New Orleans Pedestrian and Bicycle Count Report, 2014

Final Report

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PBRI
PEDESTRIAN BICYCLE RESOURCE INITIATIVE

Greater New Orleans
Pedestrian
& Bicycle
Program

MERRITT C. BECKER, JR.
UNO TRANSPORTATION INSTITUTE

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EXECUTIVE SUMMARY

New Orleans is well on its way toward becoming a recognized regional and national leader in active transportation. Since 2005, New Orleans' bicycle infrastructure network has grown from about eleven miles, to almost 87 miles in June 2014. Pedestrian improvements such as ADA-compliant accessibility features and high-visibility crosswalks, have accompanied most major road projects in the region in recent years. Complete streets policies have been adopted at the state, regional, and local levels, and the city ranks highly for active transportation mode share among large cities across the nation, and particularly within the southern United States. In order to document and evaluate gains and trends in walking and bicycling, the Pedestrian Bicycle Resource Initiative, a partnership of the Regional Planning Commission and the Merritt C. Becker, Jr. University of New Orleans Transportation Institute, has conducted pedestrian and bicycle counts for the last five years at a variety of locations in Orleans and Jefferson Parish. During this time, this annual count program has expanded from thirteen locations to forty-two, plus an additional permanent electronic counter for continuous year-round monitoring.

The data in this report expands on previous count studies conducted each spring from 2010 through 2013, documenting active transportation demand and the impacts of new facility development. Through pedestrian and bicycle count data collected at 12 manual count locations from 2010 to 2014, two additional Jefferson Parish count locations observed from 2011 to 2014, ten new count sites observed in 2013 and 2014, and one electronic count device installed since May, 2010, this report provides data suggesting that investments in the built environment for pedestrians and bicyclists have resulted in citywide increases in the prevalence of active transportation, particularly in areas where these investments have occurred. This report also provides baseline data for eighteen new count locations that can be used to inform investment priorities and evaluate post-intervention outcomes in safety and usage.

Overall, this report demonstrates that walking and bicycling are on the rise. Trends toward increasing numbers of pedestrians and bicyclists at most count locations have continued. In some locations, dramatic increases have occurred following the installation of new

facilities. In others, steady, incremental increases have been documented. In a very few locations, pedestrian and/or bicycle activity has decreased or proven to be highly volatile, potentially indicating relative deficiency in the infrastructure present and a consequent opportunity for future growth. In total, among existing count sites, the number of bicyclists observed has increased by 52% at the 12 core count locations since 2010, while pedestrian activity has increased by 53%.

The most notable gains and highest observed volumes for bicycles have been on major arterial corridors that include dedicated bicycle facilities (i.e. bike lanes). Overall, estimated daily traffic at sites with dedicated bike lanes has increased by 125% over five years, compared to a 44% increase at all count locations combined, and only a 23% increase at locations that have no bicycle facilities at all. In addition, bicycle activity has remained strong at CBD-adjacent "gateway" sites linking the downtown core of the city with residential Uptown neighborhoods, as well as in neighborhoods downriver from the CBD, with a significant estimated share of all road users traveling on foot or by bike (as high as 58% at one French Quarter location, with eight count locations (for which data was available) having greater than 10% active mode share.

This study also documents travel behaviors and demographic trends as indicators of safety and opportunities for spatially targeted education efforts. The proportion of cyclists that are female, indicating greater acceptance of bicycling as a means of transportation and typically a more comfortable bicycling environment, has increased over previous years, as has helmet use and correct (on-street, with the flow of traffic) travel orientation. Again, these changes have been more pronounced at locations where infrastructure improvements have been made.

Changes in pedestrian activity, while somewhat more volatile, confirm that New Orleans is a city where walking—whether to work, for errands, to recreation, or purely as exercise—is popular and feasible in many neighborhoods and among a diverse range of demographic groups.

PBRI has also collected continuous data on use of the Jefferson Davis Parkway Trail, a multi-use trail connecting several neighborhoods, to track broad, long-range active transportation trends. This analysis shows a steady positive trend from year to year toward greater use of this facility, corroborating the increases observed during manual counts and providing insights into temporal patterns in use. Most notably, the trail is well-used even during weeks and months that are extremely hot, very cold, or intensely rainy: in New Orleans, walking and bicycling are year-round activities for many residents.

This report also updates national American Community Survey Data (2012 1-year and 3-year estimates) to show that even as active transportation use has surged in many cities, New Orleans retains its position among the top cities nationally for bicycling (in 10th place) and a regional leader for walking (21st nationally).

Enhancing opportunities for walking and bicycling is an integral component of advancing a more sustainable, multi-modal transportation network in the New Orleans region. New Orleans' efforts to increase the availability and quality of facilities for active transportation has been rewarded with national recognition in addition to the usage gains documented in this report. However, the city and region still have work to do in creating safe, equitable environments for walking and bicycling. Continuing issues which should be addressed by government agencies and/or future research efforts include:

- Developing and funding an ongoing program for the collection of multimodal counts and mode-share analysis, including motor vehicles and transit users.
- Integrating data collection as a routine component of project development in order to fairly quantify user demand and to enable future post-intervention evaluation.

- Focusing on regional integration of pedestrian and bicycle networks among jurisdictions, and prioritize network "chokepoints" such as bridges, overpasses, and underpasses where users lack safe, viable route alternatives.
- Supporting the implementation of the Jefferson Parish Bicycle Plan and facilitate the development of similar documents in other parishes within the region.
- Conducting in-depth statistical analysis of the impacts of pedestrian and/or bicycling engineering interventions on safety, public health, and economic outcomes.

In summary, PBRI's five-year pedestrian and bicycle count study demonstrates that New Orleans has made significant progress toward becoming a more walkable, bikeable city through investments and policies that facilitate greater active transportation use. However, much of the "low-hanging fruit" has been addressed— in order to see continued growth and positive changes in active transportation, and to keep pace with competitive peer cities, this region must now begin to innovate and embrace new design solutions and approaches to the development of complete streets that creatively address the needs of all modes and users.

1.0 Introduction

Since 2010, the Pedestrian and Bicycle Resource Initiative (PBRI) at the Merritt C. Becker, Jr. University of New Orleans Transportation Institute, in partnership with the New Orleans Regional Planning Commission and the Louisiana Department of Transportation and Development, has overseen a pedestrian and bicycle count program aimed at gauging active transportation use around the New Orleans area.

This program has grown over the last five years from thirteen count locations to forty-two, plus a continuously operating electronic count device.

The goals of the count program are:

1. To evaluate the impact of recent and planned investments in pedestrian and/or bicycle infrastructure on active transportation trends in the region over time
2. To provide baseline and post-intervention benchmarks by which to evaluate progress toward achieving higher rates of walking and bicycling in our communities
3. To provide insight into user demographics and behaviors that may impact safety outcomes and/or educational campaigns in the region.

The 2014 count study findings build upon the existing data set, allowing us to delve more deeply into emerging trends, and build a foundation for future research and analysis as the New Orleans region continues to expand and improve its pedestrian and bicycle infrastructure. This report documents the results of the 2014 count program, including new data from one electronic count device and 42 manual count locations in the New Orleans metropolitan region, and summarizes findings and trends from 2010-2014. As in previous reports, this document also makes recommendations for future research and analysis that will allow the New Orleans region to effectively prioritize its efforts to complete its streets and expand and improve its active transportation infrastructure.

1.1 Growth of New Orleans' Bicycle Facility Network, 2005-2014

Since Hurricane Katrina in 2005, New Orleans' bicycle infrastructure network has grown from about eleven miles to approximately 87 miles as of June 2014 (Figure 1), as the city has taken advantage of opportunities to better accommodate all users while rebuilding its roadways. The types of bicycle facilities implemented have also expanded, including exclusive bike lanes (29.8 miles as of June 2014), shared lanes (36.8 miles), mixed shared and dedicated lanes (2.3 miles), bike boulevards (0.8 miles), and off-street multi-use paths (17.2 miles). Figures 2 through 6 illustrate the network's growth over time.

This expansion of the bicycle network has provided an opportunity to monitor the impact of these investments on both overall active transportation activity as well as specific sites where new facilities have been installed. Approximately 23 miles of new bicycle facilities were installed between June 2013 and June 2014, including dedicated bike lanes on significant portions of Esplanade Avenue, St. Bernard Avenue, and Basin Street. The 2014 count study included post-intervention counts at several locations where facilities were installed during the past 12 months, continuing counts on or near existing bicycle facilities, as well as new count locations where future interventions are planned or have been proposed.

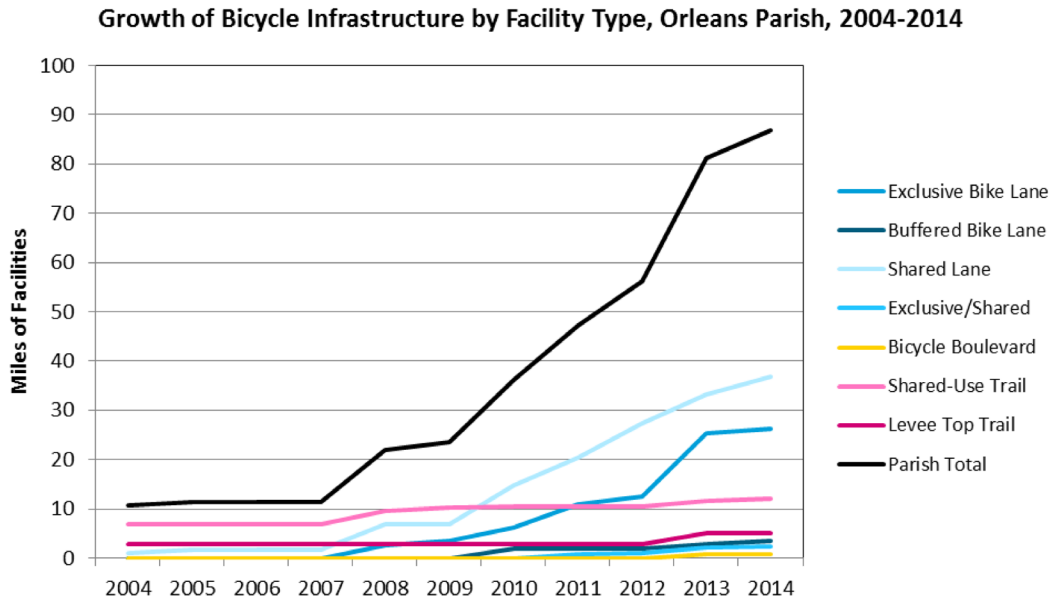

Figure 1: Growth of Bicycle Infrastructure by Facility Type, Orleans Parish, 2004-2014

Importantly, continued data collection is needed to effectively evaluate usage trends over time following the installation of a new facility—user counts can fluctuate significantly from year to year due to a variety of factors (e.g. weather, construction, concurrent neighborhood events), and a consistent, ongoing count program is the best way to monitor long-term change. It is also important, now that post-hurricane recovery programs are drawing to a close, that the region uses these data to inform investment decisions so that new facilities will have maximum impact on the safety, comfort, and frequency of use by pedestrians and bicyclists. Finally, New Orleans must continue to work toward connecting existing facilities into an integrated network that allows multimodal access throughout the region.

