

2.0 STUDY AREA CHARACTERISTICS

This chapter describes the characteristics of the populations, neighborhoods, employment centers, activity centers, and transportation facilities and services within the project study area. A discussion of the project’s consistency with local transportation plans developed for the City of Cincinnati, Southwest Ohio Regional Transit Agency (SORTA), and regional entities is also discussed in this chapter.

The Cincinnati Streetcar is designed to serve the core of the urban region, which includes the Downtown, Over-the-Rhine (OTR), and Uptown neighborhoods of Cincinnati (Figure 1). These three areas, which are immediately adjacent to one another, comprise the largest and most densely developed employment and activity center in the Greater Cincinnati region. The street network that connects the three areas is constrained by traffic and a significant change in elevation between Downtown and OTR and the Uptown area. Downtown and OTR sit in the basin and are just north of the Ohio River. Uptown’s elevation is a few hundred feet higher. Although interstate highways bracket Downtown and Uptown, they do not allow for connectivity between the three areas. A street grid exists on Downtown and OTR but the street patterns in Uptown are less regular, and feature several “superblocks.” All three areas include sidewalks and are pedestrian-oriented.

2.1 Demographics

2.1.1 Existing Population

The study area is a relatively narrow corridor within the larger Downtown, OTR and Uptown areas. The population within the project study area corridor was estimated to be 4,169 in 2009 (Claritas Inc., 2009). This is approximately one percent of the population of the City of Cincinnati, with a population of 331,285. Among the study area population, 1,409, or 42 percent of the population over the age of 16 are employed (Claritas, Inc., 2009).

Existing population data were also obtained from the 2000 US Census on a census tract level. The tracts within or partially within the study area are 6, 7, 10, 9, 16, 17, and 25. Tables 1, 2, and 3 show population and housing data for the county, city and study area.

Table 1. City and County Demographic Characteristics (2000)

Location	2000 Population	Percent Population White	Percent Population Minority	Median Age	Number of Households	Median Household Income
Hamilton County	845,303	72.9	27.1	35	346,790	\$40,964
Cincinnati	331,285	52.5	47.5	32	148,095	\$29,493

Source: US Census Bureau 2000

Table 2. Demographic Information by Census Tract (2000)

Census Tract	Population 1990	Population 2000	Percent Change	Median Age	Number of Households	Median Household Income
6	853	550	-35.52	41	374	\$35,278
7	2,985	2,639	-11.6	39	1,138	\$17,721
9	2,614	2,070	-20.81	36	938	\$6,972
10	1,594	1,357	-14.87	27	725	\$14,539
16	2,312	1,712	-25.95	27	803	\$8,175
17	1,861	1,358	-28.03	28	635	\$8,511
25	2,587	2,317	-10.44	23	1,130	\$19,802

Source: US Census Bureau 2000

Table 3. Housing and Employment Characteristics (2000)

Census Tract	Housing Units	Occupied Housing Units	Vacancy Rate	Total Employed	Unemployed
6	459	374	18.5	391	50 (11.3%)
7	1,509	1,138	24.6	720	163 (18.5%)
9	1,424	938	34.1	558	260 (31.8%)
10	1,081	725	32.9	535	55 (9.3%)
16	1,186	803	32.2	355	156 (30.5%)
17	897	635	29.2	366	149 (28.9%)
25	1,306	1,130	13.5	1,331	88 (6.2%)
Cincinnati	166,012	148,095	10.8	150,574	11,892 (7.3%)

Source: US Census Bureau 2000

There has been a loss in population within the study area between 1990 and 2000. This is primarily due to the deterioration and abandonment of the housing stock in OTR, and accompanying out-migration of residents to nearby neighborhoods. It does not reflect the large-scale re-investment in housing in both the Central Business District (CBD) and OTR. This is in the form of conversion of Class B and C office buildings to condominiums and apartments in Downtown Cincinnati and the renovation of deteriorated and/or abandoned housing in OTR that is being undertaken by the Cincinnati Center City Development Corporation (3CDC).

2.1.2 Forecasts

Population and employment forecasts are provided by the Traffic Analysis Zones (TAZ) from the Ohio Kentucky Indiana Regional Council of Governments (OKI). According to OKI data, the 2005 population for TAZs in the study area was 11,515 while employment for the TAZs in the study area was 53,513. The 2030 OKI forecast population for TAZs in the study area is 10,658 while the 2030 forecast employment is 56,417. This represents a seven percent decrease in population and five percent increase in employment in the study area between 2005 and 2030. The population and employment forecasts for 2030 are illustrated in Figures 2 and 3.

