available in the future in order to optimize the performance of the multimodal system (see Figure 6-3).

A plurality of respondents rating the condition of public transit (15 of 38) said it was *poor*. By way of comparison, sizable majorities rated bicycle and pedestrian facilities in the same way: 21 Of 31 respondents in the case of “Sidewalks & Crosswalks”; 34 of 44 in the case of “Bike Paths & Lanes.” Responses regarding spending priorities were broadly distributed. Individuals participating in the exercise were asked to indicate how they would distribute future transportation funding among 10 different categories. The aggregate response allocated only 12 percent to “Improve or develop transit services/options.” However, only two categories garnered a greater hypothetical investment: “Maintain roads” (21 percent) and “Improve bicycle connectivity” (15 percent).

Public meetings to review the draft Metropolitan Transportation Plan were held November 17 – 19, 2015 at the following locations: In Jackson County at the Pascagoula Senior Center at 1912 Live Oak Avenue; in Harrison County at Edgewater Mall, 2600 Beach Boulevard in Biloxi; and in Hancock County at the Bay Saint Louis Community Hall, 301 Blaize Avenue. As with the first round of meetings, public notice was made by means of advertisements in local newspapers; and attendance was encouraged on the *MindMixer* project website, through social media, and in e-mail *blasts* calculated to achieve the broadest possible outreach. All of the exhibits and informational materials from the second round of public meetings, as with the first, were made available electronically to accommodate those who were not able to attend in person but wished to participate online.

Figure 6-2:
TRANSPORTATION SYSTEM PERFORMANCE RATED BY PUBLIC MEETING PARTICIPANTS

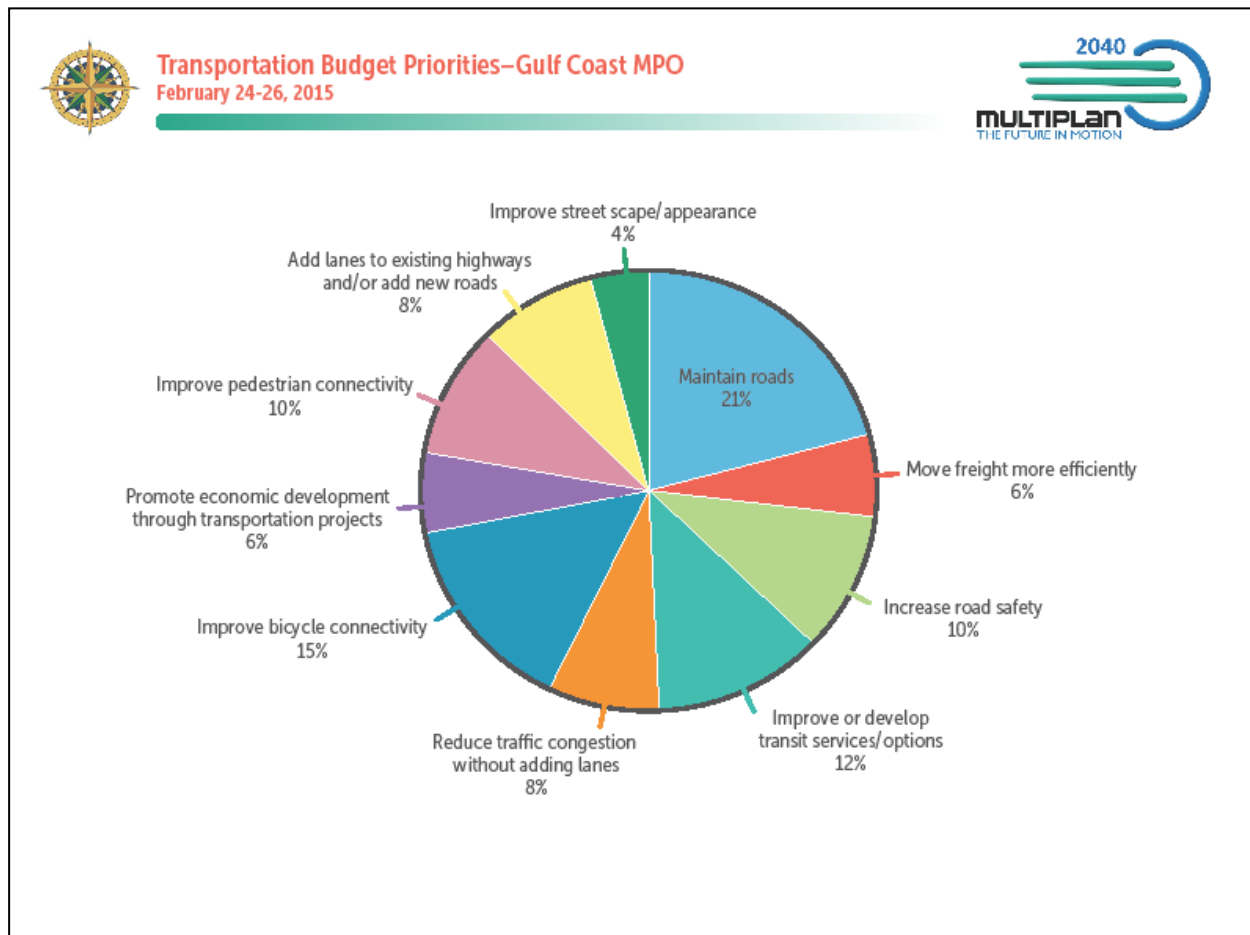


Source: Neel-Schaffer, Inc.

Stakeholder Outreach

Stakeholders and other interested parties across the Mississippi Gulf Coast region were invited to become partners with GRPC in planning for future transportation needs. Foremost among these were the members of the Technical Coordinating Committee (TCC) whose role as advisors to the Transportation Policy Committee (TPC) is essential for the proper functioning of the MPO. Agency staff also maintain a comprehensive database of stakeholders who have a fundamental interest in issues relating to the movement of people and goods. Individuals affiliated with groups whose members are engaged in pursuits that rely heavily on the availability of an efficient transportation system were contacted and invited to take an active role in updating the Metropolitan Transportation Plan. E-mail *blasts* inviting participation in all phases of the plan development process were broadcast along with information about online participation opportunities. Meetings were also held with key stakeholder groups when requested (see Table 6-1).

Figure 6-3:
TRANSPORTATION FUNDING PRIORITIES IDENTIFIED BY PUBLIC MEETING PARTICIPANTS



Source: Neel-Schaffer, Inc.

WEB-BASED ACTIVITIES

With an eye toward leveraging the power of the Internet in order to raise awareness and increase involvement opportunities, the planning team made good use of social media platforms and *MindMixer*, an interactive web-based program designed to facilitate the exchange of information and opinion. *MindMixer* engages Internet users by providing a medium for continuous survey activity and opportunities for public discussion and educational outreach. It was developed to meet the needs of an increasing number of people who turn to the Internet for information. Another factor in the decision to make use of the program was the need to reach those who are not physically able to attend public meetings and those who may be disinclined to do so because of their limited knowledge of the English language. Topical information, surveys and opinion polls were posted on the *MindMixer* site throughout the planning process. Many posts were educational and helped raise public awareness and stimulate community discussion of critical issues confronting those responsible for shaping the future of Mississippi's

transportation system. Online participants received frequent e-mail invitations and updates intended to keep them engaged in the process and to help prompt meaningful input.

Table 6-1:
STAKEHOLDER GROUP PARTICIPATION OPPORTUNITIES

DATE	GROUP	LOCATION
Sept. 25, 2014	GRPC MPO Transportation Policy Committee	GRPC 1635-G Popps Ferry Rd., Biloxi
Dec. 11, 2014	GRPC MPO Transportation Policy Committee and Technical Coordinating Committee	MSU Extension Center 1815 Popps Ferry Rd., Biloxi
Jan. 22, 2015	GRPCMPO Bicycling and Walking Advisory Group	Donal Snyder Community Center 2520 Pass Rd., Biloxi
Feb. 24, 2015	GRPC MPO Accessible Transportation Advisory Group	CTA Transit Center 820 MLK Jr. Blvd., Biloxi
Feb. 26, 2015	GRPC MPO Technical Coordinating Committee	GRPC 1635-G Popps Ferry Rd., Biloxi
Feb. 26, 2015	Goods Movement Advisory Group	GRPC 1635-G Popps Ferry Rd., Biloxi
Feb. 27, 2015	GRPC MPO Livability and Development Advisory Group	GRPC 1635-G Popps Ferry Rd., Biloxi
March 25, 2015	GRPC MPO Transportation Policy Committee and Technical Coordinating Committee	GRPC 1635-G Popps Ferry Rd., Biloxi
May 28, 2015	GRPC MPO Technical Coordinating Committee	GRPC 1635-G Popps Ferry Rd., Biloxi
June 25, 2015	GRPC MPO Transportation Policy Comm. Meeting	Innovation Center: 1636 Popps Ferry Rd, Biloxi MS
August 27, 2015	GRPC MPO Technical Coordinating Committee	GRPC 1635-G Popps Ferry Rd., Biloxi
Sept. 24, 2015	GRPC MPO Transportation Policy Comm. Meeting	GRPC 1635-G Popps Ferry Rd., Biloxi
Dec. 10, 2015	GRPC joint meeting of the TCC and the TPC	Biloxi Visitor's Center, Beach Boulevard, Biloxi, MS

In an effort to foster understanding of the MULTIPLAN comprehensive planning initiative throughout the state, a link to each MPO's home page was provided on the project website maintained by MDOT. Anyone having a question about the metropolitan planning effort was prompted to contact appropriate MPO staff via Internet messaging, e-mail or telephone. By the end of the planning process, the number of *MindMixer* participants had grown to 7,088 individuals who generated 23,543 page views. The average age for all participants was 44 years. Males outnumbered females by 55 to 45 percent. GRPC staff made excellent use of the MPO website to promote project awareness and encourage public involvement. Among their more successful ventures was the online publication of a regular newsletter reporting on the progress of long-range planning activities and giving notice of upcoming events and other opportunities for public input.

6.2 PLAN REVIEW

A number of projects identified in the Local Mobility Program of the 2035 TDP have yet to be implemented and qualified by default as alternatives for consideration in developing the 2040 plan. Short-term projects programmed for implementation during the period from 2011 to 2015 included the following:

- Fixed-route service on a 45-minute headway with parallel ADA paratransit in Bay Saint Louis.
- Extension of the Beachcomber from Gulfport to Bay Saint Louis with bus trips scheduled at 45-minute intervals and parallel ADA paratransit service provided.
- Fixed-route service on Popp's Ferry Road, operating on a 90-minute headway with parallel ADA paratransit.
- Intercity express bus service between Gulfport and Biloxi with one vehicle running in each direction every 30 minutes.
- Reconfiguration of Gulfport Route 37 between the downtown transit center and Crossroads Mall to allow a scheduled departure every 45 minutes.
- Implementation of downtown shuttle bus service in Gulfport during peak travel periods.
- Initiation of a Mississippi Gulf Coast Coliseum circulator providing express service between the Coliseum area and the downtown terminals in Gulfport and Biloxi during conventions and other special events, operating as an enhancement of the existing Beachcomber service.
- Reduction of headways on Ocean Springs Route 7 to 45 minutes.
- Implementation of fixed-route service in Pascagoula with buses operating on a 45-minute headway with parallel ADA paratransit.
- Initiation of fixed-route service between Gautier and Pascagoula, possibly on a demand-response basis.

Local Mobility Program items identified for development in the mid-term period from 2016 to 2025 included the following:

- Extension of the Beachcomber from Bay Saint Louis to Buccaneer State Park with parallel ADA paratransit.
- Fixed-route service in Diamondhead, connecting to Bay Saint Louis and operating on a 90-minute headway, with parallel ADA paratransit.
- Expansion of the Gulfport downtown shuttle to provide all-day service (if warranted).
- Upgrade of the Coliseum circulator to stand-alone status (if warranted).
- Implementation of Moss Point fixed-route service on a 45-minute headway with parallel ADA paratransit.
- Initiation of regularly scheduled service between Gautier and Pascagoula with parallel ADA paratransit.

Most of these were identified as alternatives in the previous chapter of this report, although in some cases with modifications:

Bay Saint Louis service was initiated on a free trial basis with a 45-minute headway in 2015 but has since been discontinued.

Beachcomber extension from Gulfport to Bay Saint Louis, with a 45-minute headway, was identified as two separate alternatives: One spanning the west side of Gulfport and all of Long Beach with a terminus on the east side of Pass Christian; the other spanning Pass Christian and ending in Bay of Saint Louis.

Popp's Ferry fixed-route service, with a single bus operating on a 90-minute headway, was proposed instead with one bus running in each direction every 45 minutes.

Inter-City Express Bus service between the Gulfport and Biloxi transit terminals, operating at 30-minute intervals, was proposed as previously recommended.

Pascagoula fixed-route service on a 45-minute headway was proposed instead to include Moss Point service as well with a 60-minute interval between scheduled bus trips.

Gautier-Pascagoula service was proposed with one bus operating on a 60-minute headway.

Two other short-term projects from the 2035 TDP have not yet been implemented but could still be put in place, like the recently inaugurated D'Iberville Route 8 shuttle, to address specific needs within a fairly limited service area:

Gulfport Downtown Shuttle would connect the Mississippi State Port and other major job sites in the city's central business district to the Gulfport Transit Center during peak travel periods.

Coliseum Area Shuttle would augment regularly scheduled service on the Beachcomber line with occasional special operations, connecting the Mississippi Coast Coliseum and Convention Center to downtown Gulfport and/or Biloxi, tailored to the travel needs of visitors participating in conferences, conventions or other large events.

Two short-term projects involving modifications to existing routes remain unfulfilled despite the adoption of limited changes:

Gulfport Route 37 was pared to provide more time, for both travel and for layovers between trips, in order to achieve greater adherence to schedule. However, reducing the current 90-minute headway by half can only be accomplished by adding a second bus to the route.

Ocean Springs Route 7 has been modified slightly to reduce travel time and increase the scheduled layover between trips, but service is still limited to a single bus making a round-trip every 90 minutes.

The two mid-term projects planned for implementation in Hancock County after 2016, the Bay-Waveland Beachcomber and Diamondhead-to-Bay Saint Louis routes, remain lower-priority items following termination of the Bay Trolley experiment.

Two alternatives not included in the 2035 TDP were identified by the needs analysis described in the preceding chapter:

Ocean Springs-D'Iberville – This proposed new route would connect two areas of significant economic activity in the western part of Jackson County, traversing areas of relatively dense residential and commercial development between downtown Ocean Springs and the Promenade.

Orange Grove – This proposed new route would extend transit service to much of the area north of I-10 annexed by the City of Gulfport some years ago. Trips would begin and end at the Crossroads Center with buses traveling up and down the heavily developed commercial corridor along Highway 49 between Crossroads Parkway and O'Neal Road.

6.3 EVALUATION OF ALTERNATIVES

Proposed alternatives were evaluated on the basis of their ability to meet the following needs considered crucial for the continuing success and future growth and development of the Coast Transit Authority system:

Maintain the existing system and enhance service wherever possible. In order to build up, it is necessary first to secure the foundation. There is no point in talking about the new if the old cannot be sustained. The well-being of the present system is essential for its growth in the future. Improvements that serve to strengthen the integrity of the existing service network are vitally important. This includes maintenance of the operator's financial health and requires that the anticipated revenue and net operating cost of a project be carefully scrutinized.