Figure 2: Bicycle Facilities in Orleans Parish, 2006

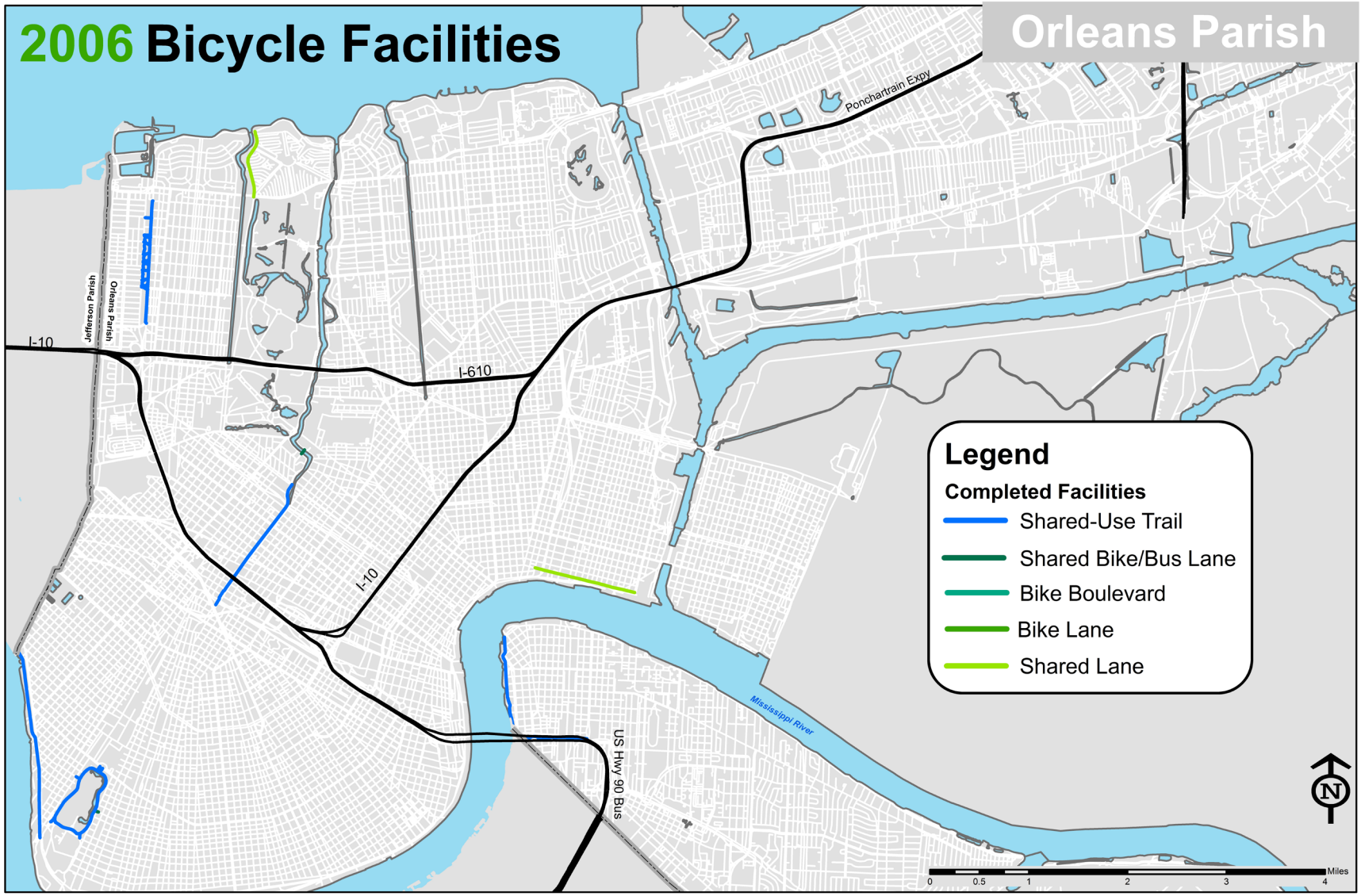

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Figure 3: Bicycle Facilities in Orleans Parish, 2008

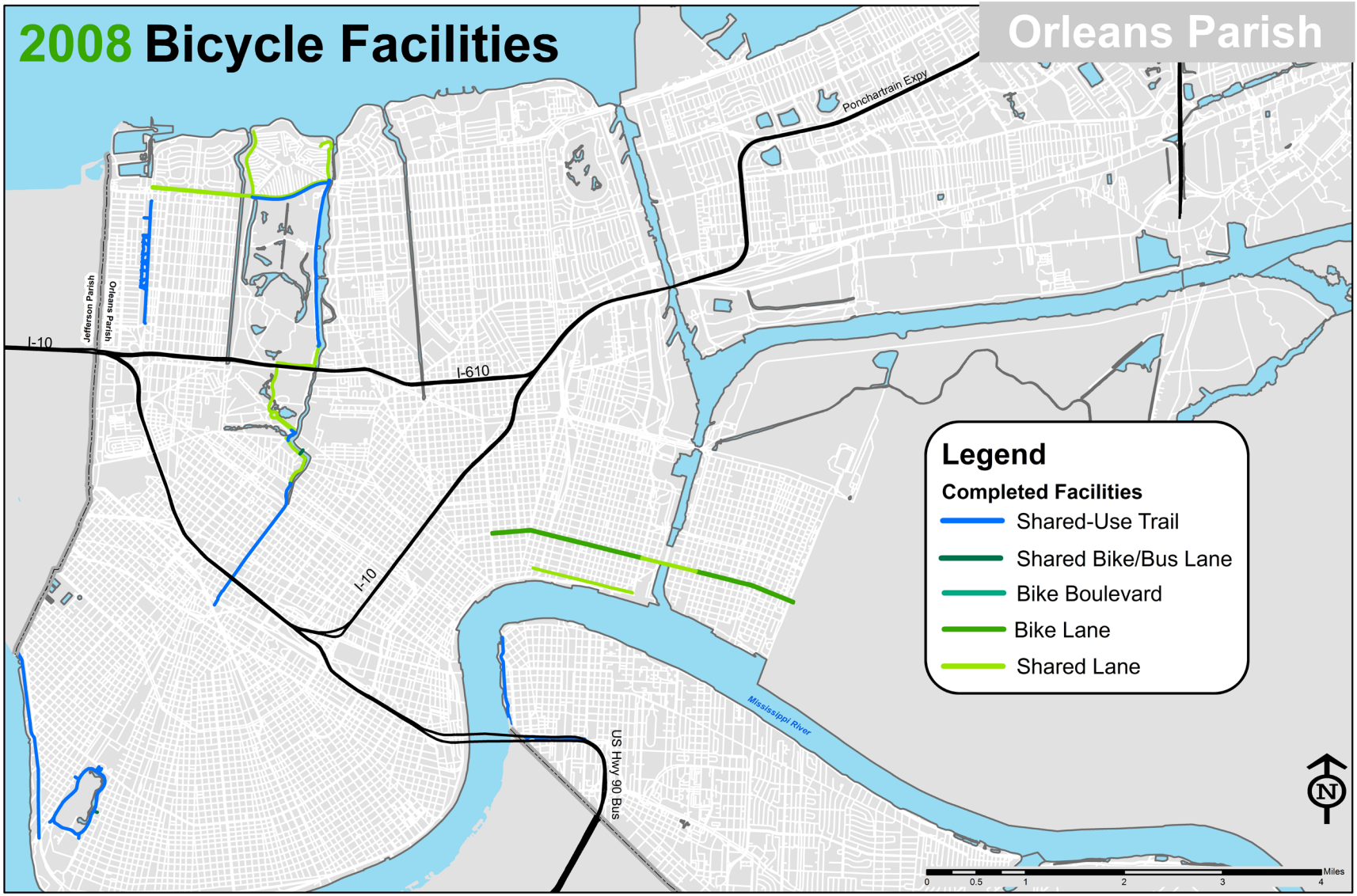

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Figure 4: Bicycle Facilities in Orleans Parish, 2010

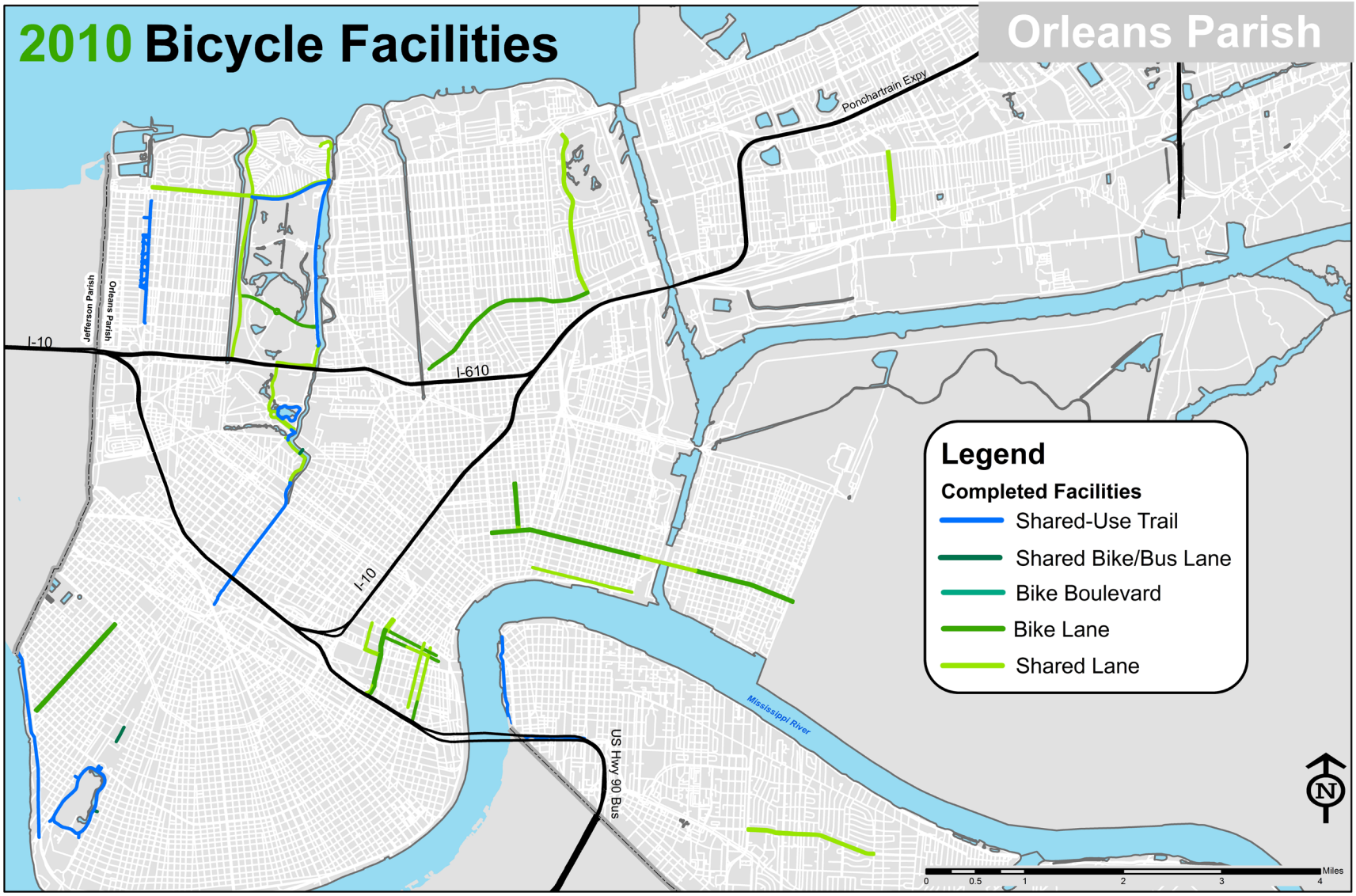

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Figure 5: Bicycle Facilities in Orleans Parish, 2012