Figure 2. 2030 Population Forecasts

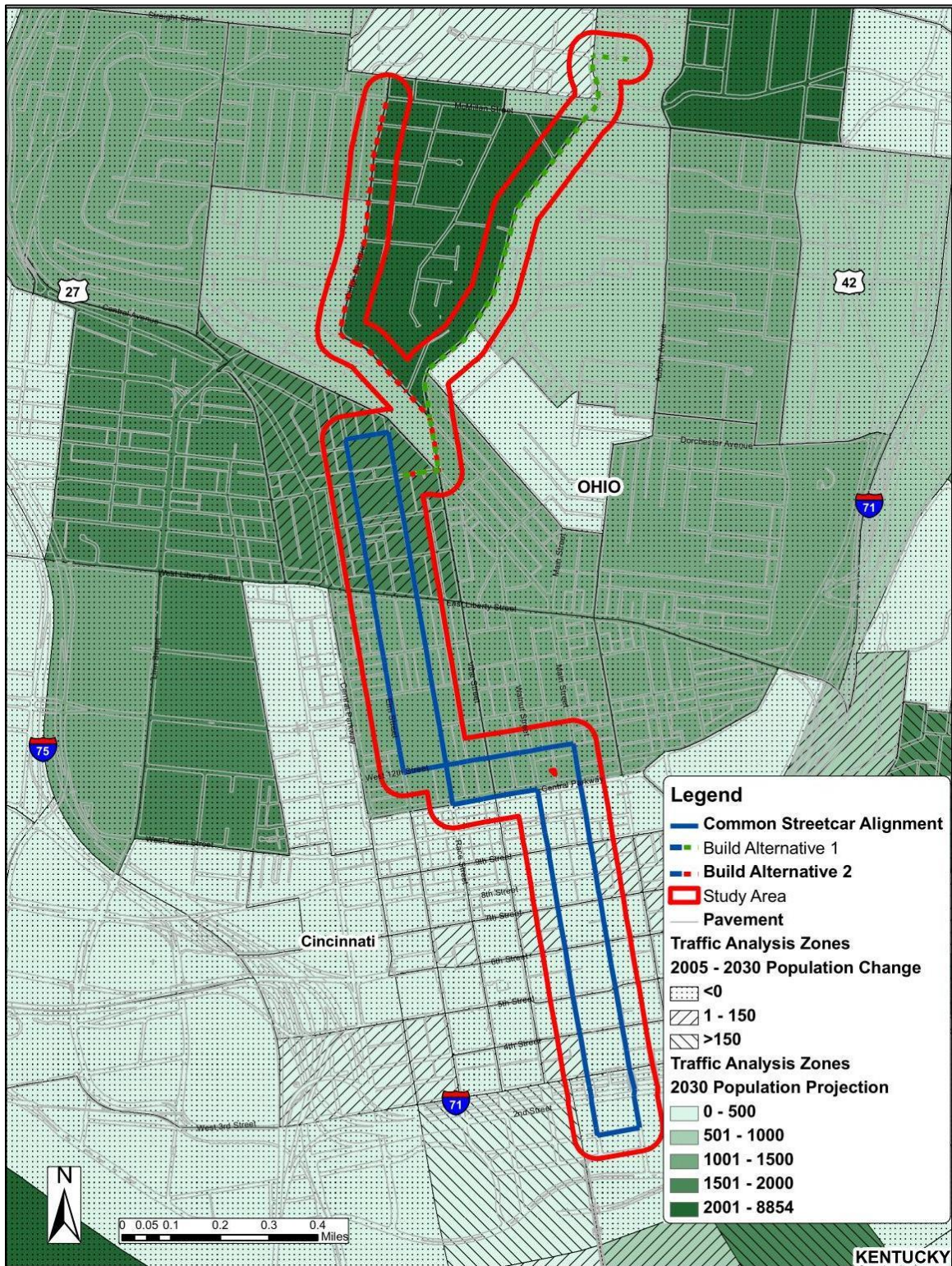