Upgrade and expand service in areas of particular need. The first priority in planning for expanded public transportation is to address the real need for service where it exists. Areas of particular need include those where auto ownership and vehicle availability rates may be low compared to the region as a whole. Base-year (2013) data assembled for the regional travel demand forecasting model were used to identify areas of relative *transit dependency*. *Environmental justice* areas designated by Gulf Regional Planning Commission (GRPC), in compliance with the Federal mandate regarding equitable treatment of low-income and racial-

minority populations, were also included in the analysis. The assumption made was that new or improved transit service would be a benefit to low-income or minority residential areas.

Support system continuity and fill in service gaps where opportunities exist. Continuing articulation of the existing system will also serve to strengthen the foundation on which future additions to present service will stand. Providing better connections between existing routes will not only generate new ridership but enhance the performance of established lines. The addition of such missing links is a crucial factor in fostering the sustainability of the system as a whole.

Extend service to additional areas where unmet demand is indicated. The growth of the system depends on its ability to attract new patrons. Increased ridership can be accomplished by improving existing service to make it more attractive to potential riders, and that is certainly an important component of this plan. But ridership can also be increased by extending service into areas where there is a demonstrable need for transit or evidence of untapped latent demand. There is a sense in which this equates to picking the low-hanging fruit; nevertheless it represents an essential element of any effort to grow the system.

Establish transit service in localities that presently have none. At the present time CTA operations are confined to four cities in the Gulfport Urban Area: Gulfport, Biloxi, D'Iberville and Ocean Springs. There are no CTA routes in the three Pascagoula Urban Area cities: Pascagoula, Moss Point and Gautier. CTA is authorized to operate throughout the Gulfport-Biloxi-Pascagoula Metropolitan Statistical Area, that is, anywhere in Hancock, Harrison or Jackson County. The estimated population of the Pascagoula Urban Area in 2014 was 49,512, according to the *American Community Survey*. Estimated employment in 2013 was more than 36,000, much of it concentrated in heavy industry--notably shipbuilding and refining--and in maritime trade and transportation. Moreover, most of Moss Point and much of Pascagoula is designated as being subject to the environmental justice mandate, so a strong case can be made for locating transit service in the area.

As the impact of new service on the overall financial condition of CTA is critical with regard to system maintenance, it was necessary to establish a basis for projecting ridership and operating revenues. Potential ridership was projected by applying a simple equation relating base-year (2013) transit ridership to selected traffic analysis zone (TAZ) data for the same year. The TAZ data were extracted from the base-year land use and demographic database assembled for calibration of the regional travel demand forecasting model. Base-year ridership on the two principal routes in the CTA system, the Beachcomber and Pass Road Route 34, was correlated with the number of households and jobs in the service area defined for each route. The two routes used are the longest and most well-established in the system. Together they accounted for 46 percent of all passengers carried by CTA in 2013. Household and employment data were aggregated for all zones traversed by a line or located within three-quarters of one mile of its path.

The resulting projections were developed primarily for comparative analysis of the alternatives and for use in deriving an order-of-magnitude estimate of the net operating cost associated with each. Operating expenses were calculated by assuming the average cost per vehicle-mile for the system as a whole in 2013 (\$3.98). Operating revenue was calculated by assuming the average fare paid by a passenger for the system as a whole in 2013 (\$0.84). Projected annual ridership ranged from just under 25,000 on the Beachcomber Bay Saint Louis route to more than 227,000 on the Sunshine Express (see Table 6-2). The corresponding range of revenue projected to be generated by fares had a low of just under \$21,000 and a high of more than \$191,000 (see Table 6-3).

Table 6-2:
PROJECTED RIDERSHIP FOR PROPOSED ROUTE ALTERNATIVES

PROPOSED ROUTE	ANNUAL PASSENGER TRIPS (1)	SERVICE AREA HOUSEHOLDS	SERVICE AREA EMPLOYEES
Beachcomber Bay St Louis	24,994	2,400	3,581
Beachcomber Long Beach	90,810	3,583	14,145
Sunshine Express	227,668	9,520	35,344
Popp's Ferry Road	79,638	6,937	11,567
Orange Grove	111,547	8,945	16,372
Ocean Springs-D'Iberville	62,613	6,932	8,768
Gautier-Pascagoula	53,253	1,974	8,323
Pascagoula-Moss Point	90,415	6,120	13,520
TOTAL	740,938	46,411	111,620

(1) Annual Passenger Trips = (1.3421 * Households) + (6.0800 * Employees).

Table 6-3:
PROJECTED OPERATING COST AND REVENUE FOR PROPOSED NEW OR MODIFIED BUS ROUTES

ROUTE	ROUND TRIP LENGTH (MI)	DAILY ROUND TRIPS	TRIPS PER WEEK	ANN TRIPS	ANN VEH MILES	ANN PASS	ANN OPER COST (1)	ANN OPER REV (2)	NET OPER COST (3)
Beachcomber Bay St Louis	25.22	10	60	3,120	78,686	24,994	\$313,172	\$20,995	\$292,177
Beachcomber Long Beach	14.13	20	120	6,240	88,171	90,810	\$350,921	\$76,281	\$274,641
Sunshine Express	25.22	12	72	3,744	94,424	227,668	\$375,806	\$191,241	\$184,565
Popp's Ferry Road	20.97	10	60	3,120	65,426	79,638	\$260,397	\$66,896	\$193,502
Orange Grove	8.20	30	180	9,360	76,752	111,547	\$305,473	\$93,699	\$211,773
Ocean Springs-D'Iberville	15.28	15	90	4,680	71,510	62,613	\$284,611	\$52,595	\$232,017
Gautier-Pascagoula	15.00	15	90	4,680	70,200	53,253	\$279,396	\$44,733	\$234,663
Pascagoula-Moss Point	15.28	15	90	4,680	71,510	90,415	\$284,611	\$75,949	\$208,663

(1) Assumed cost is \$3.98 per vehicle-mile based on operating data for 2013.

(2) Assumed revenue is \$0.84 per passenger-trip based on operating data for 2013.

(3) Net operating cost equals overall operating cost less operating revenue.

The high and low projected annual net operating costs were \$292,177 for the Beachcomber Bay Saint Louis and \$184,565 for the Sunshine Express. Fare recovery rates ranged from 6.7 percent for the Bay Saint Louis line to over 50 percent for the Gulfport-Biloxi express route. The median rate was 23.7 percent. The proposed Orange Grove route registered the second-best rate of return at 30.7 percent, and the Popp's Ferry line had the second lowest net operating expense (\$193,502).

The comparative analysis of alternatives took into consideration the five evaluation criteria cited above, assigning each proposed new route to one of three groups. Group 1 included alternatives that would best meet the need associated with a given criterion. Other alternatives that would address the need less directly were assigned to Group 2. Those which would have little or no utility with respect to a particular criterion were collected in Group 3.

The first criterion, relating to maintenance of the existing system, was applied on the basis of the projected cost effectiveness of each alternative. Three measures were used in the analysis: Net operating cost, rate of return (operating revenue/operating cost) and net cost per passenger (see Table 6-4). Alternatives were ranked with respect to each measure: Lowest to highest for net operating cost, highest to lowest for rate of return, lowest to highest for net cost per passenger. An average rank was then calculated for each, and the alternatives were grouped accordingly; alternatives with average rank 1.0 to 3.0 in Group 1; alternatives with average rank 3.1 to 6.0 in Group 2; those with average rank greater than 6.0 in Group 3. The Sunshine Express, Orange Grove and Pascagoula-Moss Point fared best with regard to the first criterion; the Beachcomber Bay Saint Louis and Pascagoula-Moss Point fared worst.

Table 6-4:
APPLICATION OF THE MAINTENANCE OF EXISTING SYSTEM CRITERION

ALTERNATIVE	NET OPERATING COST		RATE OF RETURN		NET COST PER PASSENGER		AVG RANK	GROUP
	Amount	Rank	Percent	Rank	Amount	Rank		
Beachcomber Bay St Louis	\$292,177	8	6.7	8	\$11.69	8	8.00	3
Beachcomber Long Beach	\$274,641	7	21.7	5	\$3.02	5	5.67	2
Sunshine Express	\$184,565	1	50.9	1	\$0.81	1	1.00	1
Popp's Ferry Road	\$193,502	2	25.7	4	\$2.43	4	3.33	2
Orange Grove	\$211,773	4	30.7	2	\$1.90	2	2.67	1
Ocean Springs-D'Iberville	\$232,017	5	18.5	6	\$3.71	6	5.67	2
Gautier-Pascagoula	\$234,663	6	16.0	7	\$4.41	7	6.67	3
Pascagoula-Moss Point	\$208,663	3	26.7	3	\$2.31	3	3.00	1

Notes:

Net Operating Cost is taken from Table 6-3; ranking is from lowest to highest. Rate of Return is calculated on the basis of data in Table 6-3 (Operating Revenue/Operating Cost); ranking is from highest to lowest. Net Cost Per Passenger is calculated on the basis of data in Table 6-3 (Net Operating Cost/Annual Passengers); ranking is from lowest to highest. Group assignment was based on the following division: Group 1 - Average Rank = 1.0-3.0; Group 2 - Average Rank = 3.1-6.0; Group 3 - Average Rank 6.1 or greater.

The criterion relating to expansion in areas of need was specifically concerned with providing service to those areas identified as *traditionally underserved* by the GRPC Title VI analysis undertaken in conformance with Executive Order 12898 (“Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations”). These areas (previously shown in Figure 5-2) are displayed in relation to the proposed alternatives in maps appended to this document (see Appendix A). Data relating to the presence of minority individuals and low-income households in areas that would be served by proposed new transit service are presented in tabular form in the same appendix. Data from these tables were used to evaluate alternatives with respect to the second criterion. The items taken into consideration were the number of nonwhite residents, the relative size of the nonwhite population and the number of households with annual income less than \$15,000 (see Table 6-5). Alternatives were rated and ranked by the same method applied with regard to the first criterion. The Pascagoula-Moss Point and Beachcomber Long Beach alternatives achieved Group 1 status; Popp’s Ferry Road and Orange Grove were relegated to Group 3. However, the spread in average rank (2.33 to 6.67) was significantly narrower than was the case for the previous criterion (1.00 to 8.00).

Alternatives were evaluated with regard to the third criterion, *supporting system continuity and filling gaps in the existing service network*, on the basis of linkages to currently operating fixed-route bus lines. Six locations currently serving as transfer points, or having the potential to serve as points of connection between existing lines and proposed new routes, were selected for consideration – the Gulfport and Biloxi transit terminals, Edgewater transfer facility, downtown Ocean Springs, Crossroads (I-10 at US 49) and The Promenade (I-10 at I-110). Alternatives were grouped according to the number of connection-points to which each would link (see Table 6-6). Those with multiple connection-points were assigned to Group 1; those with a single connection-point to Group 2; and those with no connection to Group 3. Three alternatives were assigned to Group 1. The Sunshine Express would have connections at both ends and in the middle; Popp’s Ferry and Ocean Springs-D’Iberville would have connections at both ends. There were also three alternatives in the lowest group: Beachcomber Bay Saint Louis and the two Pascagoula Urban Area routes would not connect to any existing line.

The evaluation of alternatives based on application of the fourth criterion, *extending service to areas of unmet demand*, made use of data relating to the number of households and persons employed in traffic analysis zones identified as being areas of latent demand for transit (refer to figures 5-2 to 5-11 in Chapter 5). These are areas unserved by the existing system which meet the threshold density levels of 1,736 residents per square mile or 1,933 workers per square mile. For each alternative data were aggregated for those qualifying zones located within one-half-mile of the proposed route that do not currently have access to transit (see Table 6-7). Alternatives were then ranked from highest to lowest in each category, an average rank was derived; and the proposed new lines were grouped according to the same scheme applied to the previous criteria: Group 1 – Average Rank 1.0 to 3.0; Group 2 – Average Rank 3.1 to 6.0; Group 3 – Average rank greater than 6.0. This approach yield two Group 1 alternatives, Pascagoula-Moss Point and Popp’s Ferry Road, and two Group 3 alternatives, the Sunshine Express and Ocean Springs-D’Iberville. The other four alternatives were assigned to the middle group.

Table 6-5:
APPLICATION OF THE EXPANSION IN AREAS OF NEED CRITERION

ALTERNATIVE	NONWHITE POPULATION		PERCENT NONWHITE		HH INCOME < \$15,000		AVERAGE	GROUP
	Number	Rank	Percent	Rank	Percent	Rank	RANK	
Beachcomber Bay St Louis	1,608	6	63.46	3	17.09	6	5.00	2
Beachcomber Long Beach	3,838	4	65.74	2	34.25	2	2.67	1
Sunshine Express	8,371	2	58.29	5	25.48	4	3.67	2
Popp's Ferry Road	1,585	7	53.42	6	14.22	7	6.67	3
Orange Grove	3,315	5	49.43	7	11.19	8	6.67	3
Ocean Springs-D'Iberville	29	8	6.22	8	46.83	1	5.67	2
Gautier-Pascagoula	6,057	3	60.53	4	25.93	3	3.33	2
Pascagoula-Moss Point	13,395	1	76.10	1	23.35	5	2.33	1

Notes:

All data are taken from tables in Appendix A. All categories are ranked from highest to lowest. Group assignment was based on the following division: Group 1 – Average Rank 1.0-3.0; Group 2 – Average Rank – 3.1-6.0; Group 3 – Average Rank 6.1 or greater.

Table 6-6:
APPLICATION OF THE SUPPORTING SYSTEM CONTINUITY CRITERION

ALTERNATIVE	POINT OF CONNECTION TO EXISTING TRANSIT NETWORK						NUM-BER	GROUP
	Gulfport Terminal	Biloxi Terminal	Edge-water Mall	The Promenade	Cross-roads	Ocean Springs		
Beachcomber Bay St Louis	X	X	X	X	X	X	0	3
Beachcomber Long Beach	✓	X	X	X	X	X	1	2
Sunshine Express	✓	✓	✓	X	X	X	3	1
Popp's Ferry Road	X	X	✓	✓	X	X	2	1
Orange Grove	X	X	X	X	✓	X	1	2
Ocean Springs-D'Iberville	X	X	X	✓	X	✓	2	1
Gautier-Pascagoula	X	X	X	X	X	X	0	3
Pascagoula-Moss Point	X	X	X	X	X	X	0	3

Notes:

Group assignment was based on the following division: Group 1 - Multiple points of connection; Group 2 - Single point of connection; Group 3 - No point of connection.

The fifth and final criterion, *establish transit in unserved localities*, simply involved identifying communities that presently have no transit service but would be served by a proposed new route. Alternatives that would establish service in two new localities were assigned to Group 1; those that would extend transit operations to one new locality were included in the second group; those that would not go beyond the limits of areas presently served were relegated to Group 3. Half of the eight alternatives were assigned to the lowest rank, three of the other four to the highest.