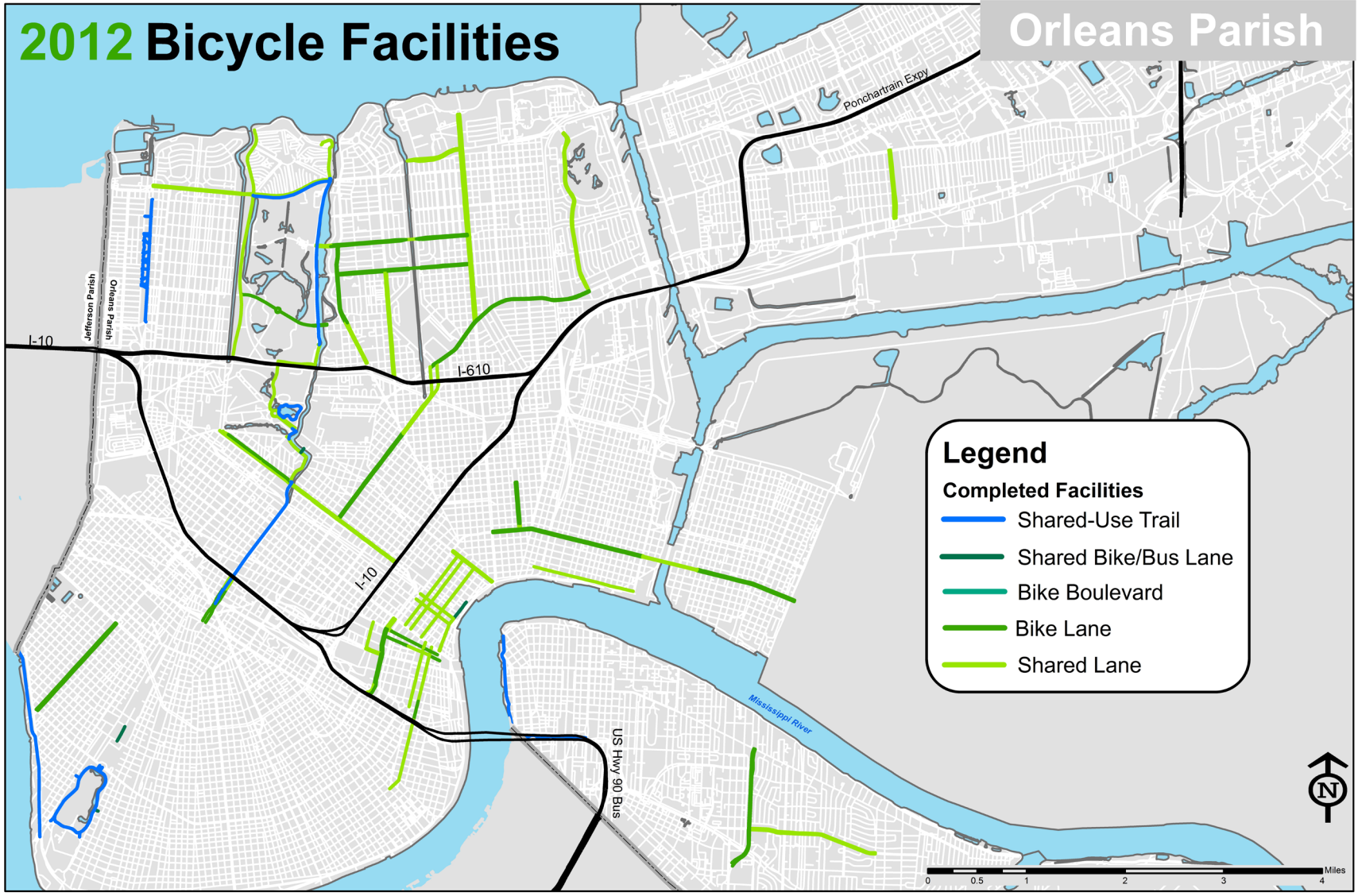

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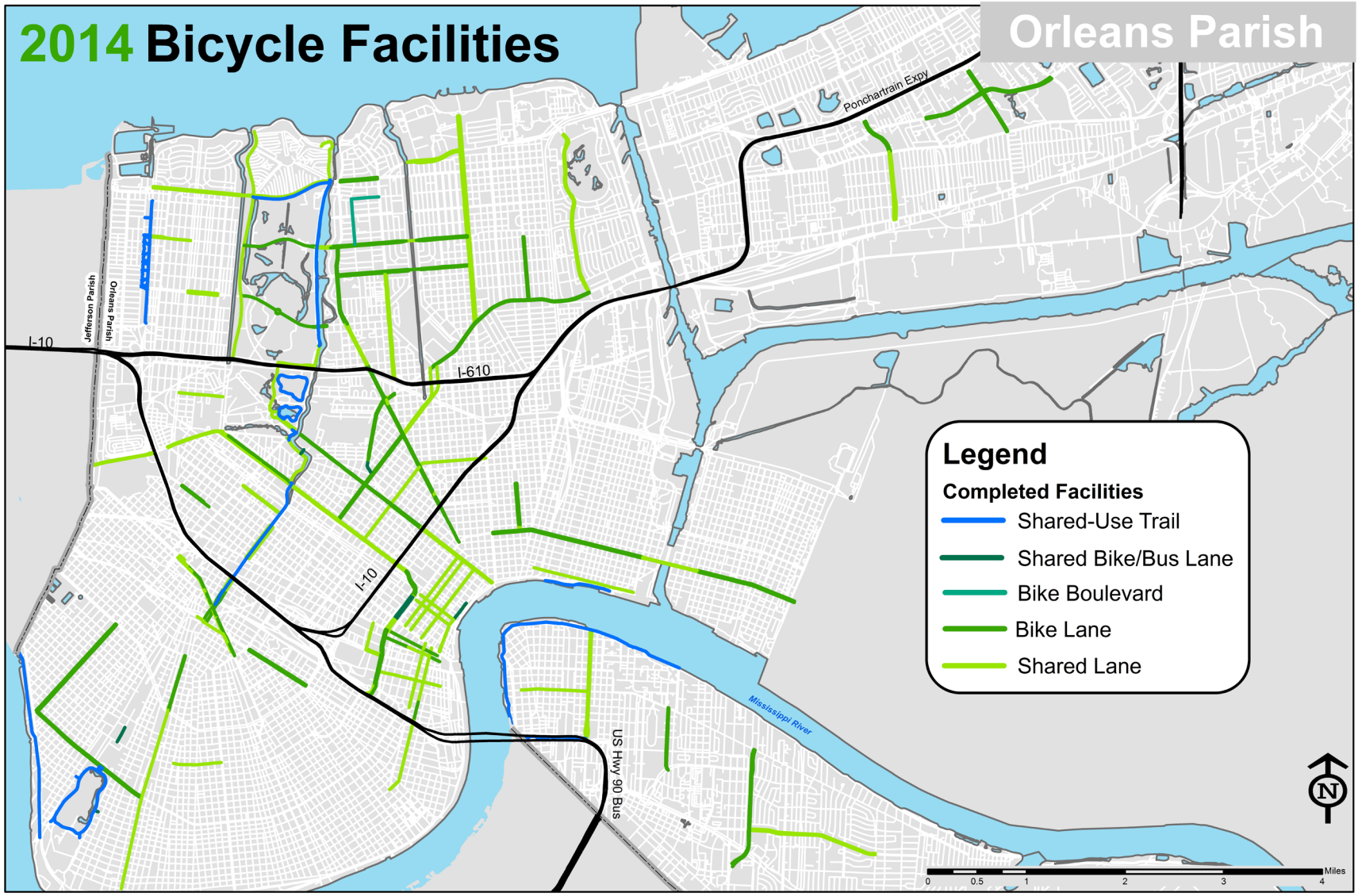
Figure 6: Bicycle Facilities in Orleans Parish, 2014



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1.2 Count Site Selection

The PBRI count program began in 2010, at thirteen locations in Orleans Parish. Two new count locations (Papworth Avenue and Metairie Hammond Highway in Jefferson Parish) were added in 2011. In 2012, counts were repeated at all fifteen of these locations. Locations were selected based on the following criteria:

- Proximity to existing or future bicycle facilities, sidewalk improvements or other infrastructure improvements
- Use as a gateway between the Central Business District (CBD) and Uptown New Orleans
- Representation of a specific neighborhood, in order to gain a more holistic understanding of active transportation trends throughout the city.

In 2013, twelve additional Orleans and Jefferson Parish count locations were added, including sites corresponding to high pedestrian crash incidence, recent or anticipated bicycle facility construction, and/or interest from partner organizations including Tulane University's School of Public Health and New Orleans bicycle advocacy organization Bike Easy in data from specific locations.

In 2014, counts were repeated at almost all 2013 count locations, and 18 additional count locations were added. New count locations selected include locations where roadway investment has been recently completed or is anticipated, as well as corridors indicated as key bicycle connections in the newly adopted Jefferson Parish Bicycle Master Plan,[1] new "gateway" locations which contribute to the count program's ability to estimate mode share entering and exiting the downtown area, and count sites that help provide a more complete picture of multimodal traffic volumes in downtown neighborhoods. This expansion of the scope of the count study not only provides a more comprehensive view of overall walking and bicycling patterns in the New Orleans area, but also provides needed data for a variety of organizations and agencies working to better understand and improve particular aspects of active transportation in the region.

Table 1 lists the manual count sites observed in 2014, and Figure 7 shows these locations. For a detailed breakdown of count site characteristics for all 2014 manual count locations, including the type of bicycle facility present (if applicable) and its installation date, please refer to Appendix A .

In addition, an infrared electronic count device has been installed on the Jefferson Davis Trail in Mid-City since 2010, collecting continuous data on trail use from June 2010 to June 2014.[2] The Jefferson Davis Trail is located on the median of Jefferson Davis Parkway at Conti Street in the Mid-City neighborhood (see Table 1). This trail was selected for continuous electronic data collection due to its connectivity in linking multiple neighborhoods for commuting, its proximity to recreational facilities, and its future intersection with the Lafitte Greenway (currently under construction). In June, 2014, this counter was upgraded to a more advanced count device, in cooperation with the Rails-to-Trails Conservancy's Trail Modeling and Assessment Platform (T-MAP) program, a recently launched, $1.2 million, three-year initiative intended to create new tools for planning and evaluating trails. The new count equipment is capable of differentiating between pedestrians and bicyclists, which will permit a new level of analysis of trail use patterns. An identical counter was placed in St. Tammany Parish, along the Tammany Trace, as part of this partnership.

1 See www.norpc.org/pedestrian_and_bicycle_program.html for more information

2 Excluding an approximately 3-month gap in data collection from April-June 2013 as a result of a disruption to the pole to which the device was mounted.

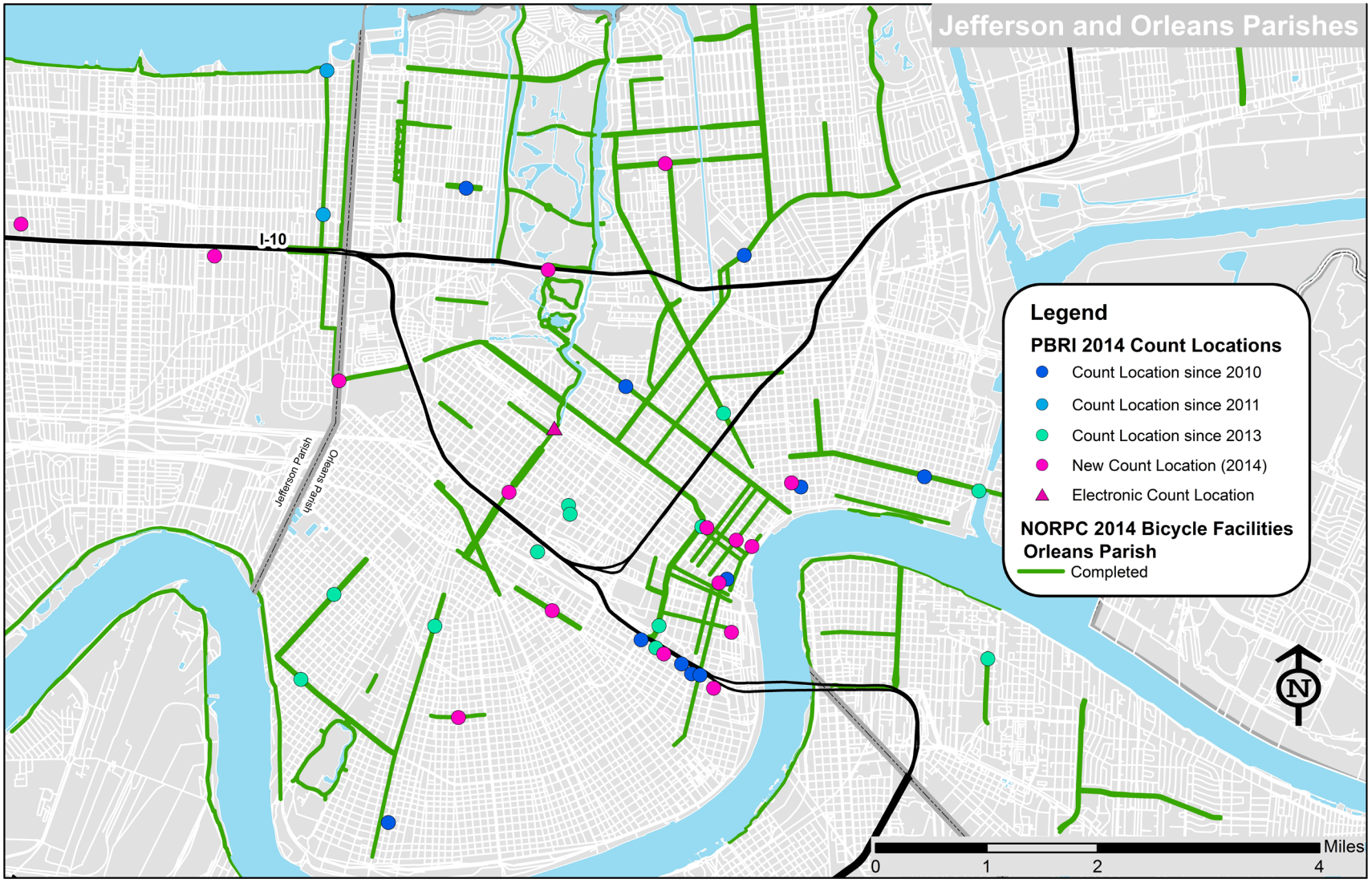
Table 1: 2014 Count Locations

2014 Count Site Locations		
#	Site	Boundary Streets
0	Jefferson Davis Trail	Conti St & Lafitte St
1	Gentilly Boulevard	St. Denis St & Milton St
2	Esplanade Avenue	N White St & N Dupre St
3	Harrison Avenue	General Diaz St & Harrison Ct
4	St. Claude Avenue	Pauline St & Independence St
5	Royal Street (Marigny)	Mandeville St & Marigny St
6	Camp Street (Gateway)	Clio St & Calliope St
7	St. Charles Avenue (Gateway)	Clio St & Calliope St
8	Decatur Street	Iberville St & Canal St
9	Magazine Street (Uptown)	Arabella St & Joseph St
10	Magazine Street (Gateway)	Erato St & Calliope St
11	Simon Bolivar Avenue (Gateway)	Clio St & Calliope St
12	Carondelet Street (Gateway)	Clio St & Calliope St
13	Metairie Hammond Highway	Carrollton Ave & Seminole Ave
14	Papworth Avenue	Veterans Blvd & Raspberry St
15	St. Bernard Avenue	N Roman St and N Derbigny St
16	Basin Street	St. Louis St and Toulouse St
17	Nashville Avenue	S. Rocheblave St and S. Tonti St
18	St. Charles Avenue (Uptown)	Adams St and Hillary St
19	S. Carrollton Avenue	Green St and Birch St
20	Oretha Castle Haley Boulevard	Clio St and Calliope St
21	Pace Boulevard	General Meyer Ave and Lamarque St
22	Loyola Avenue	Howard Ave and Julia St
23	S. Broad Street	Tulane Ave and Banks St
24	Tulane Avenue	S. Dorgenois St and S. Broad St
25	St. Claude Avenue Bridge	Poland Ave and Industrial Canal
26	Broad Street Bridge	Howard Ave and Euphrosine St
27	Bonnabel Boulevard	I-10 and Hessiod St
28	Cleary Avenue	I-10 and Ford St
29	Metairie Road	Maryland Dr and Parish Line
30	Jefferson Davis Parkway Bridge*	Gravier St and Tulane Ave
31	Decatur Street (Jackson Square)	St. Peter St and St. Ann St
32	Freret Street	Valence St and Upperline St
33	Martin Luther King Boulevard	S. Galvez St and S. Johnson St
34	Royal Street (French Quarter)	Toulouse St and St. Peter St
35	Mirabeau Avenue	Paris Ave and Perlita St
36	S. Peters Street	Girod St and Julia St
37	Baronne Street (Gateway)	Calliope St and Clio St
38	N. Rampart Street	Toulouse St and St Louis St
39	Golf Drive	I-610 and Railroad Tracks
40	Annunciation Street	Erato St and Thalia St
41	Elysian Fields Avenue	Dauphine St and Royal St
42	Canal Street	Magazine St and Camp St

**Bridge count includes both roadway and multi-use trail users*

Figure 7: Pedestrian and Bicycle Count Locations, 2014

2014 Pedestrian and Bicycle Count Locations



"Data Sources: Basemap created using 2012 TIGER/Line Shapefiles for Orleans and Jefferson Parish Roads and Water features. Bicycle Facility Shapefile produced and provided by the New Orleans Regional Planning Commission, current as of 5/15/2014. Count Locations Shapefile produced and provided by the Pedestrian Bicycle Resource Initiative, current as of 5/15/2014. Any use of the data must be accompanied with this citation and accompanying seals and logos."