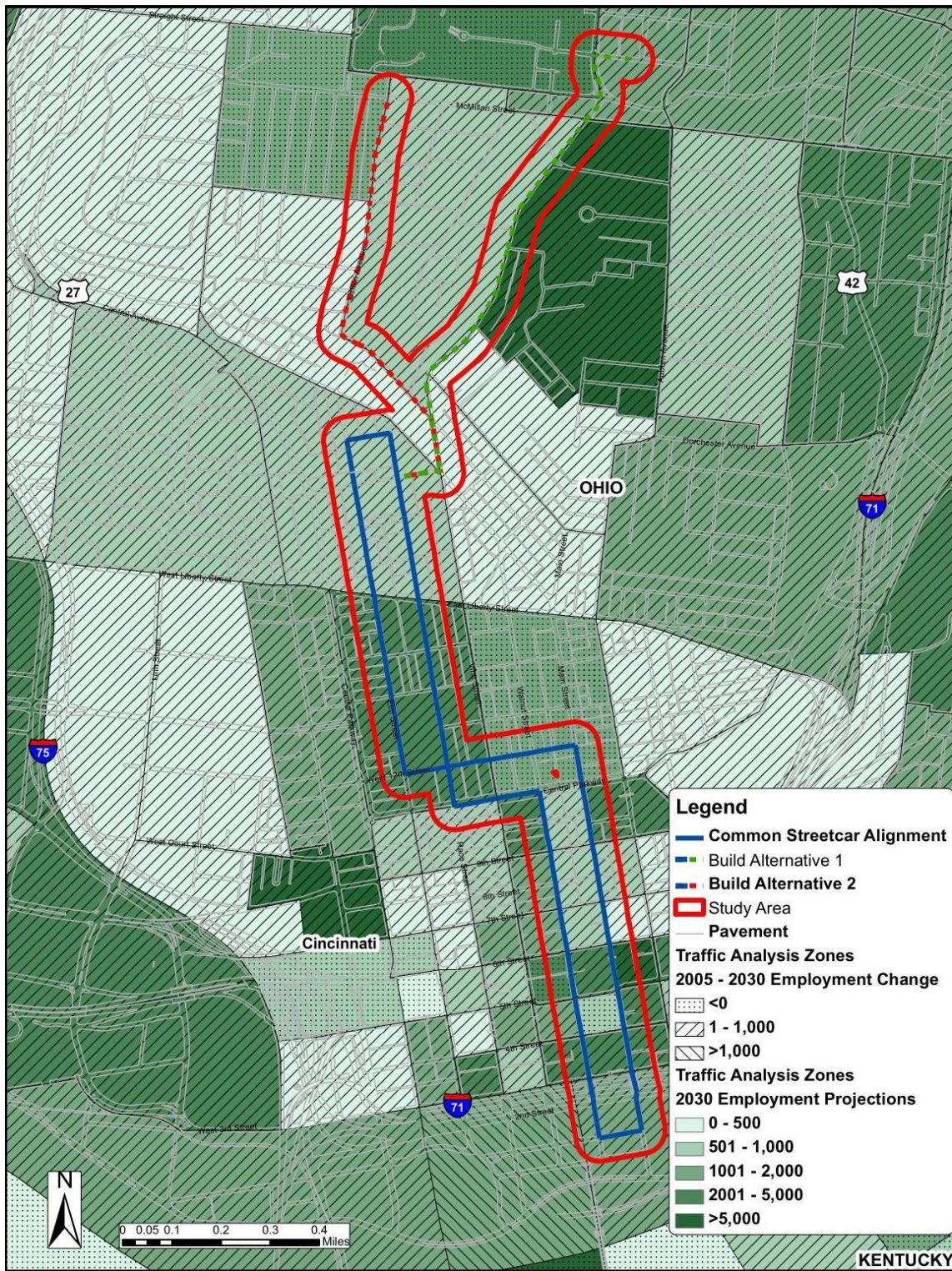