Group 1 – Beachcomber Bay Saint Louis, Gautier-Pascagoula, Pascagoula-Moss Point

Group 2 – Beachcomber Long Beach

Group 3 – Sunshine Express, Popp's Ferry Road, Orange Grove, Ocean Springs-D'Iberville

Table 6-7:

APPLICATION OF THE EXPANSION IN AREAS OF UNMET DEMAND CRITERION

ALTERNATIVE	EXISTING AREAS OF UNMET DEMAND				AVG	GROUP
	HH	Rank	Employ	Rank	RANK	
Beachcomber Bay St Louis	1,547	6	3,307	3	4.5	2
Beachcomber Long Beach	2,342	3	2,355	6	4.5	2
Sunshine Express	0	8	0	8	8	3
Popp's Ferry Road	2,944	2	3,162	4	3	1
Orange Grove	2,116	4	2,801	5	4.5	2
Ocean Springs-D'Iberville	186	7	191	7	7	3
Gautier-Pascagoula	2,068	5	17,093	2	3.5	2
Pascagoula-Moss Point	5,847	1	21,370	1	1	1

Notes:

2013 households and employees were derived from estimated base-year data for those traffic analysis zones, located within one-half-mile of the route, that were designated areas of unmet demand in Chapter 5. Group assignment was based on the following division: Group 1 – Average Rank 1.0-3.0; Group 2 – Average Rank 3.1-6.0; Group 3 – Average Rank 6.1 or greater.

Source: Mississippi Gulf Coast Area Transportation Study: 2040 Metropolitan Transportation Plan.

The results of the analyses undertaken for the five criteria were combined in order to derive an overall ranking of proposed alternatives (see Table 6-8). A composite score representing its average group assignment was calculated for each alternative. These ranged rather narrowly from 1.4 to 2.2, so once again the proposed new lines were aggregated into three groups, according to the following division: Group 1 – Average Score < 2.0; Group 2 – Average Score = 2; Group 3 – Average Score > 2.0. Pascagoula-Moss Point and Beachcomber Bay Saint Louis came out on top in the overall evaluation; the Sunshine Express and Popp's Ferry Road formed the second group; the other four made the third.

The purpose of this planning exercise was to develop a rational basis for scheduling needed improvements in the 2040 TDP. Given the scarcity of financial resources they cannot all be implemented within the short-term plan framework; some will have to be deferred until later stages of implementation. Hopefully it will be possible to establish all of the needed new routes over the life of the plan. For now the challenge is to determine what can and should be done and when. The financial analysis and plan summary presented in the next chapter represent an attempt to do so.

Table 6-8:
COMPOSITE EVALUATION MATRIX
FOR PROPOSED NEW OR EXTENDED FIXED-ROUTE TRANSIT SERVICE

ROUTE	GROUP ASSIGNMENT BY EVALUATION CRITERION					AVG SCORE	OVERALL GROUP
	Maintain Existing System	Expand in Areas of Need	Support System Continuity	Extend to Areas of Unmet Demand	Establish in Unserved Localities		
Beachcomber Bay Saint Louis	3	2	3	2	1	2.20	3
Beachcomber Long Beach	2	1	2	2	2	1.80	1
Sunshine Express	1	2	1	3	3	2.00	2
Popp's Ferry Road	2	3	1	1	3	2.00	2
Orange Grove	1	3	2	2	3	2.20	3
Ocean Springs-D'Iberville	2	2	1	3	3	2.20	3
Gautier-Pascagoula	3	2	3	2	1	2.20	3
Pascagoula-Moss Point	1	1	3	1	1	1.40	1

Notes:

Overall Group based on the following division: Group 1 - Average Score < 2.0; Group 2 - Average Score = 2.0; Group 3 - Average Score > 2.0.

7.0 FINANCIAL ANALYSIS AND PLAN SUMMARY

The program of projects outlined in this chapter presents a fiscally constrained plan for meeting the demand for transit in the Mississippi Gulf Coast Metropolitan Planning Area (MPA), both in those areas currently served by Coast Transit Authority (CTA) and in unserved areas where there is a demonstrable need for an alternative to travel by personal vehicle. At the present time, service is limited to that portion of the Gulfport Urban Area located predominantly in the eastern half of Harrison County and the western portion of Jackson County. If transit operations are to expand beyond the limits of Gulfport, Biloxi, D'Iberville and Ocean Springs—to the other cities in Harrison County (Long Beach and Pass Christian); those in Hancock County (Bay Saint Louis, Waveland and Diamondhead); and the unserved cities of the Pascagoula Urban Area (Gautier, Pascagoula and Moss Point)—it will be necessary to secure additional local funding to support the establishment of new routes and provide the equipment and facilities required to make them functional.

7.1 FINANCIAL ANALYSIS

While no dedicated local source of funding yet exists to support the CTA system, the amount required to match available Federal grants for capital and operating assistance has increased over time; and it is reasonable to assume that it will continue to do so in the future. The financial analysis began by assuming that state and local funding amounts would increase sufficiently to match the higher levels of formula grant apportionments resulting from adoption of the *Fixing America's Surface Transportation (FAST) Act* enacted in December 2015. The new apportionments for the next five years, from 2016 through 2020, will likely make more Federal funding available for CTA projects than the amounts currently programmed in the Statewide Transportation Improvement Program (STIP) for 2015 through 2019. Therefore the projection of funding which can reasonably be expected to be available for transit in the Mississippi Gulf Coast MPA, during the period covered by the Transit Development Plan (TDP), took the increased level of Federal support and state or local matching funds in the short term as a given (see Table 7-1).

The analysis assumed state and local funding would increase sufficiently to match higher levels of formula grant apportionments resulting from the FAST Act

In order to limit projected future spending to levels commensurate with the resources that can reasonably be expected to be available, an approach was adopted that stressed consistency with established trends. In the case of Federal funds, that trend was delineated by the anticipated short-term availability of formula-grant funds resulting from adoption of the FAST Act. As the Section 5307 program represents the primary source of funding for CTA, both for operations and for capital improvements, the annual funding levels for that program established in the act provided the basis for defining a trend.

Based on the amounts designated for Section 5307 and other formula-grant programs in the FAST Act, the annual total of Federal funds made available for CTA capital and operating assistance is likely to grow by \$500,000 from around \$5.34 million in 2016 to more than \$5.84 million in 2020. The corresponding

match requirement will increase from roughly \$3.07 million to nearly \$3.36 million. These amounts do not include pending discretionary grant requests discussed below or other major capital projects not contemplated in the present program that would require special funding.

Table 7-1:
COAST TRANSIT AUTHORITY PROJECTED FUNDING BY FEDERAL SOURCE:
2016-2020

SOURCE	CATEGORY	2016	2017	2018	2019	2020
Sec. 5307	Operating Assistance	\$2,249,782	\$2,294,774	\$2,342,967	\$2,392,638	\$2,443,359
Local Match		\$2,249,782	\$2,294,774	\$2,342,967	\$2,392,638	\$2,443,359
Sub-Total		\$4,499,564	\$4,589,547	\$4,685,935	\$4,785,276	\$4,886,719
Sec. 5307	Paratransit	\$305,400	\$332,275	\$339,253	\$346,445	\$353,790
Local Match		\$76,350	\$83,069	\$84,813	\$86,611	\$88,447
Sub-Total		\$381,750	\$415,344	\$424,066	\$433,057	\$442,237
Sec. 5307	Capital Assistance	\$1,881,266	\$1,968,729	\$2,010,075	\$2,052,688	\$2,096,203
Local Match		\$470,316	\$492,182	\$502,519	\$513,172	\$524,051
Sub-Total		\$2,351,582	\$2,460,911	\$2,512,594	\$2,565,861	\$2,620,254
Sec. 5307	Planning and	\$346,120	\$353,042	\$360,457	\$368,098	\$375,901
Local Match	Administration	\$86,530	\$88,261	\$90,114	\$92,025	\$93,975
Sub-Total		\$432,650	\$441,303	\$450,571	\$460,123	\$469,877
Sec. 5310	Enhanced Senior and	\$193,420	\$197,288	\$201,432	\$205,702	\$210,063
Local Match	Disabled Mobility	\$193,420	\$197,288	\$201,432	\$205,702	\$210,063
Sub-Total		\$386,840	\$394,576	\$402,863	\$411,404	\$420,125
Sec. 5339	Buses and Bus	\$365,000	\$365,000	\$365,000	\$365,000	\$365,000
Local Match	Facilities	\$0	\$0	\$0	\$0	\$0
Sub-Total		\$365,000	\$365,000	\$365,000	\$365,000	\$365,000
FEDERAL TOTAL		\$5,340,989	\$5,511,108	\$5,619,184	\$5,730,572	\$5,844,316
LOCAL TOTAL		\$3,076,399	\$3,155,573	\$3,221,845	\$3,290,148	\$3,359,896
GRAND TOTAL		\$8,417,388	\$8,666,681	\$8,841,029	\$9,020,720	\$9,204,212

Notes:

Figures shown are based on amounts programmed in the Statewide Transportation Improvement Program but have been updated to reflect the increased level of funding for 2016-2020, compared to 2015, resulting from enactment of the Fixing America's Surface Transportation (FAST) Act in December of 2015.

Using the 2015 funding level as a base, the relative change in funding from year to year was used to calculate a five-year rolling average for the percentage change from one year to the next (see Table 7-2). This amounted to 2.16 percent per annum for the duration of FAST Act appropriations. This percentage was then converted to an annual change factor equaling *one plus the five-year rolling average divided by 100*. The change factor was updated for each additional year, ranging from 1.0207 to 1.0225 over the mid-term period from 2021 through 2030 but settling at 1.0212 by 2028 and continuing at that level through 2040. This analysis yielded a projected increase in Federal funding over the 25-year life of the plan amounting to \$145,799 a year in real (2016) dollars.

Table 7-2:
PROJECTED FEDERAL FUNDING FOR COAST TRANSIT AUTHORITY:
2016-2040

FISCAL YEAR	FUNDING AMOUNT	YEAR-TO-YEAR CHANGE	YEAR-TO-YEAR PCT CHANGE	5-YR ROLLING AVG PCT CHANGE	CHANGE FACTOR
2015	\$5,253,000	--	--	--	--
2016	\$5,340,989	\$87,989	1.68	--	--
2017	\$5,511,108	\$170,119	3.19	--	--
2018	\$5,619,184	\$108,076	1.96	--	--
2019	\$5,730,572	\$111,388	1.98	--	--
2020	\$5,844,316	\$113,744	1.98	2.16	1.0216
2021	\$5,970,417	\$126,101	2.16	2.25	1.0225
2022	\$6,105,003	\$134,586	2.25	2.07	1.0207
2023	\$6,231,256	\$126,253	2.07	2.09	1.0209
2024	\$6,361,452	\$130,196	2.09	2.11	1.0211
2025	\$6,495,732	\$134,280	2.11	2.14	1.0214
2026	\$6,634,482	\$138,751	2.14	2.13	1.0213
2027	\$6,775,910	\$141,427	2.13	2.11	1.0211
2028	\$6,918,691	\$142,782	2.11	2.12	1.0212
2029	\$7,065,024	\$146,333	2.12	2.12	1.0212
2030	\$7,214,814	\$149,790	2.12	2.12	1.0212
2031	\$7,367,914	\$153,100	2.12	2.12	1.0212
2032	\$7,524,056	\$156,143	2.12	2.12	1.0212
2033	\$7,683,320	\$159,264	2.12	2.12	1.0212
2034	\$7,846,102	\$162,781	2.12	2.12	1.0212
2035	\$8,012,388	\$166,287	2.12	2.12	1.0212
2036	\$8,182,186	\$169,798	2.12	2.12	1.0212
2037	\$8,355,536	\$173,350	2.12	2.12	1.0212
2038	\$8,532,549	\$177,013	2.12	2.12	1.0212
2039	\$8,713,342	\$180,793	2.12	2.12	1.0212
2040	\$8,897,969	\$184,628	2.12	2.12	1.0212

Notes:

Funding amount for 2015 is from the Statewide Transportation Improvement Program. Amounts for 2016-2020 are from Table 7-1. Change Factor equals $(1 + (5\text{-Year Rolling Average Percentage Change}/100))$. Projected Funding Amount for 2021 and subsequent years equals Funding Amount for preceding year multiplied by corresponding Change Factor for same year.

**Table 7-3:
PROJECTED LOCAL FUNDING FOR COAST TRANSIT AUTHORITY:
2016-2040**

FISCAL YEAR	FUNDING AMOUNT	YEAR-TO-YEAR CHANGE	YEAR-TO-YEAR PCT CHANGE	5-YR ROLLING AVG PCT CHANGE	CHANGE FACTOR
2015	\$3,022,000	--	--	--	--
2016	\$3,076,399	\$54,399	1.80	--	--
2017	\$3,155,573	\$79,174	2.57	--	--
2018	\$3,221,845	\$66,272	2.10	--	--
2019	\$3,290,148	\$68,303	2.12	--	--
2020	\$3,359,896	\$69,748	2.12	2.14	1.0214
2021	\$3,431,890	\$71,994	2.14	2.21	1.0221
2022	\$3,507,779	\$75,889	2.21	2.14	1.0214
2023	\$3,582,804	\$75,025	2.14	2.15	1.0215
2024	\$3,659,711	\$76,907	2.15	2.15	1.0215
2025	\$3,738,462	\$78,752	2.15	2.16	1.0216
2026	\$3,819,148	\$80,685	2.16	2.16	1.0216
2027	\$3,901,693	\$82,545	2.16	2.15	1.0215
2028	\$3,985,633	\$83,940	2.15	2.15	1.0215
2029	\$4,071,478	\$85,846	2.15	2.16	1.0216
2030	\$4,159,233	\$87,754	2.16	2.16	1.0216
2031	\$4,248,907	\$89,675	2.16	2.16	1.0216
2032	\$4,340,497	\$91,589	2.16	2.15	1.0215
2033	\$4,434,010	\$93,514	2.15	2.16	1.0216
2034	\$4,529,566	\$95,556	2.16	2.16	1.0216
2035	\$4,627,191	\$97,626	2.16	2.16	1.0216
2036	\$4,726,920	\$99,729	2.16	2.16	1.0216
2037	\$4,828,792	\$101,872	2.16	2.16	1.0216
2038	\$4,932,854	\$104,063	2.16	2.16	1.0216
2039	\$5,039,165	\$106,311	2.16	2.16	1.0216
2040	\$5,147,769	\$108,603	2.16	2.16	1.0216

Notes:

Funding amount for 2015 is from the Statewide Transportation Improvement Program. Amounts for 2016-2020 are from Table 7-1. Change Factor equals $(1 + (5\text{-Year Rolling Average Percentage Change}/100))$. Projected Funding Amount for 2021 and subsequent years equals Funding Amount for preceding year multiplied by corresponding Change Factor.

The same approach was adopted with regard to the match for Federal grants that would be provided by funds from local, state or other sources. The five-year trend was established on the basis of funding programmed in the STIP for 2015-2019 updated to match the increased levels of Federal formula-grant programs resulting from the FAST Act (see Table 7-3). The initial five-year rolling average for annual percentage change was 2.14. The annual change factor ranged from 1.0214 to 1.0221 during the ensuing ten-year period but settled at 1.0216 by 2029. The projected annual increase in local, state or other-sourced funding over the 25-year life of the plan amounted to \$85,030 per year.