Coordinate System: NAD 1983 StatePlane Louisiana South FIPS 1702 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 3,280,833.3333
False Northing: 0.0000
Central Meridian: -91.3333
Standard Parallel 1: 29.3000
Standard Parallel 2: 30.7000
Latitude Of Origin: 28.5000
Units: Foot US

PBRI PEDESTRIAN BICYCLE RESOURCE INITIATIVE

RPC REGIONAL PLANNING COMMISSION LOUISIANA

2.0 Methodology

This section explains the methodologies utilized by PBRI in performing manual and electronic counts and attempts to qualify their accuracy and effectiveness. For detailed methodology information, please see Appendix B.

2.1 Manual Counts

Manual counts for this study were completed between March 18th and June 5th of 2014. PBRI recruited student workers from The University of New Orleans, as well as volunteers via a variety of partner organizations, most notably Bike Easy and Ride New Orleans. Students and volunteers were trained by UNO Transportation Institute staff on observation protocol, and were required to satisfactorily perform a practice count to gain certification. The Observation Protocol, developed by Kathryn Parker, assistant director of the Tulane Prevention Research Center at the Tulane School of Public Health, can be found in Appendix B. PBRI methodology follows (with minor variations as described in appendix) the Tulane protocol.

All counts were mid-block screenline counts, during which two student or volunteer counters sat in view of each other on opposite sides of the street, creating a visual "plane of observation" for users to cross and be counted.[3] On streets with a neutral ground,[4] each counter tallied users on their side of the street and their sidewalk, while one counter was designated to count users on the neutral ground. If there was no neutral ground at the count site, both counters were responsible for counting all users of the street and both sidewalks. In the case of discrepancies, an average was taken.

Counters tallied pedestrians and bicyclists and categorized them by gender, race, and general age group (adult vs. child). Counters also distinguished pedestrians and bicyclists by their travel orientation, i.e. whether they were observed on the street, sidewalk, or neutral ground. For bicyclists, counters also noted helmet usage and right-way vs. wrong-way use, as well as use of a bike lane where applicable. Wrong way use was defined as on-street bicyclists traveling in the opposite direction of traffic. For copies of the materials used by observers, see Appendix C.

Counts were performed on two days for each site, either on a Tuesday, Wednesday, or Thursday. Each day included counts from 7:00-9:00 AM and from 4:00-6:00 PM. These time periods and days of the week are based on recommendations by the National Bicycle and Pedestrian Documentation (NBPD) Project.[5] Counts were generally only performed under reasonably good weather conditions (i.e. no heavy rain), although a few observations took place on days of inclement weather (Appendix D). Notably, temperatures during the 2014 count period were, in many cases, cooler than average, which may have contributed to slight decreases in user volume observed relative to the previous year at some locations where counts were conducted in early spring and conditions were unseasonably chilly.

In order to estimate daily, monthly, and yearly volumes of pedestrians and bicyclists at the observed manual count sites, observed user volumes were extrapolated to daily, monthly, and annual estimates based on the methods provided by the National Bicycle and Pedestrian Documentation (NBPD) Project. NBPD methodology classifies count sites as either Multi-use Paths or Pedestrian Districts.

3 In select instances, only one counter was available to conduct the count and observed the entire plane of observation.

4 "Neutral ground" is a colloquial phrase for a median separating street traffic; this term is used throughout this report.

5 See http://bikepeddocumentation.org/ for more information

Manual Counts are therefore classified as Pedestrian Districts, defined by the NBPD Project as "higher density pedestrian areas with some entertainment uses such as restaurants," descriptive of the vast majority of 2014 count locations. Estimates for a few low-volume count locations in mostly residential areas may have a higher margin of error as a result. For more information on this extrapolation methodology, please refer to Appendices E and F.[6]

It should be noted that the extrapolation methodology provided by the NBPD Project is based on patterns of use by climate region. These patterns of use influence how much weight any given count will have depending on: the hour of the day, day of the week, and month of the year. NBPD Project methodology provides three climates to choose from, of which New Orleans is categorized into the "Very hot summer, Mild winter" category. While this climate category is the most appropriate selection available, observed trends of use from the continuous electronic counts did not precisely fit this national formula.

Extrapolations for manual counts have not been comprehensively tested for reliability and actual daily traffic volumes may vary based on land uses or user groups that deviate from NBPD's model or circumstances unique to the New Orleans area that impact local travel patterns. The New Orleans Pedestrian and Bicycle Count Report, 2010-2011 discusses the divergence between the NBPD Project's patterns of use and the patterns of use observed by Eco-Counters in New Orleans in-depth, and concludes that patterns of use in New Orleans differ from all three climates modeled. Further research, potentially including expanded use of electronic counters in order to evaluate the efficacy of this extrapolation technique is necessary to better understand local patterns of use.

PBRI's participation in the Rails-to-Trails Conservancy's T-MAP project, and expanded use of electronic count devices, will also facilitate the further refinement of more accurate non-motorized traffic demand modeling for future count studies.

2.2 Electronic Counts

As noted above, the Jefferson Davis Trail electronic count site was equipped with an automated count device (called an Eco-Counter) that was installed in May 2010, and that recorded trail use continuously (excluding April, May, and June 2013 when the device was temporarily removed due to the dislocation of the city infrastructure on which it was installed) until June 2014. This report provides an analysis of the fourth year of this continuous stream of data to analyze temporal patterns and variability and understand patterns of use in relation to the first three years of data collected.

The Eco-Counter uses passive infrared sensor technology to record all users. Two directional sensors (IN and OUT) count all users within a distance of 4 meters (approximately 13 feet) and record that information in a data box from which it may be retrieved via infrared or Bluetooth technology (Figures 8 and 9). Two key limitations to the Eco-Counters are important to note: its inability to distinguish between types of users (bicyclists vs. pedestrians) and potential undercounting due to parallel movement of users.

In order to address these issues and the possibility of other observational error, PBRI staff calibrated the Jefferson Davis Trail machine upon installation, and has performed periodic calibration checks in the subsequent four years to evaluate accuracy. Overall, this device has been found to provide highly accurate and reliable data.[7]

6 The development of this methodology and relevant literature is discussed in greater depth in the *2010 State of Active Transportation Report* and *the New Orleans Pedestrian and Bicycle Count Report, 2010-2011,* available at http://pbriLA.org under "Research + Resources"

7 Greater than 95% total accuracy rate over four tests. Directional accuracy for the Eco-Twin infrared device declined in 2013 for unknown reasons following damage to the installation which forced the device's temporary removal, but total accuracy has remained very high.

In June 2014, a new, more sophisticated permanent counter was installed near the same intersection on the trail, which will be used for future count reporting (Figure 10). One month of data was collected with both counters installed in order to ensure data compatibility. The data were found to be slightly higher (about 5% per day) on the new count equipment, likely reflecting the new sensor's more advanced technology, which reduces the device's tendency to undercount trail users traveling side by side.

Recent expansions to PBRI's electronic count collection program in 2014, including the acquisition of the new Jefferson Davis Trail Multi Counter, a second infrared Eco-Counter, a new directional on-street bicycle tube counter, and two additional tube counters on loan from Tulane University will enable similar data streams (either short or long-term) to be developed for additional trail and/or on-street locations, permitting a more accurate and comprehensive analysis of overall trends, as well as enabling greater calibration and reliability testing of manual count extrapolation techniques.

52% Increase in Bicyclists
53% Increase in Pedestrians
2010-2014

3.0 Manual Count Findings

In 2014, 336 hours of manual count data were collected across 42 locations. This section summarizes these data and compares the data to previous findings where applicable. Presented are both total observed counts over a period of eight hours per location, as well as Estimated Daily Traffic (EDT) figures. In addition, this section discusses estimated active transportation mode share, demographic characteristics of users, and behavioral observations (e.g. travel orientation and helmet use).

3.1 Observed Count Totals: Existing Count Sites

Since 2010, the total number of bicyclists observed at the twelve original annual count locations has increased by 52%, and the number of pedestrians observed has increased by 53%. After several years of rapid growth, count volumes actually declined slightly at many of these locations from 2013 to 2014 (a 6.8% decrease in bicyclists and an 8.5% decrease in pedestrians), which may reflect changing commute patterns, atypically cool weather conditions into spring of 2014, or other factors. At several count locations (including Esplanade Avenue, Royal Street, Camp Street, Metairie Hammond Highway, Loyola Avenue, and St. Charles Avenue (uptown), temperatures recorded during 2014 counts were substantially lower than in the previous year (see Appendix D) and in several cases, experienced rain events that likely impacted usership. However, the five years of data suggest that overall bicycle ridership, as well as pedestrian activity, is trending steadily upward in New Orleans. In particular, active user counts remain strong at locations identified as "CBD Gateway" count sites, where commuter travel between Uptown New Orleans into the downtown/CBD area is captured, and in locations where facility improvements have been made (see section 3.7 for more information on facility impacts).

Notably, the highest overall increase in bicycle ridership among these locations—and one of only a few locations to see continued growth from 2013-2014—was on Esplanade Avenue, where bike lanes were added to this corridor in 2013 (under construction during 2013 counts, and which experienced a 199% increase in users between 2010 and 2014. Also recording substantial five-year bicycle activity increases are St. Claude Avenue (163%), Simon Bolivar Avenue (157%), Magazine Street—Uptown (137%), and Gentilly Boulevard (124%) (Figure 11). For pedestrians, the highest rates of increase were noted on St. Claude Avenue (143%), Esplanade Avenue (113%), Camp Street (99%), and Decatur Street (93%) (Figure 12).

Only one of the original twelve count locations (Royal Street at Marigny Street) has experienced an overall decrease in bicyclists over the last five years. The count site's location in a neighborhood with high rates of bicycle commuting, however, suggests that this may be the result of the city's expanded bicycle network which displaced potential riders to other routes with infrastructure improvements for bicyclists. Notably, this location also experienced inclement weather during the count days. Overall declines in pedestrian activity were seen on Gentilly Boulevard and Simon Bolivar Avenue.

At the two Jefferson Parish locations where counts commenced in 2011, user counts for both pedestrians and bicyclists remains low and inconsistent (despite the addition of shared-lane markings to Papworth Avenue), although total counts for these two sites are up 60% for bicyclists and 37% for pedestrians over the last four years.

Ten additional sites were counted in 2013 as well as 2014. Figures 13 and 14 and Tables 2 and 3 show the user counts for each year. As these data show, user counts from year to year can be volatile, impacted by a multitude of factors. More years of data are needed to establish clear trends. However, these figures show that observed bicycle volumes went up at seven of the ten new count sites, and that pedestrian volumes increased at seven sites as well. Overall, bicycle volumes at this set of count locations increased by 5% (hampered by a sharp decrease on St. Charles Avenue, where weather conditions were less than ideal during the count dates), and pedestrian volumes increased by 6%.

Figure 8: Jefferson Davis Trail Eco-Counter Installation at Conti St

Photo credit: Taylor Marcantel, 2010

Figure 9: Detail of Eco-Counter Infrared Sensing Device

Photo credit: Taylor Marcantel, 2010

Figure 10: New Eco-Multi Counter, Jefferson Davis Parkway Trail at Conti Street

Photo credit: Tara Tolford 2014

Importantly, at the three sites where bicycle facilities were installed between the 2013 and 2014 counts, observed bicycle volumes increased substantially: a 273% increase on Nashville Avenue, 143% on Basin Street, and 30% on St. Bernard Avenue. These findings suggest that the addition of dedicated space for bicyclists on the roadways encourages existing riders to modify their routes to take advantage of the new facility, new riders to add bicycle trips, or both.