Figure 3. 2030 Employment Forecasts



2.2 Major Activity Centers

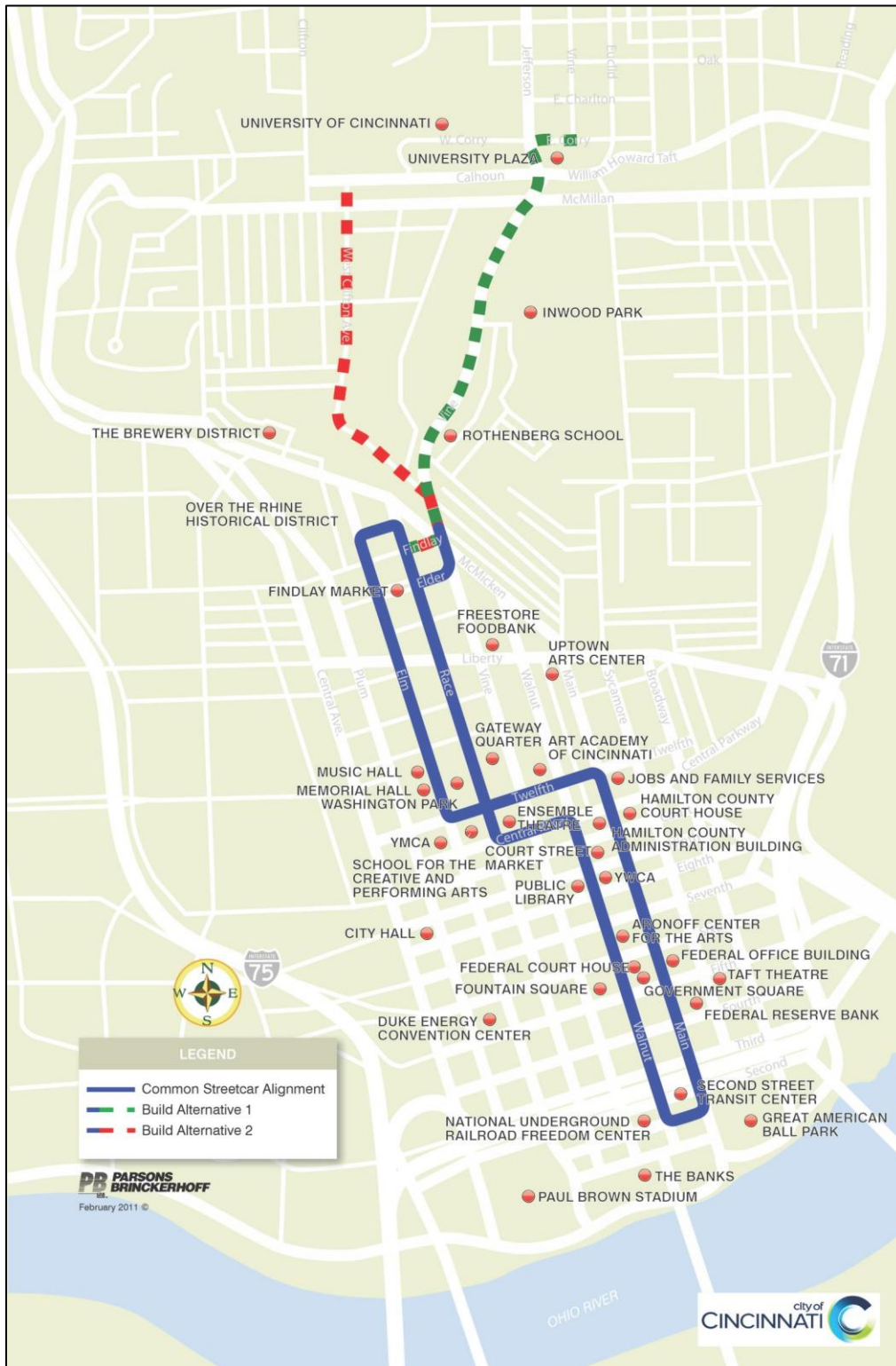
The project location encompasses several major activity centers (Figure 4). These activity centers include three major employment districts (riverfront/CBD, OTR and Uptown); several regional entertainment, tourist, and shopping destinations; two major institutions of higher education; and three regional medical centers. The regional importance of the study area is reflected by the number of jobs found within its boundaries.

2.2.1 Downtown Cincinnati/Riverfront/Central Business District

Downtown Cincinnati comprises the City's Riverfront/CBD. Downtown Cincinnati is compact and densely developed, home to numerous historic and modern structures that primarily date from the nineteenth and twentieth centuries. The heart of the City of Cincinnati is located downtown. Fountain Square, a popular public square and gathering place for various events located within the study area (Figure 4). A list of activity centers and their location in relation to the streetcar alignment is in Appendix F. Downtown's major activity centers fall in the following categories:

- **Employment center:** There are approximately 60,000 workers in Downtown Cincinnati. It is a major corporate center and the headquarters location of six Fortune 500 and ten Fortune 1000 companies.
- **Government center:** Downtown is the location of Cincinnati City Hall and associated city offices; the Hamilton County Courthouse, administrative offices, and social service agencies; and several federal installations including the federal office building, federal courthouse and Federal Reserve Bank.
- **Retail center:** Two major department stores- Macy's and Saks Fifth Avenue, are located downtown along with several retail shops.
- **Cultural center:** Performing arts institutions downtown include the three-theater Aronoff Center for the Arts, Taft Theater, and Cincinnati Shakespeare Theatre. Visual arts institutions include the Contemporary Arts Center, Taft Museum of Art, and several art galleries. Other attractions include the National Underground Railroad Freedom Center and the Cincinnati Reds Hall of Fame and Museum.
- **Sports and entertainment center:** The Duke Energy Convention Center anchors the western portion of downtown and helps support five major hotels and two additional hotels currently in development. There are several restaurants, bars and nightclubs, and the Fountain Square entertainment district is located within the study area. Along the central riverfront, Major League Baseball's Cincinnati Reds play at the Great American Ballpark, the National Football League's Cincinnati Bengals play at Paul Brown Stadium, and minor league and college teams play at the 18,000-seat US Bank Arena, which also hosts other special events.
- **Residential center:** Over the last several years, a renewed interest in Downtown housing has occurred with new construction and the conversion of several large historic structures into loft apartments and condominiums. The Downtown population was 9,026 in 2009, a year when 500 new residential units were completed. More than 2,000 additional residential units are under construction or in the planning stage, with an estimated Downtown population of 12,452 in 2012 (Downtown Cincinnati, Inc. *State of Downtown Report*, 2009).