7.2 PLAN SUMMARY

The balance of this chapter provides a summary description of the plan contents, year-by-year for the short-term component from 2016 through 2020, but making no effort to specify the actual year of implementation for projects listed in the 10-year plan components from 2021 to 2030 and 2031 to 2040. For each individual year or longer planning period, an attempt has been made to identify all projected expenditures foreseeable at this time. For the initial year projects included in the plan are, almost without exception, current and presumably continuing expenses to be carried forward from year to year. These represent the ordinary expenses incurred annually for the existing system: Operations, maintenance, equipment, supplies and the upkeep of facilities. These recurring costs are treated as fixed categories of expenditure in all subsequent years. This means that new service, or the enhancement of existing service, or major capital improvement projects beyond the scope of current allocations, can only be accommodated by the anticipated increase in available funds. Some capital expenditures are non-repeating items; others reappear in years succeeding an initial entry. On the other hand, the introduction of a new bus line, or more frequent or extended service on one already in the system, creates a recurring burden of expenditure that must be taken into account in all subsequent years.

The Gulfport Transit Center Expansion and associated overhead tramway and bicycle/pedestrian bridge spanning Highway 90 are pending capital projects for which CTA is seeking \$14.4 million in Federal assistance

Short-Term Plan Component (2016-2020)

(2016) The first-year element of the Transit Development Plan includes 15 projects listed for 2016 in the Statewide Transportation Improvement Program (STIP) (see Table 7-4). All represent recurring expenditures also programmed for subsequent years through 2019 in the STIP. Operating assistance for the existing fixed-route transit system accounts for 55.5 percent of all programmed funds. The total of \$7,960,000 does not include amounts for two additional projects not programmed for 2016. The Gulfport Transit Center Expansion is an \$8.2 million project that was programmed for 2015 but still awaits Federal Transit Administration (FTA) approval of a pending request for \$6,560,000 in Section 5339 discretionary capital assistance. The second is a closely related project that will provide a Tramway/Pedestrian/Bicycle Bridge spanning U. S. Highway 90 to connect the expanded Gulfport Transit Center to Jones Park on the south side of the beachfront arterial. CTA has requested approximately \$7,844,000 in Federal discretionary capital assistance to help cover the total cost of \$9,855,940. That request is also pending.

Maintaining proper signage is an essential element in the CTA initiative to eliminate "hail stops" that undermine adherence to schedule

(2017) The second-year element of the Short-Term Plan Component includes the 15 recurring projects listed for 2017 in the STIP and four additional relatively low-cost capital projects (see Table 7-5). The first establishes a cost item for signage and amenities needed to improve system visibility and passenger

accommodations on existing routes and to provide needed signs and benches on new bus lines planned for later years. Maintaining signs at all stop locations is also an essential element of the CTA initiative to eliminate “hail stops” (or “flag stops”) that add to the time required to run a route and undermine adherence to schedule. The second project provides for an initial purchase of lighted passenger waiting shelters that can be deployed at locations where bus routes currently deviate from the principal pathway to incorporate side-trips serving large apartment complexes and other sources of significant ridership. Excising these anomalous loops will save even more time than the elimination of irregular stops and will contribute significantly to the maintenance-of-schedule effort.

Table 7-4:

2040 TRANSIT DEVELOPMENT PLAN SHORT-TERM PROGRAM COMPONENT: YEAR 1 (2016)

2040 TRANSIT DEVELOPMENT PLAN SHORT-TERM PROGRAM COMPONENT: YEAR 1 (2016)					
NO	PROJECT NAME	FUNDING	2016		
		CATEGORY	FEDERAL	LOCAL/STATE	TOTAL
Available Funding:			\$5,340,989	\$3,076,399	\$8,417,388
101	Gulfport Transit Center Expansion	Capital Assistance	\$6,560,000	\$1,640,000	\$8,200,000
102	Tramway/Pedestrian/Bike Bridge	Capital Assistance	\$7,844,000	\$2,011,940	\$9,855,940
Total for Previously Programmed Projects			\$14,404,000	\$3,651,940	\$18,055,940
1	Current Fixed-Route Transit Service	Operating Assistance	\$2,210,000	\$2,210,000	\$4,420,000
2	Transit Enhancements	Operating Assistance	\$40,000	\$10,000	\$50,000
3	ADA Paratransit Operating Expense	Paratransit	\$300,000	\$75,000	\$375,000
4	Enhanced Senior/Disabled Mobility	Paratransit	\$190,000	\$190,000	\$380,000
5	Ongoing Preventive Maintenance	Capital Assistance	\$1,092,000	\$273,000	\$1,365,000
6	Revenue Vehicles	Capital Assistance	\$400,000	\$100,000	\$500,000
7	Support Vehicles	Capital Assistance	\$36,000	\$9,000	\$45,000
8	Computer Equipment	Capital Assistance	\$16,000	\$4,000	\$20,000
9	Shop Equipment	Capital Assistance	\$16,000	\$4,000	\$20,000
10	Rehabilitation of Existing Facilities	Capital Assistance	\$160,000	\$40,000	\$200,000
11	Office Equipment	Capital Assistance	\$8,000	\$2,000	\$10,000
12	Fare Collection Equipment	Capital Assistance	\$40,000	\$10,000	\$50,000
13	Communications Equipment	Capital Assistance	\$80,000	\$20,000	\$100,000
14	Marketing, Planning and Admin	Planning/Admin	\$300,000	\$75,000	\$375,000
15	Mobility Manager	Planning/Admin	\$40,000	\$10,000	\$50,000
Total for 2016 Programmed Projects			\$4,928,000	\$3,032,000	\$7,960,000
Balance (Carryover)			\$412,989	\$44,399	\$457,388

Notes:

All projects listed are included in Mississippi Department of Transportation, Statewide Transportation Improvement Program: 2015-2019 except (102) Tramway/Pedestrian/Bike Bridge which represents a pending Section 5339 discretionary capital grant request with state/local match to be provided by the State of Mississippi. Number (101) Gulfport Transit Center Expansion is listed in the Statewide Transportation Improvement Program as a Fiscal Year 2015 project but is also a pending Section 5339 discretionary capital grant request with state/local match to be provided by the State of Mississippi. The amounts shown for these pending grant requests are not included in the Total for 2016; nor are they included in the calculation of projected funding amounts expected to be available in future years. Federal and Local/State Available Funding amounts for all other projects are taken from tables 7-2 and 7-3 respectively.

Table 7-5:

2040 TRANSIT DEVELOPMENT PLAN SHORT-TERM PROGRAM COMPONENT: YEAR 2 (2017)

NO	PROJECT NAME	FUNDING	2017		
		CATEGORY	FEDERAL	LOCAL/STATE	TOTAL
Carryover:			\$412,989	\$44,399	\$457,388
Allocation:			\$5,511,108	\$3,155,573	\$8,666,681
Available Funding:			\$5,924,097	\$3,199,972	\$9,124,069
1	Current Fixed-Route Transit Service	Operating Assistance	\$2,210,000	\$2,210,000	\$4,420,000
2	Transit Enhancements	Operating Assistance	\$40,000	\$10,000	\$50,000
3	ADA Paratransit Operating Expenses	Paratransit	\$320,000	\$80,000	\$400,000
4	Enhanced Senior and Disabled Mobility	Paratransit	\$190,000	\$190,000	\$380,000
5	Ongoing Preventive Maintenance	Capital Assistance	\$1,140,000	\$285,000	\$1,425,000
6	Revenue Vehicles	Capital Assistance	\$400,000	\$100,000	\$500,000
7	Support Vehicles	Capital Assistance	\$36,000	\$9,000	\$45,000
8	Computer Equipment	Capital Assistance	\$16,000	\$4,000	\$20,000
9	Shop Equipment	Capital Assistance	\$16,000	\$4,000	\$20,000
10	Rehabilitation of Existing Facilities	Capital Assistance	\$160,000	\$40,000	\$200,000
11	Office Equipment	Capital Assistance	\$8,000	\$2,000	\$10,000
12	Fare Collection Equipment	Capital Assistance	\$40,000	\$10,000	\$50,000
13	Communications Equipment	Capital Assistance	\$80,000	\$20,000	\$100,000
14	Marketing, Planning and Admin	Planning/Admin	\$300,000	\$75,000	\$375,000
15	Mobility Manager	Planning/Admin	\$40,000	\$10,000	\$50,000
Sub-Total for 2017 Programmed Projects			\$4,996,000	\$3,049,000	\$8,045,000
16	Bus Stop Signs and Benches	Capital Assistance	\$12,000	\$3,000	\$15,000
17	Solar-Powered Passenger Shelter	Capital Assistance	\$12,000	\$3,000	\$15,000
18	Beachcomber Bus Priority System	Capital Assistance	\$86,880	\$21,720	\$108,600
19	Gulfport Route 37 Bus Priority System	Capital Assistance	\$65,160	\$16,290	\$81,450
Sub-Total for Additional Projects			\$176,040	\$44,010	\$220,050
Total for 2017			\$5,172,040	\$3,093,010	\$8,265,050
Balance (Carryover)			\$752,057	\$106,962	\$859,019

Notes:

All projects listed are included in Mississippi Department of Transportation, Statewide Transportation Improvement Program: 2015-2019 except added projects (16-19) indicated by bold type. Allocation amounts are taken from tables 7-2 and 7-3.

The other two projects will involve the installation of transit signal priority (TSP) systems on two existing routes, the Beachcomber on Highway 90 and Gulfport Route 37 on 25th Avenue/Highway 49. The TSP projects would acquire the hardware necessary to enable communication between transit vehicles and traffic signal controllers at designated intersections. An on-board transmitter emitting a coded signal would trigger detection of the transit vehicle's approach by a suitably equipped controller at an intersection. Detection of the approaching bus would initiate the dynamic adjustment of signal timing, within preset parameters, to reduce the delay incurred in getting through the intersection. One or more receivers (or detectors) on the bus would enable the continuous exchange of data needed to optimize the length of signal phases, allowing the transit vehicle to clear the intersection as expeditiously as possible without unduly disrupting the general flow of traffic.

Potential locations on Highway 90 include Courthouse Road, Cowan Road, DeBuys Road, Beauvoir Road, Veterans Avenue, Rodenberg Avenue, White Avenue, Porter Avenue and Caillavet Street. Potential locations on 25th Avenue/Highway 49 include 17th Street, 19th Street, Pass Road, 28th Street, 34th Street, John Hill Boulevard, Martin Luther King Jr. Boulevard, Airport Road and Middle Driveway. Signalized intersections on Three Rivers Road at Creosote Road and Crossroads Parkway are also possible locations for TSP on Gulfport Route 37. The ultimate intent of these measures—eliminating hail stops, streamlining routes and installing TSP and other innovative equipment—is to reduce the time required to complete scheduled trips such that current headways of 60-90 minutes can be reduced to 45-60 minutes. CTA will make additional route modifications as necessary to achieve that goal if by so doing the maximum trip intervals desired can be realized without increasing the number of buses operating on any given line.

The commuter-targeted Sunshine Express will feature low-floor hybrid-electric transit coaches with passenger amenities that include reclining seats, overhead luggage racks, wireless internet and electrical outlets for recharging cell phones and laptop computers

While the Sunshine Express will initially operate on Highway 90, its ultimate route will likely be determined by the outcome of the East-West Multimodal Transportation Corridor Study recently undertaken by CTA

(2018) The third-year element of the Short-Term Plan Component includes the original 15 recurring projects and the two repeating entries for passenger amenities (Bus Stop Signs and Benches and Solar-Powered Passenger Shelter) added in 2017 (see Table 7-6). A new capital project will acquire two replica vintage trolleys to support continuing operation on the Beachcomber line and the future extension of service on Highway 90. The attractive and easily

identifiable replica trollies have become the trademark vehicle of the CTA system, especially for visitors who make abundant use of them in traveling up and down the coast from one attraction to another. Similar vehicles, distinguished by color and decoration, are also employed on the Casino Hopper line which provides shuttle service circumnavigating the peninsular east end of Biloxi between Caillavet Street and Point Cadet, and between the Back Bay of Biloxi and the Mississippi Sound.

The 2018 program element also includes operating assistance for a new bus line that will operate initially on the same route as the Beachcomber but provide express bus service between the Gulfport and Biloxi transit terminals with a limited number of stops between those end-points. The ultimate routing of service probably will be determined by the East-West Multimodal Transportation Corridor Study recently initiated by CTA. The study will develop a plan for a new arterial roadway with special accommodations for transit as well as bicycle and pedestrian uses. Transit operations in the corridor will likely begin with express bus service, graduating to bus rapid transit (BRT) at some point with light-rail or even heavy-rail transit being potential future uses of the multimodal transportation corridor.

While transit operations in the corridor will likely begin with express bus service, bus rapid transit (BRT) could be implemented at some point, and light-rail or even heavy-rail transit represent possible future uses

CTA is already acquiring the necessary rolling stock for deployment on the commuter-targeted *Sunshine Express* route: Low-floor hybrid-electric buses with reclining seats, overhead luggage racks, wireless internet and electrical outlets for passenger use. Two buses running in opposite directions will provide continuous service during peak travel periods with one leaving each transit terminal every 30 minutes.

Table 7-6:
2040 TRANSIT DEVELOPMENT PLAN SHORT-TERM PROGRAM COMPONENT: YEAR 3 (2018)

		FUNDING	2018		
NO	PROJECT NAME	CATEGORY	FEDERAL	LOCAL/STATE	TOTAL
Carryover:			\$752,057	\$106,962	\$859,019
2018 Allocation:			\$5,619,184	\$3,221,845	\$8,841,029
Available Funding:			\$6,371,241	\$3,328,807	\$9,700,048
1	Current Fixed-Route Transit Service	Operating Assistance	\$2,210,000	\$2,210,000	\$4,420,000
2	Transit Enhancements	Operating Assistance	\$40,000	\$10,000	\$50,000
3	ADA Paratransit Operating Expense	Paratransit	\$320,000	\$80,000	\$400,000
4	Enhanced Senior/Disabled Mobility	Paratransit	\$190,000	\$190,000	\$380,000
5	Ongoing Preventive Maintenance	Capital Assistance	\$1,140,000	\$285,000	\$1,425,000
6	Revenue Vehicles	Capital Assistance	\$400,000	\$100,000	\$500,000
7	Support Vehicles	Capital Assistance	\$36,000	\$9,000	\$45,000
8	Computer Equipment	Capital Assistance	\$16,000	\$4,000	\$20,000
9	Shop Equipment	Capital Assistance	\$16,000	\$4,000	\$20,000
10	Rehabilitation of Existing Facilities	Capital Assistance	\$160,000	\$40,000	\$200,000
11	Office Equipment	Capital Assistance	\$8,000	\$2,000	\$10,000
12	Fare Collection Equipment	Capital Assistance	\$40,000	\$10,000	\$50,000
13	Communications Equipment	Capital Assistance	\$80,000	\$20,000	\$100,000
14	Marketing, Planning and Admin	Planning/Admin	\$300,000	\$75,000	\$375,000
15	Mobility Manager	Planning/Admin	\$40,000	\$10,000	\$50,000
Sub-Total for 2018 Programmed Projects			\$4,996,000	\$3,049,000	\$8,045,000
16	Bus Stop Signs and Benches	Capital Assistance	\$12,000	\$3,000	\$15,000
17	Solar-Powered Passenger Shelter	Capital Assistance	\$12,000	\$3,000	\$15,000
20	Replica Vintage Trolleys (2)	Capital Assistance	\$640,000	\$160,000	\$800,000
21	Sunshine Express	Operating Assistance	\$92,283	\$92,283	\$184,566
Sub-Total for Additional Projects			\$756,283	\$258,283	\$1,014,566
Total for 2018			\$5,752,283	\$3,307,283	\$9,059,566
Balance (Carryover)			\$618,958	\$21,524	\$640,482

Notes:

All projects listed are included in Mississippi Department of Transportation, Statewide Transportation Improvement Program: 2015-2019 except added projects (16-17 and 19-20) indicated by bold type. Federal and Local/State Allocation amounts are taken from tables 7-2 and 7-3 respectively.