Esplanade Avenue
199% Increase in Bicycling
OBSERVED 2010-2014

Figure 11: Observed Bicycle Volumes, 2010-2014

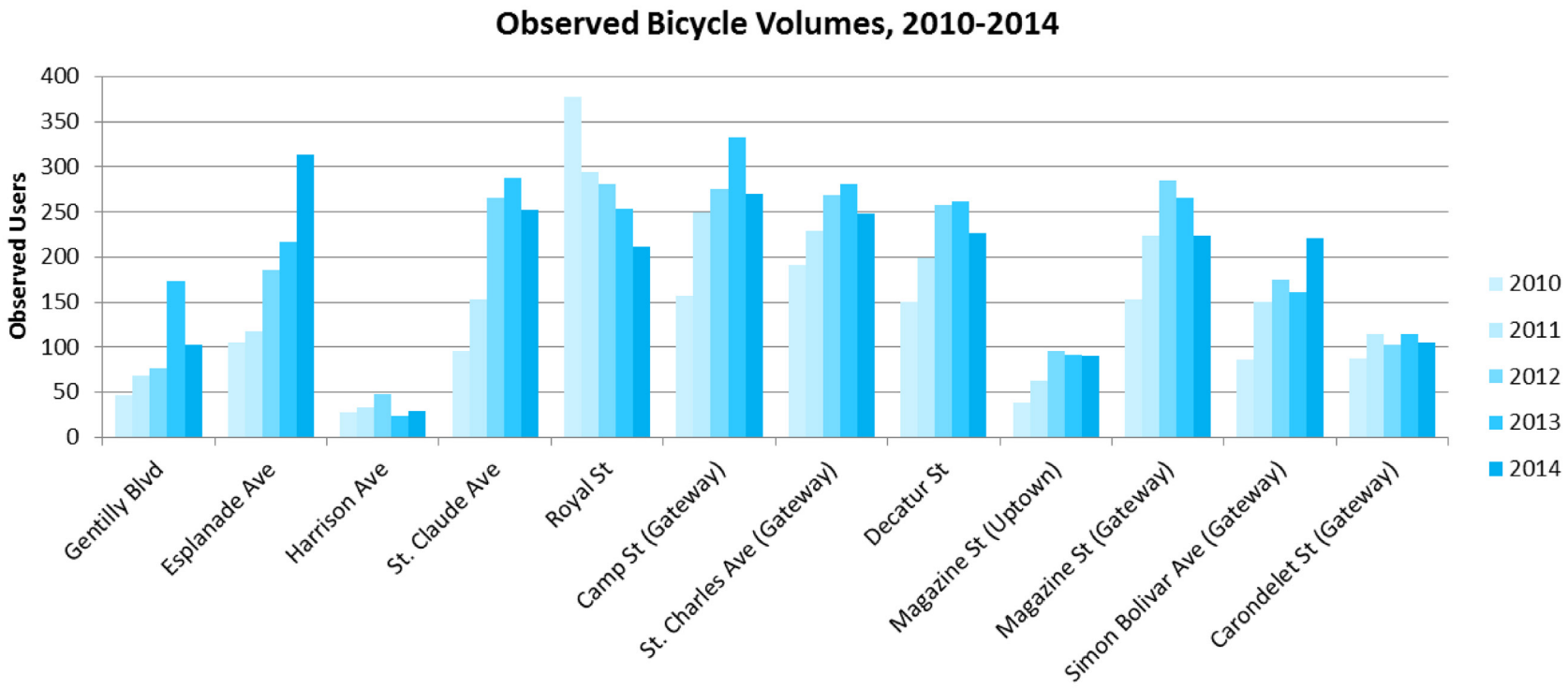


Figure 12: Observed Pedestrian Volumes, 2010-2014

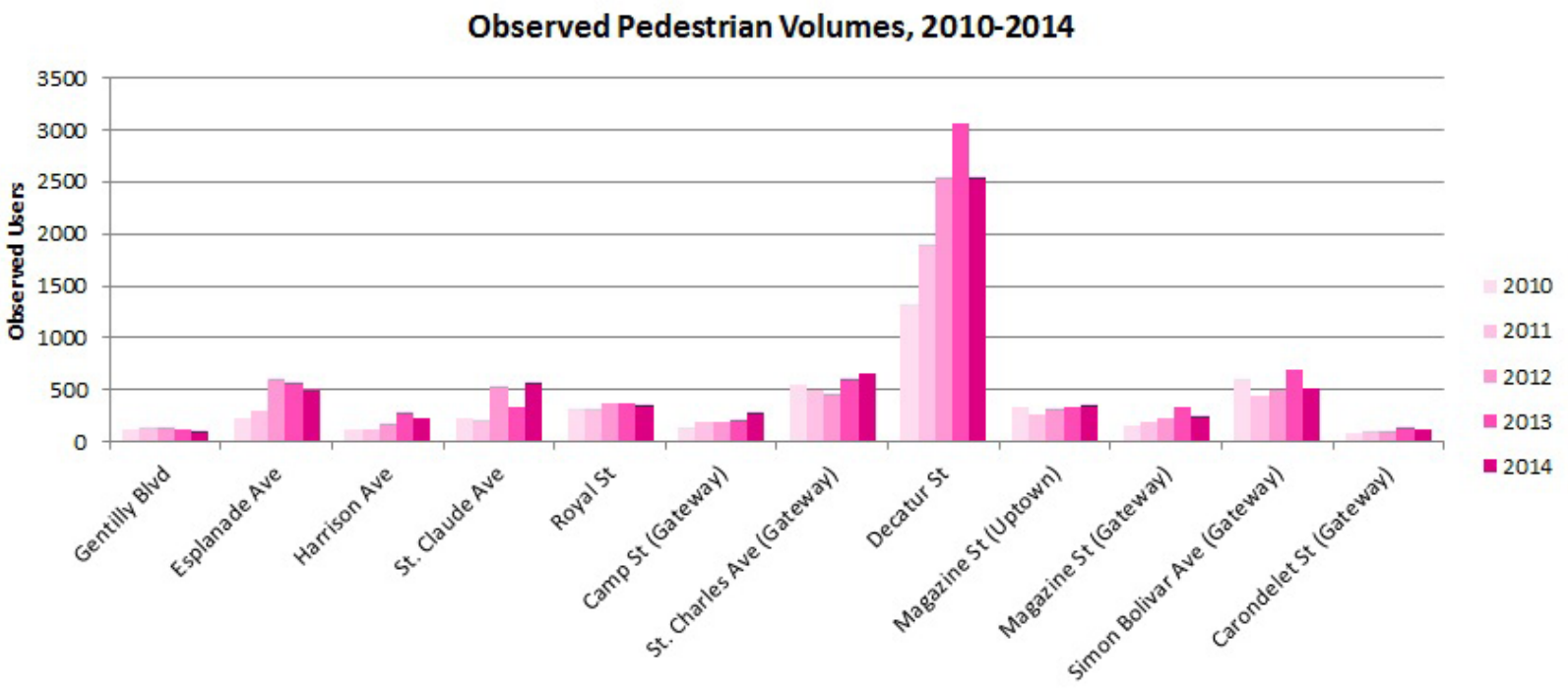


Figure 13: Observed Bicycle Volumes, 2013-2014 Count Sites

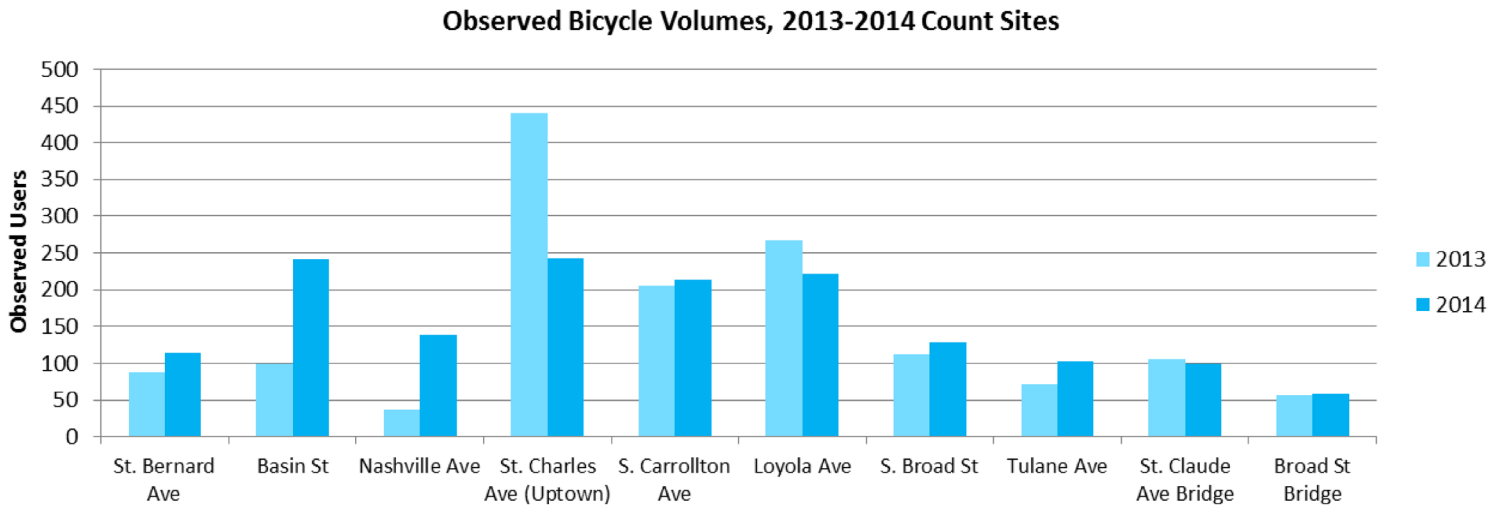


Figure 14: Observed Pedestrian Volumes, 2013-2014 Count Sites

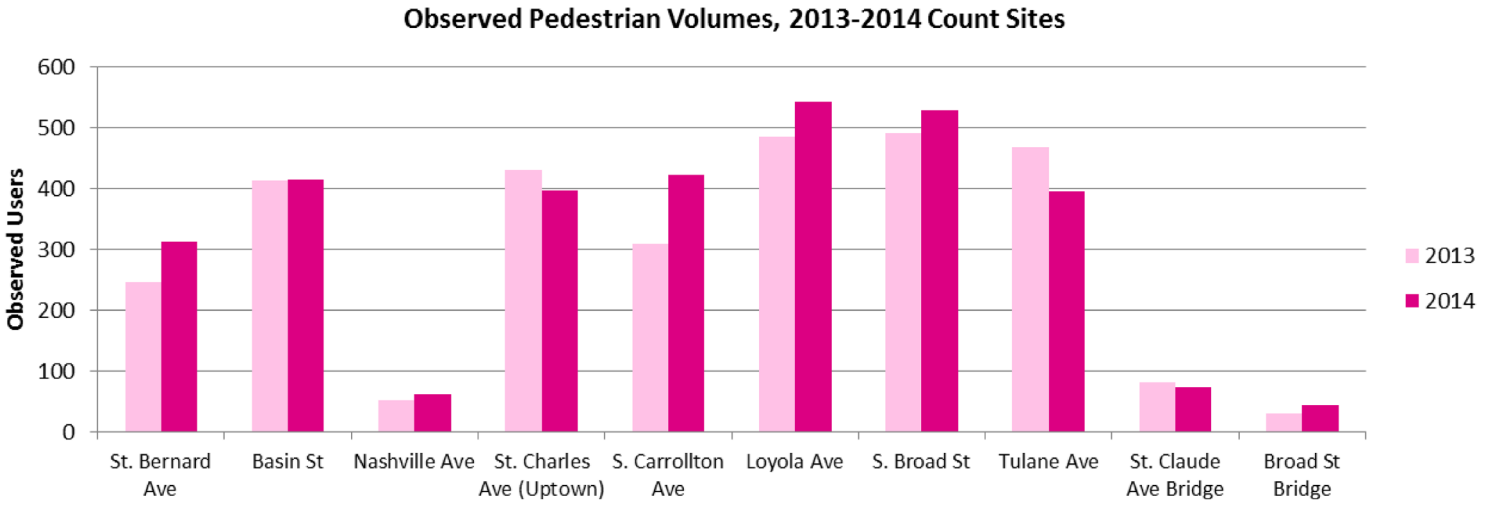


Table 2: 2010-2014 Observed Bicyclist Volumes, Existing Count Locations

2010-2014 Observed Bicyclist Volumes, Existing Count Locations

		Observed Total Volume					Change, 2010-2014	
Site #	2010-2014 sites	2010	2011	2012	2013	2014	#	%
1	Gentilly Blvd	46	69	76	173	103	57	124%
2	Esplanade Ave	105	117	185	217	314	209	199%
3	Harrison Ave	27	33	48	23	29	2	7%
4	St. Claude Ave	96	153	266	287	252	156	163%
5	Royal St	377	295	281	253	212	(165)	-44%
6	Camp St (Gateway)	157	249	276	332	270	113	72%
7	St. Charles Ave (Gateway)	191	229	269	281	248	57	30%
8	Decatur St	150	199	258	262	226	76	51%
9	Magazine St (Uptown)	38	63	95	92	90	52	137%
10	Magazine St (Gateway)	153	223	285	266	223	70	46%
11	Simon Bolivar Ave (Gateway)	86	150	175	161	221	135	157%
12	Carondelet St (Gateway)	87	114	103	115	105	18	21%
	Total	**1,513**	**1,894**	**2,317**	**2,462**	**2,293**	**780**	**52%**