Figure 4. Major Activity Centers



The City is undergoing major changes due to an influx of new development and private investment as well as the construction of The Banks project along the riverfront. Nearly \$3.5 billion has been recently invested in the urban core of Cincinnati (including the riverfront of adjacent Northern Kentucky), and it is anticipated that more investment will take place. Two major construction projects will be completed in 2011. The first is the Great American Tower at Queen City Square which opened in January 2011. The tower is located at Fourth and Sycamore streets; one block east of the proposed streetcar alignment. The second is "The Banks" project, a mixed use development along the riverfront featuring housing, retail, office space and a hotel. The first phase is scheduled to open in June 2011. The proposed streetcar alignment also directly serves The Banks.

2.2.2 Over-the-Rhine (OTR)

OTR is a neighborhood in Cincinnati located between the region's largest activity and employment centers, Downtown and Uptown. It is bordered by the CBD, the Clifton Heights-University Heights-Fairview (CUF) neighborhood, and the neighborhoods of Mount Auburn, Pendleton, and West End. OTR covers 306 acres and is listed as a historical district on the National Register of Historic Places (NRHP), containing the largest collection of 19th century Italianate architecture in the United States (see Section 5.18 for cultural resource discussion).

Approximately 7,000 people currently reside in OTR, although the available housing stock and development opportunities in terms of available structures and property exceed that number. The neighborhood is currently a primarily lower income area. Its proximity to Downtown and major transportation corridors, along with its relatively low property values and rents, has attracted new commercial and residential development, primarily along the Vine Street and 12th Street corridors. This has included a mix of rehabilitated historic structures and construction of architecturally compatible new structures. The neighborhood's architectural character and sense of time and place also have been major factors in attracting new residents and businesses.

Scattered throughout the OTR neighborhoods are small groceries, specialty stores, restaurants, nightclubs, and light industrial shops. Retail attracts both residents and customers from throughout Greater Cincinnati.

One of the landmarks of OTR is historic Findlay Market, Ohio's oldest continuously operated public market. It is home year-around to about 24 merchants in the market house and others on surrounding streets. Findlay Market is also a gathering place that attracts a socially, economically, racially, and ethnically diverse population.

OTR is home of some of the region's pre-eminent cultural institutions. This includes the historic Cincinnati Music Hall, home of the Cincinnati Symphony Orchestra, Cincinnati Ballet, and May Festival. Music Hall is slated for a major renovation starting in 2011. Adjacent to Cincinnati Music Hall is historic Memorial Hall, home of the Cincinnati Chamber Orchestra. Nearby is the Ensemble Theatre. Just to the south of Music Hall is the School for the Creative and Performing Arts, which opened in 2010. A part of the Cincinnati Public Schools system, it is the first K-12 public arts school in the United States.

All but the Ensemble Theatre face OTR's primary green space, Washington Park. The park is currently being redesigned; redevelopment commenced in 2010. The park and all four cultural venues are located along the proposed streetcar line (Figure 4). Parks and community facilities are further discussed in Section 5.5.

2.2.3 Uptown

The neighborhood areas of CUF, Corryville, Clifton, and Avondale constitute Cincinnati's Uptown district, the second largest economic engine in the region, behind Downtown Cincinnati. It is a highly diverse area in terms of population and land use. Uptown features some of the region's most prominent institutions and landmarks, including the University of Cincinnati (UC), the medical center complex, and the Cincinnati Zoo and Botanical Gardens are situated north of the OTR neighborhood (Figure 4). It has one of the largest concentrations of jobs in the metro area.