(2019) The fourth-year element of the Short-Term Plan Component includes all of the projects listed in the STIP as well as the added annual entries previously identified for renewable inclusion (*Bus Stop Signs and Benches* and *Solar-Powered Passenger Shelter*). Also included is the annually recurring cost for operation of the new Sunshine Express line (see Table 7-7).

Table 7-7:

2040 TRANSIT DEVELOPMENT PLAN SHORT-TERM PROGRAM COMPONENT: YEAR 4 (2019)

2040 TRANSIT DEVELOPMENT PLAN SHORT TERM PROGRAM COMPONENT: YEAR 4 (2019)					
NO	PROJECT NAME	FUNDING CATEGORY	2019		
			FEDERAL	LOCAL/STATE	TOTAL
Carryover:			\$618,958	\$21,524	\$640,482
2019 Allocation:			\$5,730,572	\$3,290,148	\$9,020,720
Available Funding:			\$6,349,530	\$3,311,672	\$9,661,202
1	Current Fixed-Route Transit Service	Operating Assistance	\$2,210,000	\$2,210,000	\$4,420,000
2	Transit Enhancements	Operating Assistance	\$40,000	\$10,000	\$50,000
3	ADA Paratransit Operating Expense	Paratransit	\$320,000	\$80,000	\$400,000
4	Enhanced Senior/Disabled Mobility	Paratransit	\$190,000	\$190,000	\$380,000
5	Ongoing Preventive Maintenance	Capital Assistance	\$1,140,000	\$285,000	\$1,425,000
6	Revenue Vehicles	Capital Assistance	\$400,000	\$100,000	\$500,000
7	Support Vehicles	Capital Assistance	\$36,000	\$9,000	\$45,000
8	Computer Equipment	Capital Assistance	\$16,000	\$4,000	\$20,000
9	Shop Equipment	Capital Assistance	\$16,000	\$4,000	\$20,000
10	Rehabilitation of Existing Facilities	Capital Assistance	\$160,000	\$40,000	\$200,000
11	Office Equipment	Capital Assistance	\$8,000	\$2,000	\$10,000
12	Fare Collection Equipment	Capital Assistance	\$40,000	\$10,000	\$50,000
13	Communications Equipment	Capital Assistance	\$80,000	\$20,000	\$100,000
14	Marketing, Planning and Admin	Planning/Admin	\$300,000	\$75,000	\$375,000
15	Mobility Manager	Planning/Admin	\$40,000	\$10,000	\$50,000
Sub-Total for 2019 Programmed Projects			\$4,996,000	\$3,049,000	\$8,045,000
16	Bus Stop Signs and Benches	Capital Assistance	\$12,000	\$3,000	\$15,000
17	Solar-Powered Passenger Shelter	Capital Assistance	\$12,000	\$3,000	\$15,000
21	Sunshine Express	Operating Assistance	\$92,283	\$92,283	\$184,566
Sub-Total for Additional Projects			\$116,283	\$98,283	\$214,566
Total for 2019			\$5,112,283	\$3,147,283	\$8,259,566
Balance (Carryover)			\$1,237,247	\$164,389	\$1,401,636

Notes:

All projects listed are included in Mississippi Department of Transportation, Statewide Transportation Improvement Program: 2015-2019 except added projects (16-17, 19 and 21-23) indicated by bold type. Federal and Local/State Allocation amounts are taken from tables 7-2 and 7-3.

(2020) The fifth-year element of the Short-Term Plan Component includes the same projects listed for the previous year, i.e., all of the projects programmed for 2019 in the STIP; the added annual entries previously identified for renewable inclusion (*Bus Stop Signs and Benches* and *Solar-Powered Passenger Shelter*); and the annually recurring cost for operation of the new Sunshine Express line (see Table 7-8).

Mid-Term Plan Component (2021-2030)

The Short-Term Plan Component described above is intended to provide a realistic scheme for what can be accomplished over the next five years to secure, improve and expand existing CTA transit operations. The longer view involved in looking at the ensuing 10 years also sought to remain grounded in the reality imposed by fiscal constraint. As already noted, by rooting expectations for the future in the actuality of

past events, it was possible to assume some growth in the availability of resources in years to come. These expectations were limited by the continuing lack of a dedicated local revenue source. If that key aspect of the funding picture shifts at some point, the potential for improving and expanding the transit system could increase significantly.

Table 7-8:

2040 TRANSIT DEVELOPMENT PLAN SHORT-TERM PROGRAM COMPONENT: YEAR 5 (2020)

		FUNDING	2020		
NO	PROJECT NAME	CATEGORY	FEDERAL	LOCAL/STATE	TOTAL
Carryover:			\$1,237,247	\$164,389	\$1,401,636
2020 Allocation:			\$5,844,316	\$3,359,896	\$9,204,212
Available Funding:			\$7,081,563	\$3,524,285	\$10,605,848
1	Current Fixed-Route Transit Service	Operating Assistance	\$2,210,000	\$2,210,000	\$4,420,000
2	Transit Enhancements	Operating Assistance	\$40,000	\$10,000	\$50,000
3	ADA Paratransit Operating Expense	Paratransit	\$320,000	\$80,000	\$400,000
4	Enhanced Senior/Disabled Mobility	Paratransit	\$190,000	\$190,000	\$380,000
5	Ongoing Preventive Maintenance	Capital Assistance	\$1,140,000	\$285,000	\$1,425,000
6	Revenue Vehicles	Capital Assistance	\$400,000	\$100,000	\$500,000
7	Support Vehicles	Capital Assistance	\$36,000	\$9,000	\$45,000
8	Computer Equipment	Capital Assistance	\$16,000	\$4,000	\$20,000
9	Shop Equipment	Capital Assistance	\$16,000	\$4,000	\$20,000
10	Rehabilitation of Existing Facilities	Capital Assistance	\$160,000	\$40,000	\$200,000
11	Office Equipment	Capital Assistance	\$8,000	\$2,000	\$10,000
12	Fare Collection Equipment	Capital Assistance	\$40,000	\$10,000	\$50,000
13	Communications Equipment	Capital Assistance	\$80,000	\$20,000	\$100,000
14	Marketing, Planning and Admin	Planning/Admin	\$300,000	\$75,000	\$375,000
15	Mobility Manager	Planning/Admin	\$40,000	\$10,000	\$50,000
Sub-Total for 2020 Programmed Projects			\$4,996,000	\$3,049,000	\$8,045,000
16	Bus Stop Signs and Benches	Capital Assistance	\$12,000	\$3,000	\$15,000
17	Solar-Powered Passenger Shelter	Capital Assistance	\$12,000	\$3,000	\$15,000
21	Sunshine Express	Operating Assistance	\$92,283	\$92,283	\$184,566
Sub-Total for Additional Projects			\$116,283	\$98,283	\$214,566
Total for 2020			\$5,112,283	\$3,147,283	\$8,259,566
Balance (Carryover)			\$1,969,280	\$377,002	\$2,346,282

Notes:

All projects listed are included in Mississippi Department of Transportation, Statewide Transportation Improvement Program: 2015-2019 except added projects (16-17, 19 and 24) indicated by bold type. Federal and Local/State Allocation amounts are taken from tables 7-2 and 7-3 respectively.

The Mid-Term Plan Component for 2021 through 2030 envisions five new bus routes and three significant capital improvement projects to provide appropriate passenger waiting facilities and parking accommodations at major transit hubs (see Table 7-9). The proposed new bus lines include the Beachcomber Long Beach route, Pascagoula-Moss Point, Popp's Ferry, Orange Grove and the Gulfport Employment Shuttle. Proposed new facilities include super-stops with park-and-ride features at Crossroads, the Promenade and the Mississippi Coast Coliseum and Convention Center site.

Table 7-9:

2040 TRANSIT DEVELOPMENT PLAN MID-TERM PROGRAM COMPONENT: 2021-2030

		FUNDING	2021-2030		
NO	PROJECT NAME	CATEGORY	FEDERAL	LOCAL/STATE	TOTAL
Carryover:			\$1,969,280	\$377,002	\$2,346,282
10-Year Allocation:			\$65,772,781	\$37,857,831	\$103,630,612
Available Funding:			\$67,742,061	\$38,234,833	\$105,976,894
1	Current Fixed-Route Transit Service	Operating Assistance	\$22,100,000	\$22,100,000	\$44,200,000
2	Transit Enhancements	Operating Assistance	\$400,000	\$100,000	\$500,000
3	ADA Paratransit Operating Expense	Paratransit	\$3,200,000	\$800,000	\$4,000,000
4	Enhanced Senior/Disabled Mobility	Paratransit	\$1,900,000	\$1,900,000	\$3,800,000
5	Ongoing Preventive Maintenance	Capital Assistance	\$11,400,000	\$2,850,000	\$14,250,000
6	Revenue Vehicles	Capital Assistance	\$4,000,000	\$1,000,000	\$5,000,000
7	Support Vehicles	Capital Assistance	\$360,000	\$90,000	\$450,000
8	Computer Equipment	Capital Assistance	\$160,000	\$40,000	\$200,000
9	Shop Equipment	Capital Assistance	\$160,000	\$40,000	\$200,000
10	Rehabilitation of Existing Facilities	Capital Assistance	\$1,600,000	\$400,000	\$2,000,000
11	Office Equipment	Capital Assistance	\$80,000	\$20,000	\$100,000
12	Fare Collection Equipment	Capital Assistance	\$400,000	\$100,000	\$500,000
13	Communications Equipment	Capital Assistance	\$800,000	\$200,000	\$1,000,000
14	Marketing, Planning and Admin	Planning/Admin	\$3,000,000	\$750,000	\$3,750,000
15	Mobility Manager	Planning/Admin	\$400,000	\$100,000	\$500,000
Sub-Total for 2021-2030 Recurring Costs			\$49,960,000	\$30,490,000	\$80,450,000
16	Bus Stop Signs and Benches	Capital Assistance	\$120,000	\$30,000	\$150,000
17	Solar-Powered Passenger Shelter	Capital Assistance	\$120,000	\$30,000	\$150,000
21	Sunshine Express	Operating Assistance	\$922,830	\$922,830	\$1,845,660
22	Beachcomber Long Beach	Operating Assistance	\$1,373,205	\$1,373,205	\$2,746,410
23	Pascagoula-Moss Point	Operating Assistance	\$1,043,315	\$1,043,315	\$2,086,630
24	Popp's Ferry Road	Operating Assistance	\$967,510	\$967,510	\$1,935,020
25	Orange Grove	Operating Assistance	\$1,058,865	\$1,058,865	\$2,117,730
26	Gulfport Employment Shuttle	Operating Assistance	\$436,800	\$436,800	\$873,600
27	Crossroads Super-Stop/Park-and-Ride	Capital Assistance	\$670,292	\$167,573	\$837,865
28	Promenade Super-Stop/Park-and-Ride	Capital Assistance	\$670,292	\$167,573	\$837,865
29	Coliseum Super-Stop/Park-and-Ride	Capital Assistance	\$670,292	\$167,573	\$837,865
30	ADA Paratransit Operating Expense	Paratransit	\$1,000,000	\$250,000	\$1,250,000
Sub-Total for Additional Projects			\$9,053,401	\$6,615,244	\$15,668,645
Total for 2021-2030			\$59,013,401	\$37,105,244	\$96,118,645
Balance (Carryover)			\$8,728,660	\$1,129,589	\$9,858,249

Notes:

Projects shown in normal type correspond to items listed in Mississippi Department of Transportation, Statewide Transportation Improvement Program: 2015-2019 and represent recurring annual expenses. Projects that do not correspond to entries in the current STIP are indicated by bold type. Federal and Local/State Allocation amounts are taken from tables 7-2 and 7-3.

Additional funding for paratransit is also included to meet the need for parallel service along new lines in compliance with the *Americans with Disabilities Act* and regulations adopted pursuant to the anti-discrimination requirements of the law.

Beachcomber Long Beach -- This line will connect to the existing Beachcomber at the Gulfport Transit Terminal. The relatively short length of the proposed route—approximately 7.6 miles—would enable a single bus to provide service in both directions within a 45-minute timeframe, minimizing the wait-time for passengers transferring to or from other lines at the Gulfport terminal.

Pascagoula-Moss Point -- This new route will introduce transit service to the two cities located in eastern Jackson County. Buses will execute a long loop via Jackson Avenue, Market Street, Telephone Road, Main Street, Highway 613, Highway 63, Grierson Street, Highway 90 and other major streets in the area. The total length of the route--approximately 17.41 miles—can be traversed by single bus providing regularly scheduled service at 60-minute intervals.

Popp's Ferry Road – Buses on this new route will initially travel between Edgewater Mall on Highway 90 in Biloxi and the Promenade immediately north of Interstate 10 in D'Iberville, unless the planned extension of Popp's Ferry Road from Pass Road to Highway 90 is completed prior to implementation of the new bus line. If anchored on the south end at Edgewater the route would make use of Eisenhower Drive and Pass Road to reach Popp's Ferry Road. In either event, the route will encompass the entire length of Popp's Ferry Road from Pass Road or Highway 90 to its other end at D'Iberville Boulevard. Buses will leave the principal thoroughfare briefly to run up Cedar Lake Road to Medical Park Drive. At the east end of the route, buses will travel between Popp's Ferry and the Promenade via D'Iberville Boulevard. Once the pending extension of Popp's Ferry Road from Pass Road to Beach Boulevard is completed, buses will travel exclusively on Popp's Ferry between Highway 90 and D'Iberville except for the Cedar Lake Road diversion from the main route. The round-trip travel distance for the initial route will be almost 21 miles, requiring 40 minutes or more each way to traverse; so two buses would be required in order to operate on a 45-minute headway. The schedule will accommodate 10 round-trips daily by one buses, or 20 trips in each direction by two, with service provided six days a week.