						Change, 2011-2014	
	2011-2014 sites	2011	2012	2013	2014	#	%
13	Metairie Hammond Hwy	14	13	10	29	15	107%
14	Papworth Ave	6	4	5	3	(3)	-50%
	Total	**20**	**17**	**15**	**32**	**12**	**60%**

				Change, 2013-2014	
	2013-2014 sites	2013	2014	#	%
15	St. Bernard Ave	88	114	26	30%
16	Basin St	99	241	142	143%
17	Nashville Ave	37	138	101	273%
18	St. Charles Ave (Uptown)	441	242	(199)	-45%
19	S. Carrollton Ave	206	214	8	4%
22	Loyola Ave	267	222	(45)	-17%
23	S. Broad St	112	128	16	14%
24	Tulane Ave	71	102	31	44%
25	St. Claude Ave Bridge	105	99	(6)	-6%
26	Broad St Bridge	57	59	2	4%
	Total	**1,483**	**1,559**	**76**	**5%**

Observed total volumes represent a total of eight hours of counts per site

Table 3: 2010-2014 Observed Pedestrian Volumes, Existing Count Location

2010-2014 Observed Pedestrian Volumes, Existing Count Locations

		Observed Total Volume					Change, 2010-2014	
Site #	**2010-2014 sites**	**2010**	**2011**	**2012**	**2013**	**2014**	*#*	*%*
1	Gentilly Blvd	126	140	127	121	93	*(33)*	*-26%*
2	Esplanade Ave	230	289	607	573	490	*260*	*113%*
3	Harrison Ave	124	117	164	285	234	*110*	*89%*
4	St. Claude Ave	230	205	536	325	560	*330*	*143%*
5	Royal St	324	314	371	376	357	*33*	*10%*
6	Camp St (Gateway)	144	183	189	199	287	*143*	*99%*
7	St. Charles Ave (Gateway)	550	501	460	603	659	*109*	*20%*
8	Decatur St	1,313	1,902	2,547	3,053	2,540	*1,227*	*93%*
9	Magazine St (Uptown)	330	269	321	338	356	*26*	*8%*
10	Magazine St (Gateway)	159	187	229	334	241	*82*	*52%*
11	Simon Bolivar Ave (Gateway)	608	433	494	692	505	*(103)*	*-17%*
12	Carondelet St (Gateway)	81	101	92	140	119	*38*	*47%*
	Total	**4,219**	**4,641**	**6,137**	**7,039**	**6,441**	***2,222***	***53%***
							Change, 2011-2014	
	2011-2014 sites		**2011**	**2012**	**2013**	**2014**	*#*	*%*
13	Metairie Hammond Hwy		20	32	7	18	*(2)*	*-10%*
14	Papworth Ave		21	15	49	38	*17*	*81%*
	Total		**41**	**47**	**56**	**56**	***15***	***37%***
							Change, 2013-2014	
	2013-2014 sites				**2013**	**2014**	*#*	*%*
15	St. Bernard Ave				247	312	*65*	*26%*
16	Basin St				413	415	*2*	*0%*
17	Nashville Ave				53	63	*10*	*19%*
18	St. Charles Ave (Uptown)				430	398	*(32)*	*-7%*
19	S. Carrollton Ave				309	422	*113*	*37%*
22	Loyola Ave				485	543	*58*	*12%*
23	S. Broad St				492	529	*37*	*8%*
24	Tulane Ave				468	396	*(72)*	*-15%*
25	St. Claude Ave Bridge				81	74	*(7)*	*-9%*
26	Broad St Bridge				31	45	*14*	*45%*
	Total				**3,009**	**3,197**	***188***	***6%***

Observed total volumes represent a total of eight hours of counts per site

3.2 Estimated Daily Traffic for Existing Manual Count Sites

In order to provide context to the numbers and allow for comparison of data with other count studies, count volumes observed by PBRI counters have been extrapolated to Estimated Daily Traffic (EDT) figures (Tables 4 and 5). This methodology was outlined above and is further elaborated in Appendix E.

Extrapolation of the data to a 24-hour period, while revealing trends parallel to those described above, somewhat reduces the impact of fluctuations observed during the eight hours of count collection on overall percent change, as higher usage rates during peak morning and afternoon hours would not necessarily translate to correspondingly higher rates of use at off peak times. For bicyclists, a 44% increase in overall EDT across the twelve core count locations is calculated. For pedestrians, a 35% EDT increase is documented in those 12 sites over the 5 year period.

Among the locations where counts were conducted in 2013 and 2014 only, the potential for volatility from one count to the next is more apparent. At several locations, EDT increased substantially, while at others, estimates declined sharply. As a result, neither bicycling nor walking experienced a net change in EDT at the group of ten 2013-2014 count sites.

Notably, pedestrian and bicycle volumes at the St. Claude Avenue and Broad Street Bridge count sites, while relatively low, still represent a significant number of users given the inhospitable nature of these facilities, with 2014 estimated daily traffic of 315 bicyclists and 236 pedestrians per day on the St. Claude Bridge (a slight decrease from 2013 figures), and 215 bicyclists and 164 pedestrians estimated to cross the Broad Street Bridge each day (a moderate increase from 2013).

As noted in previous count study reports, bicycling trends have been observed to be more stable than pedestrian trends, with fewer rapid gains and decreases in EDT from year to year. However, as the original twelve count sites indicated, both modes have experienced an overall increase at most locations over the 5-year evaluation period, even where fluctuations from year to year exist.

Table 4: 2010-2014 Estimated Daily Traffic (EDT), Bicycles, Existing Count Locations

2010-2014 Estimated Daily Traffic (EDT), Bicycles, Existing Count Locations

		Estimated Daily Traffic					Change, 2010-2014	
Site #	2010-2014 sites	2010	2011	2012	2013	2014	#	%
1	Gentilly Blvd	151	217	250	505	312	*161*	*107%*
2	Esplanade Ave	330	332	557	739	1,076	*746*	*226%*
3	Harrison Ave	71	87	150	68	77	*6*	*8%*
4	St. Claude Ave	437	395	824	827	680	*243*	*56%*
5	Royal St	1,056	901	832	712	596	*(460)*	*-44%*
6	Camp St (Gateway)	598	850	1,073	1,202	938	*340*	*57%*
7	St. Charles Ave (Gateway)	665	748	977	953	752	*87*	*13%*
8	Decatur St	490	586	775	754	643	*153*	*31%*
9	Magazine St (Uptown)	121	163	262	263	235	*114*	*94%*
10	Magazine St (Gateway)	471	783	955	857	734	*263*	*56%*
11	Simon Bolivar Ave (Gateway)	332	565	638	579	854	*522*	*157%*
12	Carondelet St (Gateway)	322	423	376	407	371	*49*	*15%*
	Total	**5,044**	**6,050**	**7,669**	**7,866**	**7,268**	***2,224***	***44%***

						Change, 2011-2014	
	2011-2014 sites	2011	2012	2013	2014	#	%
13	Metairie Hammond Hwy	41	50	26	65	*24*	*59%*
14	Papworth Ave	19	11	15	10	*(9)*	*-47%*
	Total	**60**	**61**	**41**	**75**	*15*	*25%*

					Change, 2013-2014	
	2013-2014 sites	2013	2014	#	%
15	St. Bernard Ave	*288*	330	*42*	*15%*
16	Basin St	*322*	653	*331*	*103%*
17	Nashville Ave	*124*	400	*276*	*223%*
18	St. Charles Ave (Uptown)	*1,338*	685	*(653)*	*-49%*
19	S. Carrollton Ave	*613*	650	*37*	*6%*
22	Loyola Ave	*892*	686	*(206)*	*-23%*
23	S. Broad St	*376*	433	*57*	*15%*
24	Tulane Ave	*263*	368	*105*	*40%*
25	St. Claude Ave Bridge	*332*	315	*(17)*	*-5%*
26	Broad St Bridge	*186*	215	*29*	*16%*
	Total	**4,734**	**4,735**	*1*	*0%*

Table 5: 2010-2014 Estimated Daily Traffic (EDT), Pedestrians, Existing Count Locations

2010-2014 Estimated Daily Traffic (EDT), Pedestrians, Existing Count Locations

		Estimated Daily Traffic					Change, 2010-2014	
Site #	**2010-2014 sites**	**2010**	**2011**	**2012**	**2013**	**2014**	*#*	*%*
1	Gentilly Blvd	412	441	418	353	281	*(131)*	*-32%*
2	Esplanade Ave	723	819	1,828	1,951	1,679	*956*	*132%*
3	Harrison Ave	325	307	514	844	622	*297*	*91%*
4	St. Claude Ave	1,047	529	1,661	937	1,511	*464*	*44%*
5	Royal St	907	959	1,098	1,059	1,004	*97*	*11%*
6	Camp St (Gateway)	548	624	735	721	997	*449*	*82%*
7	St. Charles Ave (Gateway)	1,915	1,635	1,671	2,045	1,998	*83*	*4%*
8	Decatur St	4,289	5,600	7,650	8,782	7,232	*2,943*	*69%*
9	Magazine St (Uptown)	1,054	696	885	965	931	*(123)*	*-12%*
10	Magazine St (Gateway)	490	657	767	1,076	793	*303*	*62%*
11	Simon Bolivar Ave (Gateway)	2,345	1,631	1,800	2,490	1,951	*(394)*	*-17%*
12	Carondelet St (Gateway)	300	375	336	495	421	*121*	*40%*
	Total	**14,355**	**14,273**	**19,363**	**21,718**	**19,420**	***5,065***	***35%***

						Change, 2011-2014	
	2011-2014 sites	**2011**	**2012**	**2013**	**2014**	*#*	*%*
13	Metairie Hammond Hwy	58	123	18	41	*(17)*	*-29%*
14	Papworth Ave	66	42	145	131	*65*	*98%*
	Total	**124**	**165**	**163**	**172**	*48*	*39%*

					Change, 2013-2014	
	2013-2014 sites	**2013**	**2014**	*#*	*%*
15	St. Bernard Ave	*807*	903	*96*	*12%*
16	Basin St	*1,344*	1,124	*(220)*	*-16%*
17	Nashville Ave	*177*	182	*5*	*3%*
18	St. Charles Ave (Uptown)	*1,304*	1,126	*(178)*	*-14%*
19	S. Carrollton Ave	*919*	1,282	*363*	*39%*
22	Loyola Ave	*1,620*	1,678	*58*	*4%*
23	S. Broad St	*1,652*	1,790	*138*	*8%*
24	Tulane Ave	*1,731*	1,430	*(301)*	*-17%*
25	St. Claude Ave Bridge	*263*	236	*(27)*	*-10%*
26	Broad St Bridge	*99*	164	*65*	*66%*
	Total	**9,916**	**9,915**	*(1)*	*0%*

3.3 Observed Count Totals: New Count Sites

In 2014, 18 new count sites were added in locations where new facilities exist, where roadway improvements are planned, or where additional data provides us with a more comprehensive understanding of user trends and behaviors throughout the region. Tables 6 and 7 illustrate the observed user volumes as well as estimated daily traffic (EDT) for each of these locations, for pedestrians and bicyclists respectively.

The highest bicyclist volumes were observed at three locations in or near the French Quarter, as well as on the Jefferson Davis Parkway bridge (including both the roadway spans and the separated center shared-use trail), a key connection for non-motorized road users with a dedicated, separated space for bicycling and walking. Relatively high bicycle volumes were also noted on Golf Drive in City Park, on Oretha Castle Haley Boulevard (where roadway improvements are planned), on Elysian Fields Avenue in the Marigny, and on Freret Street, where streetscape projects—including shared lane markings for bicyclists—were recently completed. The lowest user volumes were observed in more suburban parts of the region. This includes Bonnabel Boulevard and Cleary Avenue, which are documented as proposed bikeways in the Jefferson Parish Bicycle Plan, as well as Mirabeau Avenue in Gentilly (which has bike lanes) and Pace Boulevard in Algiers (where bike lanes were under construction at the time of counts) indicating that land use and connectivity are critical factors in the decision to bicycle along with the presence of dedicated infrastructure. Low bicycle volumes were also recorded at South Peters Street in New Orleans' CBD, likely as a result of road construction that was underway at the time of the counts (bicycle traffic was not impeded, but the road surface was rough), prompting cyclists to choose other routes.

For pedestrians, count locations in or around the French Quarter top the list for volumes, followed by growing neighborhood commercial corridors Freret Street and Oretha Castle Haley Boulevard. Lower volumes were again found in areas with suburban land use characteristics and fewer pedestrian attractors.