Uptown has an employment base of over 40,000. It is home to four of Cincinnati's six largest employers:

- Cincinnati Children's Hospital Medical Center (CCHMC)
- Health Alliance of Greater Cincinnati
- TriHealth, Inc
- University of Cincinnati

These four entities have a combined payroll of \$1.4 billion and produce an annual economic impact over \$3 billion. Combined, UC and its affiliates and CCHMC had approximately \$334 million of funded research in 2005, with an annual growth rate of almost 15 percent. The Health Alliance and TriHealth also have strong interests in clinical research and technology development.

UC is a co-educational public research university and is part of the University System of Ohio. It provides employment, higher education services, medical services, and cultural and sporting events for the entire Cincinnati metropolitan area. UC is one of the 100 largest universities in the U.S. with an annual enrollment of approximately 35,000 students. In 2009, 5,666 students reside on campus; this is expected to grow to nearly 7,800 by 2025. Many other students live off-campus in Uptown. UC is the largest single employer in Greater Cincinnati, with 15,750 employees and an economic impact of over \$3 billion per year. By 2023, employment is projected to increase to nearly 17,000.

The southern edge of the UC campus is located along the proposed streetcar alignment.

The region's primary medical center complex is located just east of UC's Uptown campus and is the location of several major medical and research institutions, including:

- CCHMC
- University Medical Center
- Shriner's Hospital
- Veterans Administration Medical Center
- Holmes Hospital
- Hoxworth Blood Center
- UC Academic Health Center.
- Health Alliance of Greater Cincinnati corporate office
- TriHealth Inc. corporate office

Other medical institutions located in Uptown include:

- The Christ Hospital (Mt. Auburn neighborhood)
- Good Samaritan Hospital (University Heights neighborhood)

- Deaconess Hospital (Clifton Heights neighborhood)
- CCHMC satellite facilities (Corryville and Avondale neighborhoods)

Uptown's educational and medical institutions are located within its several residential neighborhoods, some of which are located along the proposed streetcar alignment:

- University Heights occupies the northern area of CUF, and is separated from Fairview and Clifton Heights by Straight Street. University Heights is primarily a residential area, with a significant amount of student-targeted rental property. UC forms the neighborhood's eastern edge.
- Fairview occupies the southwest corner of CUF and is primarily residential, with some student-targeted housing
- Clifton Heights occupies the southeast corner of CUF. UC forms the neighborhood's northern edge. Fairview and Clifton Heights are separated by Ravine Street. The residential area of Clifton Heights is largely rental property that functions as off-campus student housing. The Clifton Heights business district is located along McMillan and Calhoun streets between Vine Street/Jefferson Avenue and Clifton Avenue. It features a mix of national chains and local businesses that serve residents and students, and serve as a retail and entertainment destination for the region. Clifton Heights is home to the Hughes Center, a vocational and special-purpose high school, currently under renovation. Its current Clifton Heights facility was built in 1906. Currently there are five college prep schools housed at Hughes that draw students from throughout the city.
- Corryville is a mixed residential and commercial area that also features a large amount of the off-campus student housing. UC forms the neighborhood's western edge while the medical complex is forms is along its northern edge. Corryville's "Short Vine" business district primarily serves the student population.

2.3 Transportation Facilities and Services in the Study Area

2.3.1 Street and Roadways

The existing roadway facilities in the study area are shown in Figure 1 and Figure 3 in Appendix E. North-south roadways in the study area corridor include Elm, Race, Walnut, and Main streets within downtown and Vine Street and Clifton Avenue connecting to Uptown via OTR. East-west roadways include 12th Street, Central Parkway, McMicken Avenue, Findlay Street, and Freedom Way. Freedom Way, within The Banks development, is currently under construction and scheduled to open in 2011. Most of the roadways include sidewalks. I-71 crosses the southern end of the study area but is located in a "cut" and will not be impacted by the construction or operation of the streetcar project.

Roadway improvements within the study area, either under construction or planned, are included in the OKI Fiscal Year 2008 - 2011 Transportation Improvement Plan (TIP). They are programmed to receive state and/or federal funding. These are:

- The Banks street grid. In addition to the construction of Freedom Way, this project includes construction of roads, sidewalks, signals and lighting for various streets within The Banks development.
- The 12th and Vine streets landscaping project. This is a continuation of the Vine Street streetscape project and will fill in the gaps between Vine Street and previous streetscapes on Jackson Street located to the east.

2.3.2 Transit

Public transportation in the Cincinnati region is currently limited to bus service. There are currently three public transit systems that converge in downtown Cincinnati, all of which have bus routes that operate within the study area: SORTA; Transit Authority of Northern Kentucky (TANK); and Clermont Transportation Connection (CTC).