Orange Grove – This new route will provide service in the area north of I-10 in Gulfport, connecting to Route 37 at Crossroads. Buses would run an 8.2-mile loop on Crossroads Parkway, U. S. Highway 49 (US 49), O'Neal Road and Three Rivers Road. A single bus could complete the trip in 25 minutes, and provide regularly scheduled service at 30-minute intervals, running in the same direction continuously. Alternatively, a single bus could reverse direction at the end of each circuit, running one trip clockwise around the loop and the next counter-clockwise. This would effectively provide service on two opposing routes at 60-minute intervals. Another option would be to have a single bus running counter-clockwise in the morning and clockwise in the afternoon in accordance with the prevailing flow of traffic on Highway 49. Ideally two buses would run continuously in opposite directions, providing service each way every 30 minutes.

Gulfport Employment Shuttle — Buses operating on this route would circulate in the downtown Gulfport area, making stops at major employment sites such as the Mississippi State Port at Gulfport, the Hancock Bank Building and the Harrison County Courthouse. Trips would begin and end at the Gulfport Transit Terminal on 21st Avenue at the corner of 15th Street across the street from the Dan M. Russell Jr. Federal Building. An abbreviated loop route would allow one bus to make a departure from the terminal every 10 minutes. Service would be limited to the peak travel periods in the morning, middle of the day and afternoon and would only be provided on weekdays.

New service on these routes will be supported by suitable passenger waiting and transfer facilities. The Gulfport and Biloxi transit centers function as major transfer points from which all routes in the CTA system radiate. These facilities feature parking, restrooms, passenger lobbies, extensive lighting, video surveillance and retail space. The D'Iberville Transit Center has a more strictly functional character focused on meeting the needs of transit passengers riding on one of the two lines linked to the facility. The facility features surface parking and covered space for passengers waiting, boarding or disembarking. Located across the street from the Town Green and Visitor Center, the transit facility also offers a large open-air pavilion that can be used for outdoor public events. The super-stops envisioned for Crossroads, the Promenade and the Coliseum would incorporate the same level of functionality combined with community utility. Park-and-ride facilities would be installed at all three sites, including designated parking spaces, signage and pavement striping, lighting and bus pads for passenger loading and discharge. The principal purpose of the super-stops will be to act as transit hubs, facilitating the movement of people from one line to another or from one mode to another, providing the level of comfort and safety needed to make public transportation attractive to potential users.

The super-stop transit hubs will facilitate movement from one line to another, or one mode to another, providing the comfort and security needed to make transit attractive to potential users

Crossroads Super-Stop — Coupled with a proposed park-and-ride site, a Crossroads super-stop would primarily serve to facilitate the transfer of drivers from their personal vehicles to public transit. The facility would establish a presence for CTA at this major retail activity center, increasing public awareness and affording opportunities for effective marketing. It would also fix the location as a logical point of connection for future transit service reaching out to parts of Gulfport that have never known the benefits of public transportation.

Promenade Super-Stop — The Promenade super-stop would establish a CTA presence in the major growth area surrounding the I-10 interchange complex with I-110. This area is presently served by D'Iberville Route 4 which is linked at its other end to the Biloxi Transit Center. The Popp's Ferry Road route, programmed for implementation during the same period, would link the Promenade to the Edgewater Mall or Coliseum site in west Biloxi. The Ocean Springs-D'Iberville route listed in the Long-Term Plan Component would connect the Promenade to downtown Ocean Springs. The planned development of new transit lines radiating from this location means that the Promenade Super-Stop would likely become a major hub in the CTA system.

Mississippi Coast Coliseum and Convention Center Super-Stop – The Coliseum Super-Stop has the potential to replace Edgewater Mall as a major transfer location once the extension of Popp’s Ferry Road from Pass Road to Highway 90 is completed. It would serve as the southern terminus for the new Popp’s Ferry route. It would likely be a key stop location for the Inter-City Express (East-West Corridor) and for the existing Beachcomber line. It would also be the base of operations for the Coliseum Shuttle. Taking all of this into consideration, the Coliseum facility would certainly function as a major transit hub, reinforcing the connection between the Gulfport and Biloxi transit centers and anchoring a direct link to the emerging hub at the Promenade.

The Coliseum hub will provide a mid-route transfer location for the Sunshine Express and Beachcomber lines, connecting to the north-south Popp’s Ferry route and providing direct access to the Convention Center site

Long-Term Plan Component (2031-2040)

The Mid-Term Plan Component for 2021 through 2030 envisioned five new bus routes and three capital improvement projects intended to provide appropriate passenger waiting facilities at major transit hubs. The Long-Term Plan Component for the decade from 2031 through 2040 identifies three more new routes; service enhancements on five previously existing lines; increased funding for ADA-compliant parallel paratransit service complementing new fixed-route bus lines; and expanded countywide ADA Paratransit Plus service in all three Mississippi Gulf Coast counties (see Table 7-10).

New Routes – The three new routes will expand transit operations in Jackson County and initiate fixed-route service in the Hancock County. *Ocean Springs-D’Iberville* will connect downtown Ocean Springs to the Promenade in D’Iberville via Washington Avenue (Highway 609), the planned I-10 Connector Road, Mallette Road and Sangani Boulevard. Initiation of service on this route will follow completion of the I-10 Connector Road between Tucker Road (Highway 609) and the east end of Mallette Road at Daisy Vestry Road. Connecting service at the Promenade will include the new Popp’s Ferry line and D’Iberville Route 4. At the opposite end the route will connect to Ocean Springs Route 7. The total centerline length of the route is approximately 8.26 miles. A round-trip would take a little less than one hour and require one bus to provide service at 60-minute intervals.

Gautier-Pascagoula will connect Gautier to previously established service in Pascagoula and Moss Point. The relative shortness of the 7.5-mile route will enable one bus to make 15 round-trips daily, departing from each end of the route at 60-minute intervals. The *Beachcomber Bay Saint Louis* line will provide service between Bay Saint Louis and the WalMart in Pass Christian, connecting on the east end to the Beachcomber Long Beach line to be implemented during the 2021 to 2030 period. The route will be located entirely on Highway 90 in Pass Christian, but after crossing the bay westbound buses will proceed to the central commercial district of Bay Saint Louis via Beach Boulevard, then up Main Street, Blue Meadow Road and Hollywood Boulevard to the Hollywood Casino and Resort. As the route is more than 12 miles long and 40 minutes would be required to make a trip in each direction, one bus could only provide service at 90-minute intervals; two would be required to provide service in each direction at 45-minute intervals. A single bus operating in this way would make 10 scheduled round-trips daily six days a week; two buses could make 20 trips in each direction.

Table 7-10:

2040 TRANSIT DEVELOPMENT PLAN LONG-TERM PROGRAM COMPONENT: 2031-2040

NO		PROJECT NAME	FUNDING CATEGORY	2031-2040		
				FEDERAL	LOCAL/STATE	TOTAL
			Carryover:	\$8,728,660	\$1,129,589	\$9,858,249
			10-Year Allocation:	\$81,115,362	\$46,855,671	\$127,971,033
			Available Funding:	\$89,844,022	\$47,985,260	\$137,829,282
1	Current Fixed-Route Transit Service	Operating Assistance	\$22,100,000	\$22,100,000	\$44,200,000	
2	Transit Enhancements	Operating Assistance	\$400,000	\$100,000	\$500,000	
3	ADA Paratransit Operating Expense	Paratransit	\$3,200,000	\$800,000	\$4,000,000	
4	Enhanced Senior/Disabled Mobility	Paratransit	\$1,900,000	\$1,900,000	\$3,800,000	
5	Ongoing Preventive Maintenance	Capital Assistance	\$11,400,000	\$2,850,000	\$14,250,000	
6	Revenue Vehicles	Capital Assistance	\$4,000,000	\$1,000,000	\$5,000,000	
7	Support Vehicles	Capital Assistance	\$360,000	\$90,000	\$450,000	
8	Computer Equipment	Capital Assistance	\$160,000	\$40,000	\$200,000	
9	Shop Equipment	Capital Assistance	\$160,000	\$40,000	\$200,000	
10	Rehabilitation of Existing Facilities	Capital Assistance	\$1,600,000	\$400,000	\$2,000,000	
11	Office Equipment	Capital Assistance	\$80,000	\$20,000	\$100,000	
12	Fare Collection Equipment	Capital Assistance	\$400,000	\$100,000	\$500,000	
13	Communications Equipment	Capital Assistance	\$800,000	\$200,000	\$1,000,000	
14	Marketing, Planning and Admin	Planning/Admin	\$3,000,000	\$750,000	\$3,750,000	
15	Mobility Manager	Planning/Admin	\$400,000	\$100,000	\$500,000	
Sub-Total for 2031-2040 Recurring Costs			\$49,960,000	\$30,490,000	\$80,450,000	
16	Bus Stop Signs and Benches	Capital Assistance	\$120,000	\$30,000	\$150,000	
17	Solar-Powered Passenger Shelter	Capital Assistance	\$120,000	\$30,000	\$150,000	
21	Sunshine Express	Operating Assistance	\$922,830	\$922,830	\$1,845,660	
22	Beachcomber Long Beach	Operating Assistance	\$1,373,205	\$1,373,205	\$2,746,410	
23	Pascagoula-Moss Point	Operating Assistance	\$1,043,315	\$1,043,315	\$2,086,630	
24	Popp's Ferry Road	Operating Assistance	\$967,510	\$967,510	\$1,935,020	
25	Orange Grove	Operating Assistance	\$1,058,865	\$1,058,865	\$2,117,730	
26	Gulfport Employment Shuttle	Operating Assistance	\$436,800	\$436,800	\$873,600	
30	ADA Paratransit Operating Expense	Paratransit	\$1,000,000	\$250,000	\$1,250,000	
31	Beachcomber Bay Saint Louis	Operating Assistance	\$1,460,890	\$1,460,890	\$2,921,780	
32	Ocean Springs-D'Iberville	Operating Assistance	\$1,160,085	\$1,160,085	\$2,320,170	
33	Gautier-Pascagoula	Operating Assistance	\$1,173,315	\$1,173,315	\$2,346,630	
34	Gulfport Route 37 Enhanced Service	Operating Assistance	\$850,000	\$850,000	\$1,700,000	
35	Ocean Springs Rte 7 Enhanced Service	Operating Assistance	\$900,000	\$900,000	\$1,800,000	
36	D'Iberville Route 4 Enhanced Service	Operating Assistance	\$760,660	\$760,660	\$1,521,320	
37	Gulfport Route 38 Enhanced Service	Operating Assistance	\$554,140	\$554,140	\$1,108,280	
38	Popp's Ferry Road Enhanced Service	Operating Assistance	\$967,510	\$967,510	\$1,935,020	
39	ADA Paratransit Plus - Hancock County	Paratransit	\$750,000	\$750,000	\$1,500,000	
40	ADA Paratransit Plus - Harrison County	Paratransit	\$750,000	\$750,000	\$1,500,000	
41	ADA Paratransit Plus - Jackson County	Paratransit	\$750,000	\$750,000	\$1,500,000	
Sub-Total for Additional Projects			\$17,119,125	\$16,189,125	\$33,308,250	
Total for 2031-2040			\$67,079,125	\$46,679,125	\$113,758,250	
Balance (Carryover)			\$22,764,897	\$1,306,135	\$24,071,032	

Notes:

Projects shown in normal type correspond to items listed in Mississippi Department of Transportation, Statewide Transportation Improvement Program: 2015-2019 and represent recurring annual expenses. Projects that do not correspond to entries in the current STIP are indicated by bold type. Federal and Local/State Allocation amounts are taken from tables 7-2 and 7-3 respectively.

Service Enhancements – Service on five routes will be upgraded by adding buses in order to increase the number and frequency of scheduled trips:

- *Gulfport Route 37* – The addition of one bus will enable two buses to run the north and southbound legs between the Gulfport Transit Terminal and Grocery Depot on Dedeaux Road simultaneously. The interval between trip departures would be reduced from 90 minutes to 45, and the total number of daily trips in each direction would be increased from nine to 18.
- *Ocean Springs Route 7* – Adding a second bus will allow simultaneous operation in both the east and westbound directions between the Biloxi Transit Terminal and the WalMart in Ocean Springs. Headways would be cut by half to 45 minutes, and scheduled trips would be doubled to 20 per day in each direction.
- *D'Iberville Route 4* – One bus currently runs the long, looping route in 77 minutes, with departures from the Biloxi Transit Center (for the northbound leg) and Promenade (for the southbound leg) scheduled every 90 minutes. Nine trips in each direction are scheduled daily. A second bus will allow simultaneous operation by north and southbound buses, with scheduled departures every 45 minutes and 18 scheduled trips per day in each direction.
- *Gulfport Route 38* – One bus currently runs what amounts to two separate routes, denominated *Blue* and *Red*, alternately circulating in the area south of the Naval Construction Battalion Center (NCBC) and running along the northern periphery of the base. The addition of a second bus will make it possible to assign one to each leg, allowing for simultaneous operation, reducing the headway for each from 90 minutes to 45 and increasing the number of scheduled trips on each from nine to 18 daily.
- *Popp's Ferry Road* – This new route will be initiated during the Mid-Term Plan Component period between 2021 and 2030, with one bus making 10 northbound and 10 southbound trips daily at 90-minute intervals. The addition of a second bus will allow simultaneous north and southbound operation with 45-minute headways and 20 trips daily in each direction.

ADA Paratransit Plus – These three projects will expand the days and hours of service in all three Mississippi Gulf Coast counties, allowing countywide demand-response service in each on all weekdays.