Table 6: Observed Total Manual Count Volumes and Estimated Daily Traffic (EDT), Bicycles, 2014, New Count Sites

Observed Total Manual Count Volumes and Estimated Daily Traffic (EDT), Bicycles, 2014, New Count Sites			
Site #	Count Site	2014 Observed Volume	2014 Estimated EDT
31	Decatur St (Jackson Square)	556	1,528
30	Jeff Davis Parkway Bridge	289	1,071
34	Royal St (French Quarter)	280	658
42	Canal St	230	609
39	Golf Dr	183	559
20	Oretha Castle Haley Blvd	163	546
41	Elysian Fields Ave	160	483
32	Freret St	178	459
40	Annunciation St	118	352
37	Baronne St (Gateway)	102	311
38	N. Rampart St	105	297
33	MLK Blvd	85	277
28	Cleary Ave	37	127
29	Metairie Rd	24	77
21	Pace Blvd	22	59
35	Mirabeau Ave	17	51
36	S. Peters St	19	50
27	Bonnabel Blvd	12	46
	Total	**2,580**	***7,560***
Observed total volumes represent a total of eight hours of counts per site			

Table 7: Observed Total Manual Count Volumes and Estimated Daily Traffic (EDT), Pedestrians, 2014, New Count Sites

Observed Total Manual Count Volumes and Estimated Daily Traffic (EDT), Pedestrians, 2014, New Count Sites			
Site #	Count Site	2014 Observed Volume	*2014 Estimated EDT*
42	Canal St	5,022	13,297
31	Decatur St (Jackson Square)	4,773	13,118
34	Royal St (French Quarter)	5,249	12,328
38	N. Rampart St	770	2,177
20	Oretha Castle Haley Blvd	466	1,562
32	Freret St	601	1,550
36	S. Peters St	545	1,434
41	Elysian Fields Ave	281	848
30	Jeff Davis Parkway Bridge	141	523
37	Baronne St (Gateway)	149	454
40	Annunciation St	130	388
33	MLK Blvd	122	298
28	Cleary Ave	64	220
39	Golf Dr	66	202
29	Metairie Rd	62	199
27	Bonnabel Blvd	34	130
21	Pace Blvd	41	110
35	Mirabeau Ave	27	81
	Total	**18,543**	***48,919***
Observed total volumes represent a total of eight hours of counts per site			

Looking at all 42 count locations together, the sites with the highest estimated daily bicyclist volumes are found at Decatur Street, Esplanade Avenue, and the Jefferson Davis Parkway Bridge (see Table 8):

Table 8: Top Bicycle EDT, All 2014 Count Locations

Top Bicycle EDT, All 2014 Count Locations		
Rank	Count Site	EDT
1	Decatur St (Jackson Square)	1,528
2	Esplanade Ave	1,076
3	Jefferson Davis Pkwy Bridge	1,071
4	Camp St (CBD Gateway)	938
5	Simon Bolivar Ave (CBD Gateway)	854
6	St. Charles Ave (CBD Gateway)	752
7	Magazine St (CBD Gateway)	734
8	Loyola Ave	686
9	St. Charles Ave (Uptown)	685
10	St. Claude Ave	680

Of these corridors, seven have bicycle facilities present, indicating that the city's growing bicycle network is serving the needs of many users, and four—including the three locations with no bicycle facilities— are on corridors frequently used by commuters to access the CBD.

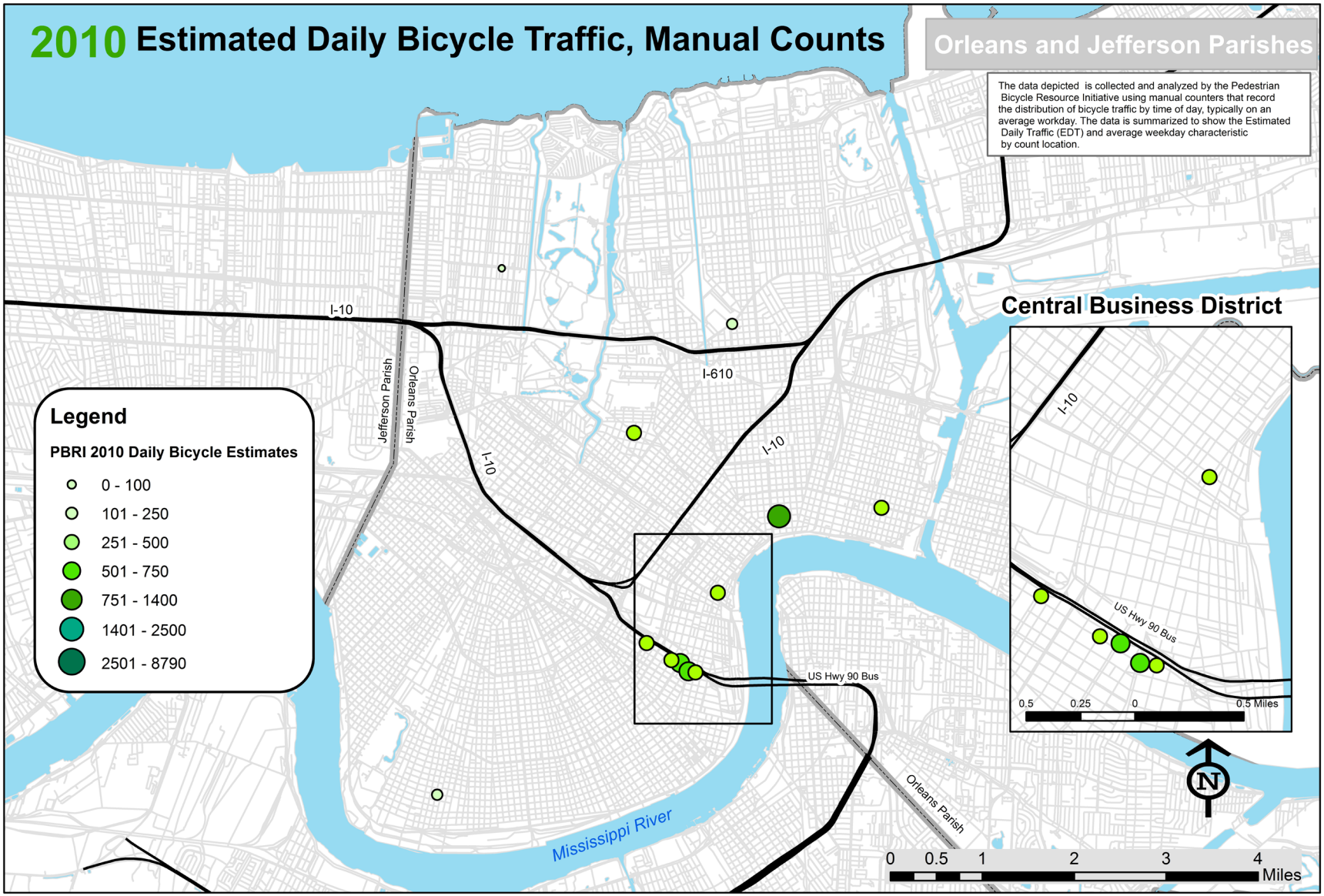
For pedestrians, the top ten locations were on Canal Street, Decatur Street, and Royal Street (Table 9).

Table 9: Top Pedestrian EDT, All 2014 Count Locations

Top Pedestrian EDT, All 2014 Count Locations		
Rank	Count Site	EDT
1	Canal St	13,297
2	Decatur St (Jackson Square)	13,118
3	Royal St (French Quarter)	12,328
4	Decatur St (at Iberville)	7,232
5	N. Rampart St	2,177
6	St. Charles Ave (CBD Gateway)	1,998
7	Simon Bolivar Ave	1,951
8	S. Broad St	1,790
9	Esplanade Ave	956
10	Loyola Ave	1,678

This list reflects heavy pedestrian traffic in the French Quarter, as anticipated, as well as significant foot traffic entering and exiting the downtown area and in locations with important civic uses. Figures 15 through 20 illustrate how overall daily user volume estimates –as well as the number of count locations observed—have changed over the last five years.

Figure 15: Estimated Daily Bicycle Traffic, Manual Counts, 2010



"Data Sources: Basemap created using 2012 TIGER/Line Shapefiles for Orleans and Jefferson Parish Roads and Water features. Estimated Daily Bicycle Traffic produced and provided by the Pedestrian Bicycle Resource Initiative, current as of 5/15/2014. Parish Boundary Line Shapefile produced and provided by City of New Orleans, current as of 9/26/2013. Any use of the data must be accompanied with this citation and accompanying seals and logos."

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Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
False Easting: 3,280,833.3333
False Northing: 0.0000
Central Meridian: -91.3333
Standard Parallel 1: 29.3000
Standard Parallel 2: 30.7000
Latitude Of Origin: 28.5000
Units: Foot US

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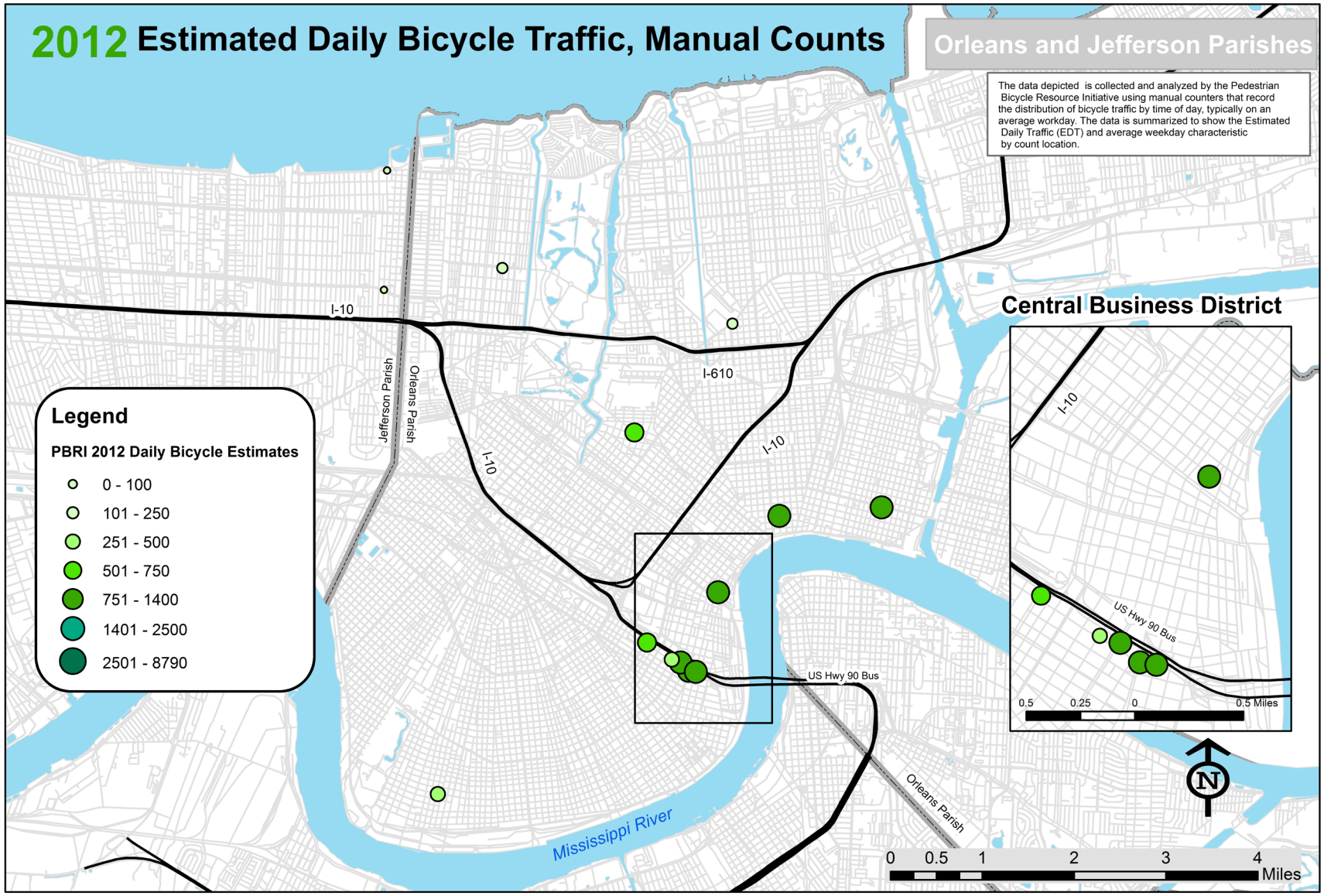
Figure 16: Estimated Daily Bicycle Traffic, Manual Counts, 2012



"Data Sources: Basemap created using 2012 TIGER/Line Shapefiles for Orleans and Jefferson Parish Roads and Water features. Estimated Daily Bicycle Traffic produced and provided by the Pedestrian Bicycle Resource Initiative, current as of 5/15/2014. Parish Boundary Line Shapefile produced and provided by City of New Orleans, current as of 9/26/2013. Any use of the data must be accompanied with this citation and accompanying seals and logos."