SORTA operates Metro, a fixed route system consisting of 34 local routes, 21 express commuter routes, and one downtown shuttle route. It serves the City of Cincinnati, major portions of Hamilton County, and portions of adjacent Butler, Clermont, and Warren counties. The Metro network is primarily radial, with all but three routes focusing on Downtown Cincinnati. Metro has several routes that run through downtown, OTR, and Uptown (Appendix F). Various bus routes currently run on the same streets and roadways as the proposed streetcar alignment. Times vary, but most Metro routes operate between about 4:00 a.m. and 1:30 a.m. Local routes have stops about every two blocks. Some routes provide commuter service in the morning and afternoon commuter peaks, or rush hours, only. Route times vary, but most of these routes operate between 6:00 and 9:00 a.m., and again between 4:00 and 6:00 p.m. Commuter routes have fewer stops than other routes. Some routes do not run at all on weekends but those that do, usually have different schedules from weekdays. For routes that run on weekends, the schedule is generally different for Saturday and Sunday. Metro's Route 85-Riverfront Parking Shuttle, runs on weekdays and connects current parking facilities along the riverfront with the Downtown office core.

TANK provides public transit service within the northern Kentucky counties of Boone, Campbell, and Kenton, with a radial network focusing on downtown Cincinnati. TANK operates 13 local routes, 12 commuter express routes, and one shuttle route. Most routes operate on weekdays from 6:00 a.m. and 10 p.m. A few routes operate a wider service period while others have a shorter operating day. Service hours and frequency are less on weekends. TANK's Southbank Shuttle connects the Downtown and riverfront areas of Cincinnati, Covington, and Newport (Appendix F). The shuttle runs extended hours and/or added service for special events, such as Cincinnati Reds and Cincinnati Bengals games. TANK routes operate within the portion of the study area between the Riverfront and Sixth Street.

CTC operates two weekday peak period express routes between suburban Clermont County and Downtown Cincinnati. They traverse the southern portion of the study area.

The hub for the regional bus systems is the Government Square transit center and transfer facility (Figure 8). Government Square consists of six off-street bus bays and five off-street stops on adjacent streets. Metro serves all stops while TANK uses two of the off-street stops and CTC uses one. The Government Square transit center is heavily used, with up to 67 buses per hour. It is located and on the proposed streetcar alignment.

Despite the size of the existing bus network in Downtown Cincinnati, its near-total radial design focuses regional service on downtown, with limited connections between Downtown Cincinnati and Uptown, including direct connections between Downtown and Uptown to Findlay Market, the residential development in OTR, and cultural and entertainment attractions for workers, residents and visitors. The urban core lacks a transit line that is designed exclusively to connect the major activity centers of Downtown and Uptown. There are no routes that provide a direct connection between the activity centers within the streetcar study area, including The Banks, Downtown, OTR, Findlay Market, UC, and Uptown.

The streetcar will not require or result in any alignment, stop or level of service change to bus transit service in the study area or throughout the region. Its operating funding will be separate from the current mechanisms in place for existing Metro, TANK and CTC service. Many existing bus stops will be shared with the streetcar as well as some stops will be moved to accommodate the streetcar. Impacts of the streetcar on bus stops are discussed in Section 5.2. The addition of shelters and benches will enhance current bus service at these locations. The opportunity to transfer between bus and streetcar at the shared stops will also improve the reach of the existing transit system and has the potential to generate additional bus riders.

2.3.3 Performance of the Transportation System

In Downtown Cincinnati, the majority of the roadways that would be utilized by the streetcar (shown in Figure 1) are minor arterial or local streets with low to moderate traffic volumes less than 15,000 vehicles per day. High traffic volumes that exceed 15,000 vehicles per day occur at Central Parkway. The existing level of service (LOS) at signalized intersections along the streetcar routes is LOS C or better. Traffic conditions are discussed further in Section 5.1.

The Metro system provides approximately 22 million rides per year. Combined with TANK and CTC, transit's modal share of commuter trips to Downtown is approximately 25 percent. Metro ridership has declined somewhat since 2008 due to high unemployment and service reduction/fare increases that were necessary to deal with the recession. Transportation is furthered discussed in Section 5.2.

2.4 Consistency with Local Plans and Projects

The modern streetcar is featured in a series of transportation plans developed for the City of Cincinnati, SORTA, and regional entities. Several transportation plans and projects have made provisions for increased capacity of the region's infrastructure. In recent years, the City of Cincinnati has developed and adopted several land use and development policies intended to promote infill, a more compact urban form, and increased transit use. Recent plans and initiatives include:

MetroMoves (2002)

SORTA conducted this community-based initiative to design a broader regional transit system based on a series of principles and goals. It incorporated the locally preferred alternatives of the major investment studies that were under the sponsorship of OKI: I-71 Corridor, North-South (I-75) Transportation Corridor, and Eastern Corridor—all of which overlapped the Downtown, OTR and Uptown areas but were coordinated with one another through the MetroMoves process. The MetroMoves Plan was subsequently incorporated into OKI's regional long range transportation plan.