Total expenditures for Long-Range Component projects will exceed \$113 million. Nevertheless, more than \$22 million in Federal funds could remain unspent unless additional state and local support can be secured. Increased funding provided by a dedicated source or other reliable means would make it possible

While the program envisions the expenditure of more than \$250 million on transit over the next 25 years, more than \$22 million in Federal funds could go unspent if additional support from state or local matching cannot be secured

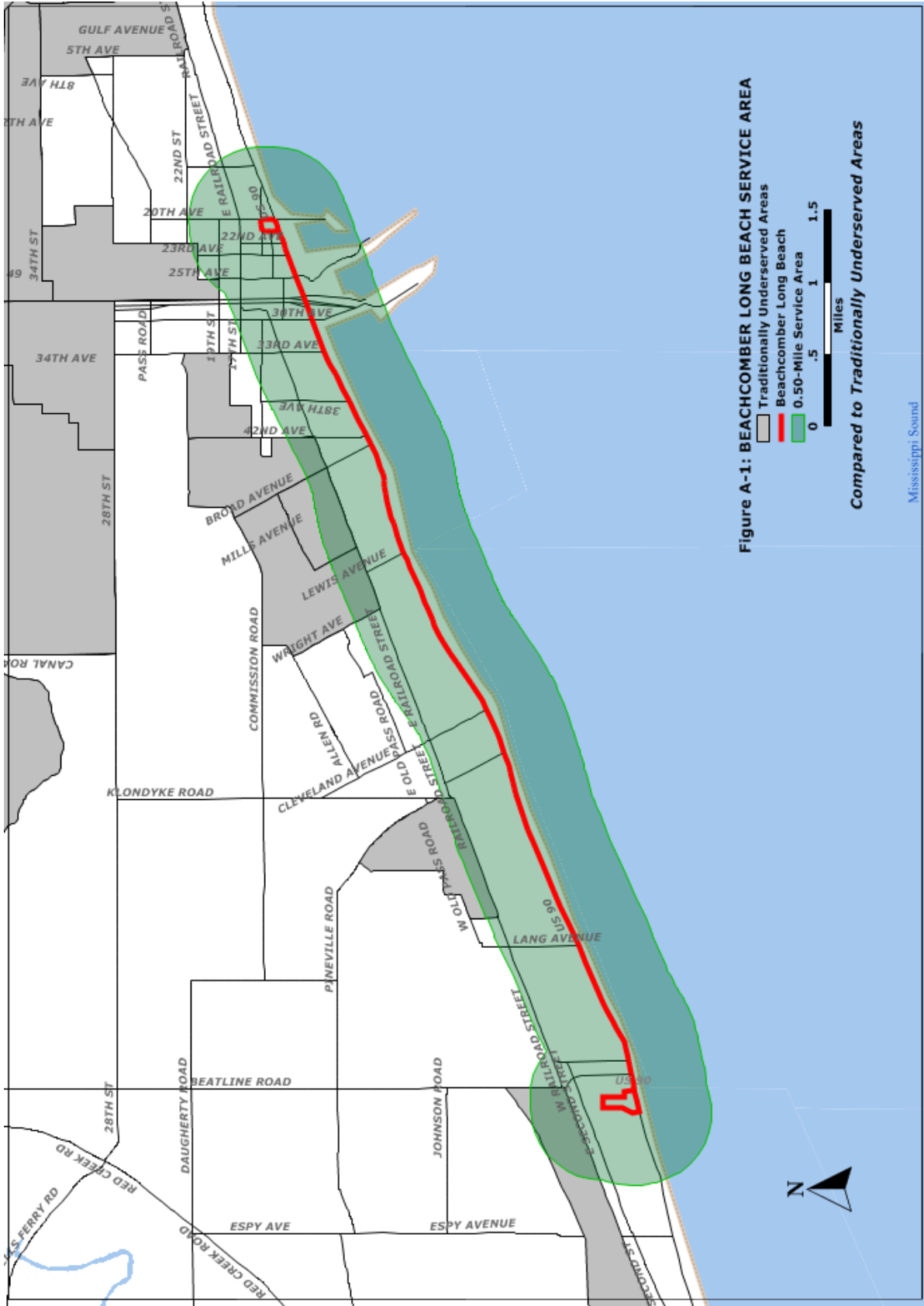
to extend transit service to Waveland, Diamondhead and Gautier; to reduce headways on all routes to 30 minutes; to establish a regional network of park-and-ride express bus service lines; and to look at the possibility of a fixed-guideway system that would serve the ever-growing demand for travel in the East-West Corridor along the coast. Fixed-guideway alternatives that might merit future consideration include streetcar service parallel and adjacent to beachfront Highway 90; light-rail transit in the East-West Multimodal Transportation Corridor; or even heavy-rail transit in the existing CSX railroad corridor. While these are only planning concepts at the present time, they are likely to become increasingly feasible as the Mississippi Gulf Coast Area continues to grow and Coast Transit Authority expands and diversifies the service it provides. The Transit Development Plan presented in this report is intended to provide a route map for local transit to follow in traveling toward a future that will build on the successes achieved by CTA in the decade since Hurricane Katrina.

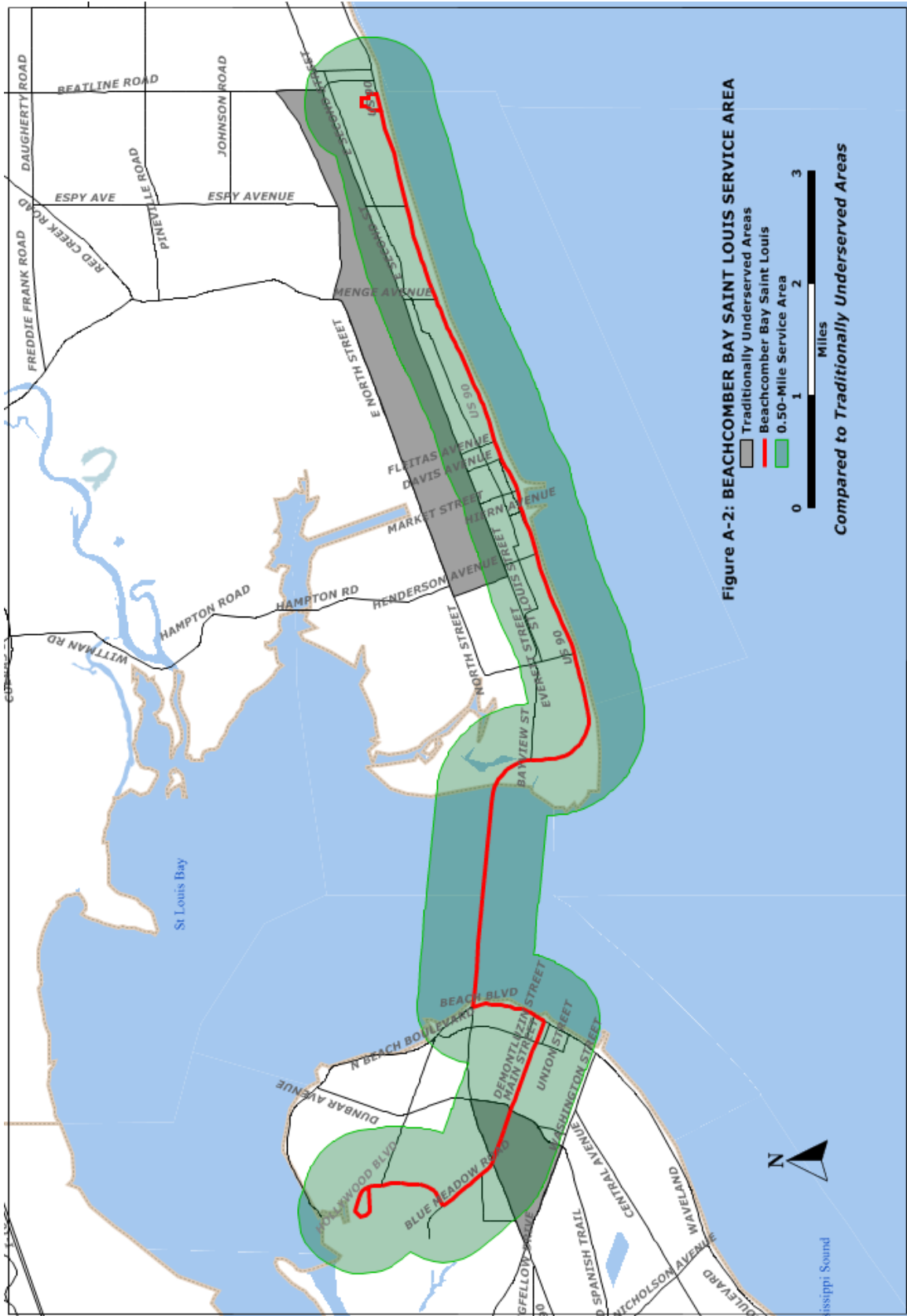
While fixed guideway transit in the East-West Corridor is only a planning concept at present, it is likely to become increasingly feasible over time as CTA builds on the successes of the recent past

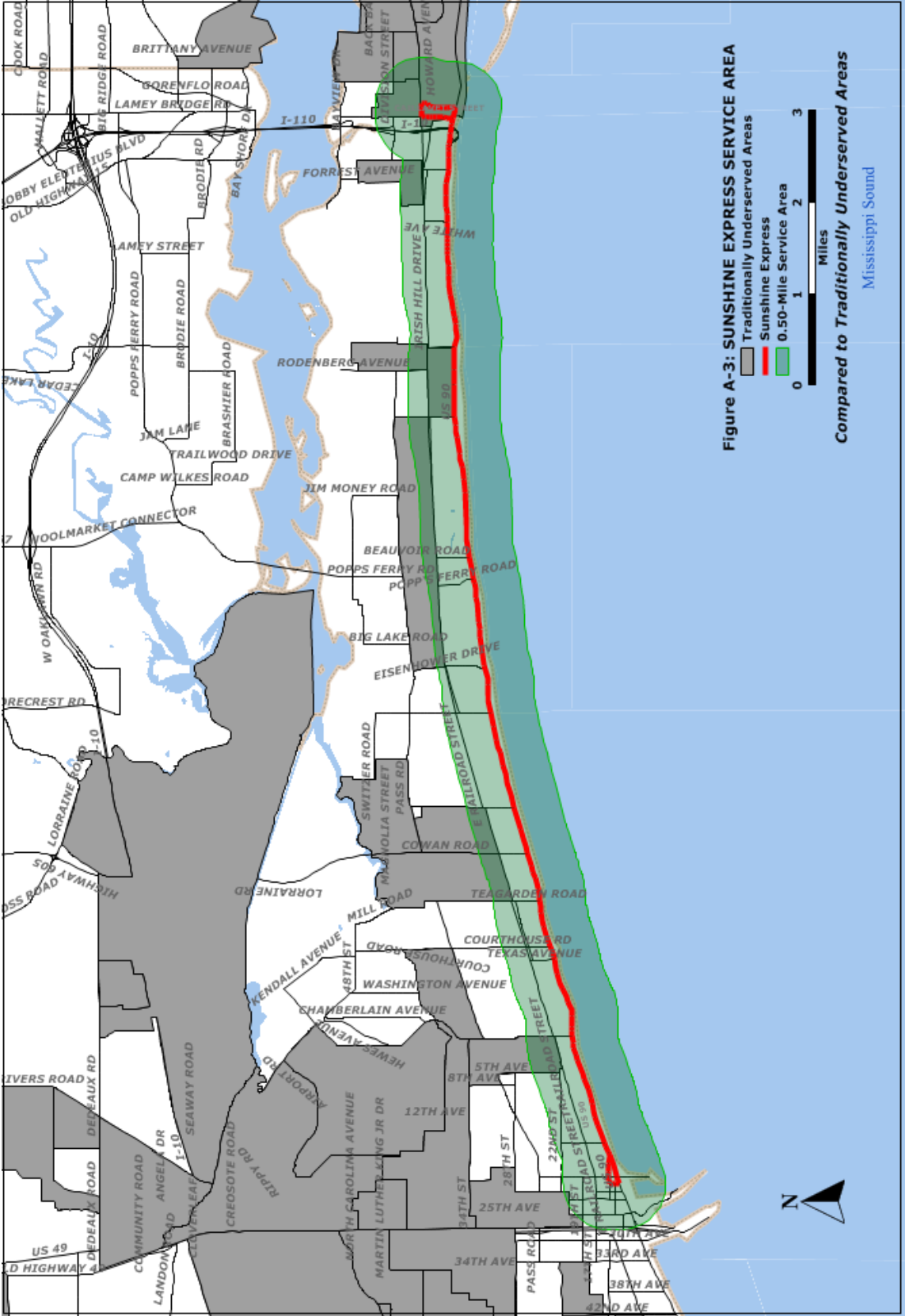
APPENDIX A:

PROPOSED FIXED-ROUTE SERVICE AREAS

COMPARED TO TRADITIONALLY UNDERSERVED AREAS









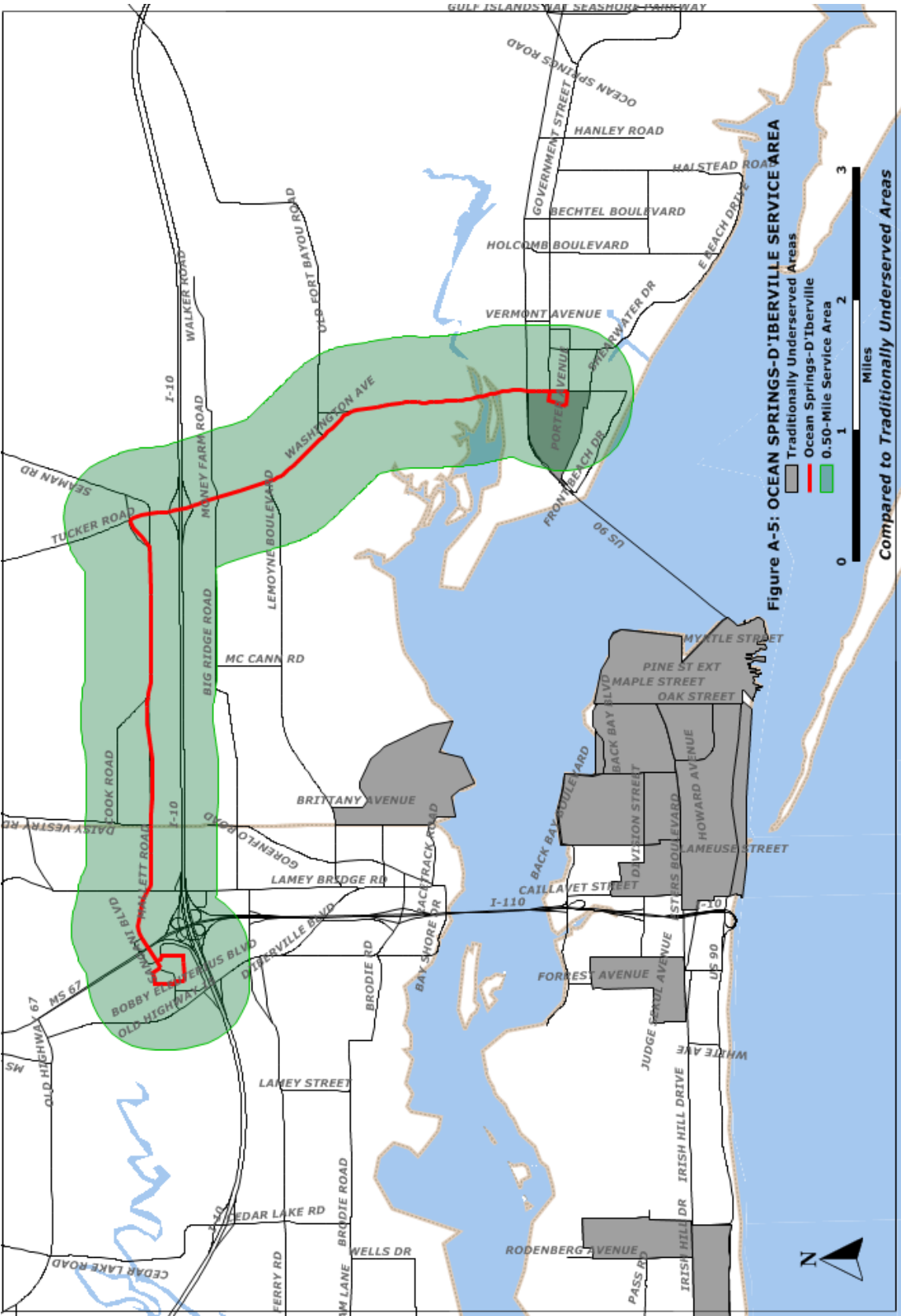


Figure A-5: OCEAN SPRINGS-D'IBERVILLE SERVICE AREA

Compared to Traditionally Underserved Areas



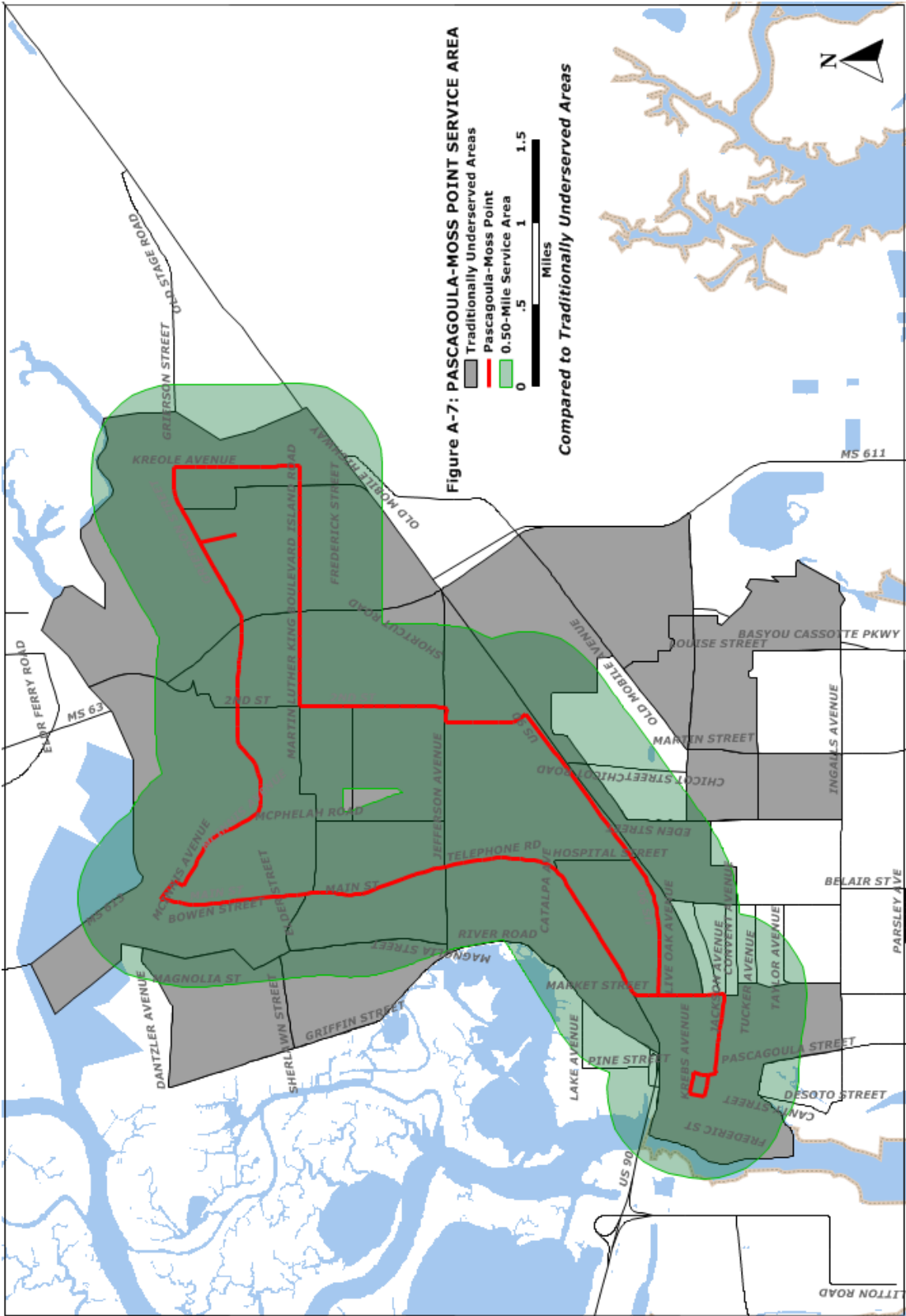




Table A-1:

BEACHCOMBER LONG BEACH HALF-MILE SERVICE AREA CONVERGENCE WITH AREAS DEFINED AS TRADITIONALLY UNDERSERVED

ROUTE	TRACT	BLOCK GROUP (1)	2010 TOTAL POPULATION	2010 NON-WHITE POP	PERCENT WHITE	PERCENT BLACK	PERCENT NONWHITE	PERCENT HH INCOME<15K	PERCENT HH INCOME<25K
Beachcomber Long Beach	30	1	1,600	1,041	34.94	53.13	65.06	19.04	29.00
	27	3	429	24	94.41	0.00	5.59	29.29	54.81
	26	3	1,724	1,437	16.65	82.54	83.35	39.20	58.64
	26	2	504	417	17.26	81.55	82.74	50.00	73.20
	26	1	969	647	33.23	59.96	66.77	25.54	56.71
	20	2	612	272	55.56	43.46	44.44	61.60	74.52
.50-MI SERVICE AREA TOTAL (2)			5,838	3,838	34.26	60.48	65.74	34.25	55.76

Notes:

(1) Includes any block group with a portion located within one-half-mile of the proposed route, excluding those substantially lacking access to the proposed route.

(2) Median value for Percent Household Income <\$15,000 and Percent Household Income<\$25,000.

Source: U. S. Census Bureau, 2010 Census of Population and Housing, Block Group Statistics.

Table A-2:

BEACHCOMBER BAY SAINT LOUIS HALF-MILE SERVICE AREA CONVERGENCE WITH AREAS DEFINED AS TRADITIONALLY UNDERSERVED

ROUTE	TRACT	BLOCK GROUP (1)	2010 TOTAL POPULATION	2010 NON-WHITE POP	PERCENT WHITE	PERCENT BLACK	PERCENT NONWHITE	PERCENT HH INCOME<15K	PERCENT HH INCOME<25K
Beachcomber Bay Saint Louis	30.1	2	934	567	39.29	46.68	60.71	15.14	52.24
	30	1	1,600	1,041	34.94	53.13	65.06	19.04	29.00
.50-MI SERVICE AREA TOTAL (2)			2,534	1,608	36.54	50.75	63.46	17.09	40.62

Notes:

(1) Includes any block group with a portion located within one-half-mile of the proposed route, excluding those substantially lacking access to the proposed route.

(2) Median value for Percent Household Income <\$15,000 and Percent Household Income<\$25,000.

Source: U. S. Census Bureau, 2010 Census of Population and Housing, Block Group Statistics.

Table A-3:

SUNSHINE EXPRESS HALF-MILE SERVICE AREA CONVERGENCE WITH AREAS DEFINED AS TRADITIONALLY UNDERSERVED

ROUTE	TRACT	BLOCK GROUP (1)	2010 TOTAL POPULATION	2010 NON- WHITE POP	PERCENT WHITE	PERCENT BLACK	PERCENT NONWHITE	PERCENT HH INCOME<15K	PERCENT HH INCOME<25K
Sunshine Express	20	2	612	272	55.56	43.46	44.44	61.60	74.52
	19	1	1,162	639	45.01	54.39	54.99	25.85	50.85
	17	1	1,301	771	40.74	52.50	59.26	21.32	37.16
	15.01	2	2,106	1,188	43.59	54.13	56.41	24.11	31.47
	15.02	1	883	553	37.37	13.82	62.63	12.15	43.37
	12.02	1	2,967	1,585	46.58	44.39	53.42	14.22	35.00
	13	2	751	456	39.28	15.05	60.72	18.41	60.99
	37	1	1,042	433	58.45	34.93	41.55	50.51	63.39
	39	4	1,522	855	43.82	15.64	56.18	22.79	33.61
	39	5	190	166	12.63	87.37	87.37	33.73	50.60
	36	2	800	578	27.75	31.37	72.25	42.00	70.67
	3	3	474	410	13.50	86.50	86.50	25.48	50.58
	3	1	550	465	15.45	60.91	84.55	57.81	78.41
.50-MI SERVICE AREA TOTAL (2)			14,360	8,371	41.71	42.04	58.29	25.48	50.60

Notes:

(1) Includes any block group with a portion located within one-half-mile of the proposed route, excluding those substantially lacking access to the proposed route.

(2) Median value for Percent Household Income <\$15,000 and Percent Household Income <\$25,000.

Source: U. S. Census Bureau, 2010 Census of Population and Housing, Block Group Statistics.

Table A-4:

POPP'S FERRY HALF-MILE SERVICE AREA CONVERGENCE WITH AREAS DEFINED AS *TRADITIONALLY UNDERSERVED*

ROUTE	TRACT	BLOCK GROUP (1)	2010 TOTAL POPULATION	2010 NON-WHITE POP	PERCENT WHITE	PERCENT BLACK	PERCENT NONWHITE	PERCENT HH INCOME<15K	PERCENT HH INCOME<25K
Popp's Ferry	12.02	1	2,967	1,585	46.58	44.39	53.42	14.22	35.00
.50-MI SERVICE AREA TOTAL (2)			2,967	1,585	46.58	44.39	53.42	14.22	35.00

Notes:

(1) Includes any block group with a portion located within one-half-mile of the proposed route, excluding those substantially lacking access to the proposed route.

(2) Median value for Percent Household Income <\$15,000 and Percent Household Income<\$25,000.

Source: U. S. Census Bureau, 2010 Census of Population and Housing, Block Group Statistics.

Table A-5:

ORANGE GROVE HALF-MILE SERVICE AREA CONVERGENCE WITH AREAS DEFINED AS *TRADITIONALLY UNDERSERVED*

ROUTE	TRACT	BLOCK GROUP (1)	2010 TOTAL POPULATION	2010 NON-WHITE POP	PERCENT WHITE	PERCENT BLACK	PERCENT NONWHITE	PERCENT HH INCOME<15K	PERCENT HH INCOME<25K
Orange Grove	35.04	2	789	96	87.83	1.52	12.17	23.95	66.02
	32.05	1	2,575	1,449	43.73	45.17	56.27	12.75	32.27
	32.04	2	1,056	621	41.19	32.67	58.81	0.00	16.09
	32.04	3	2,286	1,149	49.74	39.24	50.26	9.63	23.97
.50-MI SERVICE AREA TOTAL (2)			6,706	3,315	50.57	36.04	49.43	11.19	28.12

Notes:

(1) Includes any block group with a portion located within one-half-mile of the proposed route, excluding those substantially lacking access to the proposed route.

(2) Median value for Percent Household Income <\$15,000 and Percent Household Income<\$25,000.

Source: U. S. Census Bureau, 2010 Census of Population and Housing, Block Group Statistics.

Table A-6:

OCEAN SPRINGS-D'IBERVILLE HALF-MILE SERVICE AREA CONVERGENCE WITH AREAS DEFINED AS TRADITIONALLY UNDERSERVED

ROUTE	TRACT	BLOCK GROUP (1)	2010 TOTAL POPULATION	2010 NON-WHITE POP	PERCENT WHITE	PERCENT BLACK	PERCENT NONWHITE	PERCENT HH INCOME<15K	PERCENT HH INCOME<25K
Ocean Springs-D'Iberville	405	2	466	29	93.78	0.00	6.22	46.83	69.49
.50-MI SERVICE AREA TOTAL (2)			466	29	93.78	0.00	6.22	46.83	69.49

Notes:

(1) Includes any block group with a portion located within one-half-mile of the proposed route, excluding those substantially lacking access to the proposed route.

(2) Median value for Percent Household Income <\$15,000 and Percent Household Income<\$25,000.

Source: U. S. Census Bureau, 2010 Census of Population and Housing, Block Group Statistics.

Table A-7:

GAUTIER-PASCAGOULA HALF-MILE SERVICE AREA CONVERGENCE WITH AREAS DEFINED AS TRADITIONALLY UNDERSERVED

ROUTE	TRACT	BLOCK GROUP (1)	2010 TOTAL POPULATION	2010 NON-WHITE POP	PERCENT WHITE	PERCENT BLACK	PERCENT NONWHITE	PERCENT HH INCOME<15K	PERCENT HH INCOME<25K
Gautier-Pascagoula	411	4	2,334	1,285	44.94	44.77	55.06	14.29	36.03
	411	3	1,009	930	7.83	90.98	92.17	25.93	45.79
	411	2	1,205	843	30.04	62.07	69.96	44.25	50.11
	410	4	1,823	1,036	43.17	19.31	56.83	21.27	32.44
	429	3	504	181	64.09	32.54	35.91	39.32	52.99
	422	1	1,167	757	35.13	63.84	64.87	45.32	78.42
	419	1	1,981	1,025	47.75	52.25	52.25	20.76	46.14
.50-MI SERVICE AREA TOTAL (2)			10,023	6,057	39.47	49.95	60.53	25.93	46.14

Notes:

(1) Includes any block group with a portion located within one-half-mile of the proposed route, excluding those substantially lacking access to the proposed route.

(2) Median value for Percent Household Income <\$15,000 and Percent Household Income<\$25,000.

Source: U. S. Census Bureau, 2010 Census of Population and Housing, Block Group Statistics.

Table A-8:

PASCAGOULA-MOSS POINT HALF-MILE SERVICE AREA CONVERGENCE WITH AREAS DEFINED AS *TRADITIONALLY UNDERSERVED*

ROUTE	TRACT	BLOCK GROUP (1)	2010 TOTAL POPULATION	2010 NON- WHITE POP	PERCENT WHITE	PERCENT BLACK	PERCENT NONWHITE	PERCENT HH INCOME<15K	PERCENT HH INCOME<25K
Pascagoula-Moss Point	429	3	504	181	64.09	32.54	35.91	39.32	52.99
	419	1	1,981	1,025	47.75	52.25	52.25	20.76	46.14
	422	1	1,167	757	35.13	63.84	64.87	45.32	78.42
	422	2	1,012	484	52.17	31.82	47.83	25.31	53.09
	420	2	2,167	1,563	27.87	38.39	72.13	4.50	33.56
	414	4	1,171	598	48.93	45.86	51.07	2.99	17.37
	414	3	748	668	10.70	89.30	89.30	34.47	40.96
	415	1	1,316	1,087	17.40	81.99	82.60	23.35	40.63
	416	2	515	438	14.95	85.05	85.05	0.00	28.26
	416	1	1,295	1,144	11.66	88.34	88.34	9.87	33.40
	416	3	713	688	3.51	93.27	96.49	57.51	67.03
	417	1	569	569	0.00	100.00	100.00	27.54	44.93
	417	2	1,729	1,638	5.26	94.10	94.74	25.83	48.18
	418	4	889	850	4.39	88.53	95.61	13.45	30.12
	418	2	803	803	0.00	100.00	100.00	18.42	25.00
	418	3	485	361	25.57	70.72	74.43	25.00	57.14
	418	1	552	541	1.99	96.38	98.01	16.27	33.97
.50-MI SERVICE AREA TOTAL (2)			17,616	13,395	23.90	69.77	76.10	23.35	40.96

Notes:

(1) *Includes any block group with a portion located within one-half-mile of the proposed route, excluding those substantially lacking access to the proposed route.*

(2) *Median value for Percent Household Income <\$15,000 and Percent Household Income<\$25,000.*

Source: U. S. Census Bureau, 2010 Census of Population and Housing, Block Group Statistics.