It called for a \$2.6 billion investment over 30 years to construct a 60-mile light rail system for Cincinnati and expand the bus system. The plan included a streetcar to link Downtown Cincinnati, OTR, UC and the medical centers in Uptown. OKI, Ohio Department of Transportation (ODOT) and the City of Cincinnati were participants in the study; representatives of each entity served on the project's stakeholder committee.

Over-The-Rhine Comprehensive Plan (2002) and Implementation Update (2002-2006)

The OTR Comprehensive Plan was conducted by the City of Cincinnati. It focuses on the revitalization of the housing and economic infrastructure of the neighborhood in a way that will create an economically and racially diverse community that can be sustained over the long-term. OTR is the neighborhood directly north of downtown Cincinnati. The streetcar route will provide service to this neighborhood. SORTA and OKI were represented on the stakeholder committee for the plan that oversaw the development of the plan.

The implementation update provided an update on actions that have taken place since the OTR Comprehensive Plan was adopted in 2002. The OTR Plan implementation is funded with City Anthem Funds of \$2 million each year to implement, in part, transportation and parking improvements for the area.

Uptown Parks and Neighborhood Revitalization Plan (2006)

The purpose of the Uptown Parks and Neighborhood Revitalization Plan is to produce master plans for selected parks and for their adjacent neighborhoods to address the needs and opportunities for improving, funding, and maintaining the parks through strategic redevelopment. This framework creates opportunity to establish a balanced, multi-modal district that unifies Uptown such as the creation of a coordinated and accessible Uptown shuttle system; the identification of sites for a transit center; and improved public transit connections, such as the ones called for with the streetcar project.

Uptown Transportation Study (2007)

The Uptown Transportation Study was conducted by OKI to develop a comprehensive transportation plan for the Uptown area that serves the needs of the area's diverse population, responds to existing transportation deficiencies, and supports continuing growth, development, and economic vitality. The plan promotes improvement of the crosstown bus service; improvement of Uptown/Downtown connections by adding limited stop rapid bus service in the Clifton and Vine Street corridors; the integration of the Uptown shuttle; the upgrade of bus stop signs; and the construction of two new transit hubs. SORTA, ODOT, the City of Cincinnati and the Uptown Consortium were members of the funding partners/stakeholder committee; the recommendations in the plan were consistent with the recommendations in SORTA's MetroMoves Plan.

Go Cincinnati (2008)

The GO Cincinnati initiative focused on the goal of increasing City of Cincinnati tax revenues through targeted economic development strategies. Part of this initiative was to aggressively pursue establishing a streetcar system, the first phase of which would link Downtown to Uptown. The GO Cincinnati plan was adopted in December 2009 by the Cincinnati City Council as an official economic growth strategy. SORTA, OKI and ODOT were members of the transportation committee.

OKI 2030 Regional Transportation Plan (2008)

OKI updated its 2030 Regional Transportation Plan in 2008. This plan sets the region's strategies, plans and programs to improve economic development potential for transportation.

The streetcar is included in the regional transportation plan. SORTA, ODOT and OKI are members of OKI and participated in the planning process.

Agenda 360 (2009)

Agenda 360, an initiative of the Cincinnati USA Regional Chamber, developed six priorities for action for the Cincinnati region: creating a quality place to live; growing businesses; developing a qualified workforce; expanding transportation options; being inclusive and welcoming; and encouraging local governments to work together. Agenda 360 supports the streetcar project as an economic development tool and the impetus to spur new development and bring new urban dwellers to the CBD. Representatives of SORTA, OKI and the City of Cincinnati participated in the Agenda 360 initiative.

Cincinnati Center City Development Corporation (3CDC)

3CDC operations are funded privately, through business contributions as well as support from foundations and other philanthropic sources. The 3CDC focuses on projects that create great civic spaces; create high density/mixed use development; preserve historic structures and improve streetscapes; and, create diverse mixed use-income neighborhoods supported by local businesses.

The overall purpose of each plan was to develop ways to improve transportation through improved regional transit service. Several other projects and plans have been completed over the past ten years that have identified the streetcar as part of a long-range plan or were developed with provisions for a future streetcar system. A listing of those projects is provided in Appendix A.