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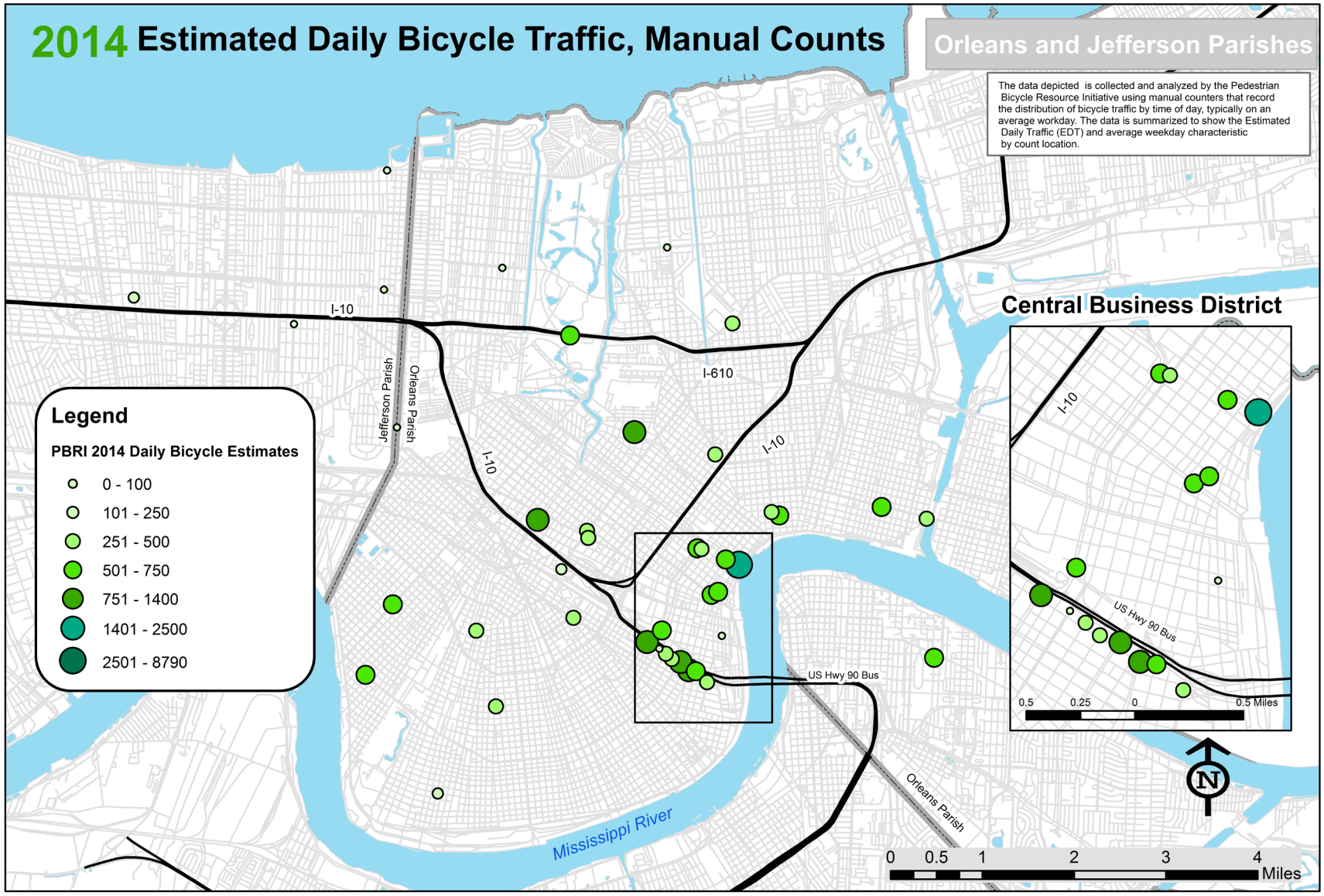
Figure 17: Estimated Daily Bicycle Traffic, Manual Counts, 2014



"Data Sources: Basemap created using 2012 TIGER/Line Shapefiles for Orleans and Jefferson Parish Roads and Water features. Estimated Daily Bicycle Traffic produced and provided by the Pedestrian Bicycle Resource Initiative, current as of 5/15/2014. Parish Boundary Line Shapefile produced and provided by City of New Orleans, current as of 9/26/2013. Any use of the data must be accompanied with this citation and accompanying seals and logos."

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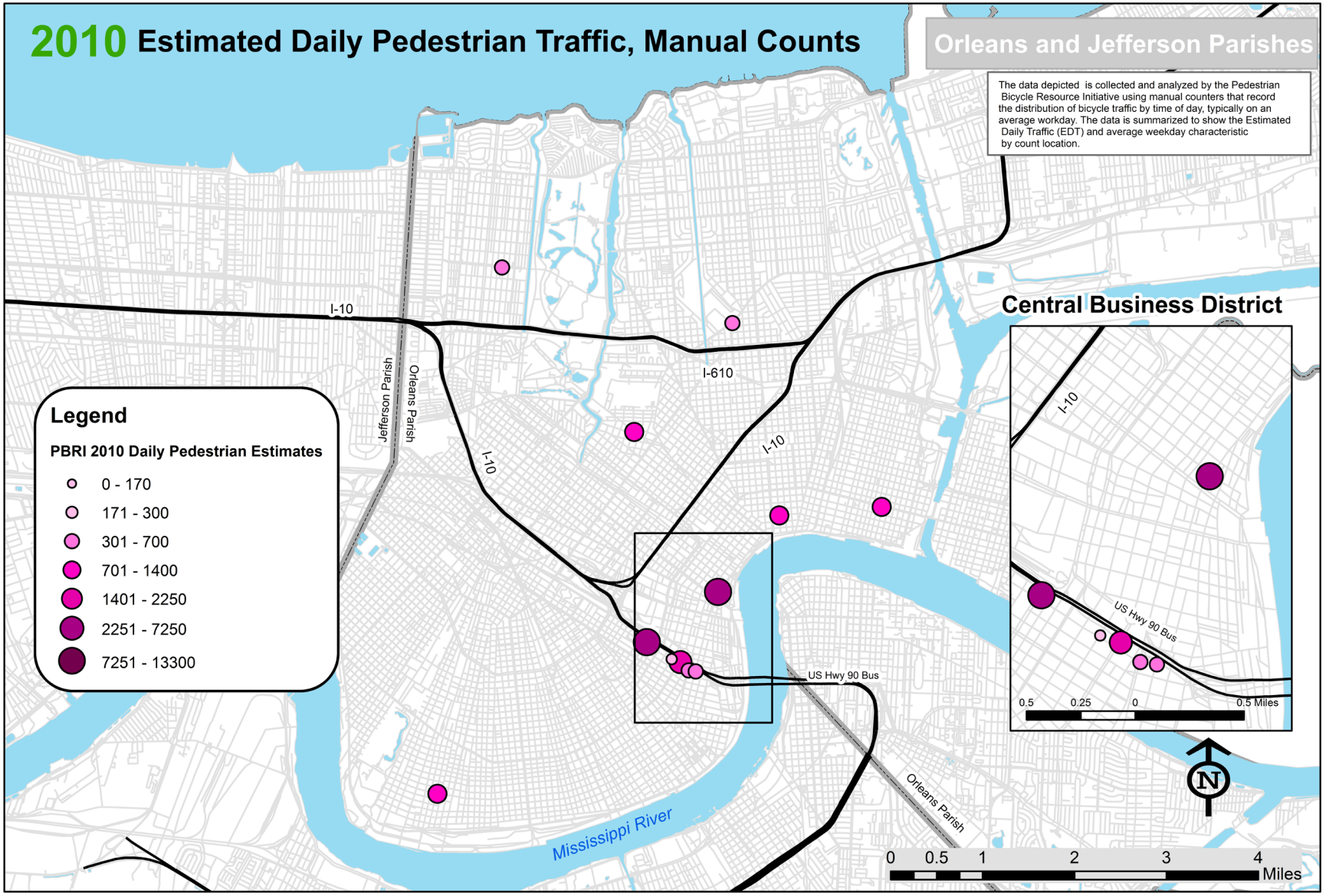
Figure 18: Estimated Daily Pedestrian Traffic, Manual Counts, 2010



"Data Sources: Basemap created using 2012 TIGER/Line Shapefiles for Orleans and Jefferson Parish Roads and Water features. Estimated Daily Pedestrian Traffic produced and provided by the Pedestrian Bicycle Resource Initiative, current as of 5/15/2014. Parish Boundary Line Shapefile produced and provided by City of New Orleans, current as of 9/28/2013. Any use of the data must be accompanied with this citation and accompanying seals and logos."

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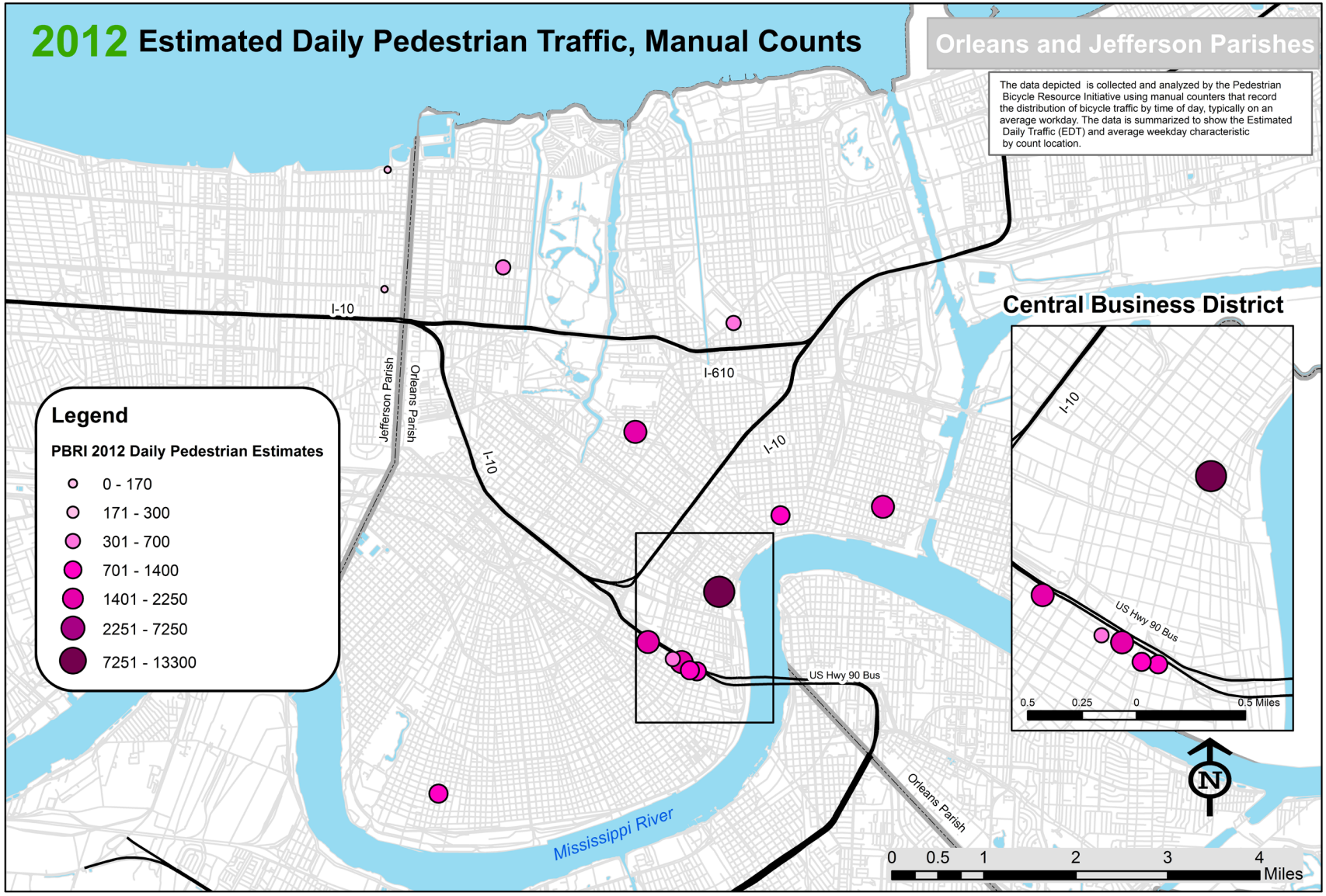
Figure 19: Estimated Daily Pedestrian Traffic, Manual Counts, 2012



"Data Sources: Basemap created using 2012 TIGER/Line Shapefiles for Orleans and Jefferson Parish Roads and Water features. Estimated Daily Pedestrian Traffic produced and provided by the Pedestrian Bicycle Resource Initiative, current as of 5/15/2014. Parish Boundary Line Shapefile produced and provided by City of New Orleans, current as of 9/26/2013. Any use of the data must be accompanied with this citation and accompanying seals and logos."

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Projection: Lambert Conformal Conic
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Central Meridian: -91.3333
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Standard Parallel 2: 30.7000
Latitude Of Origin: 28.5000
Units: Foot US

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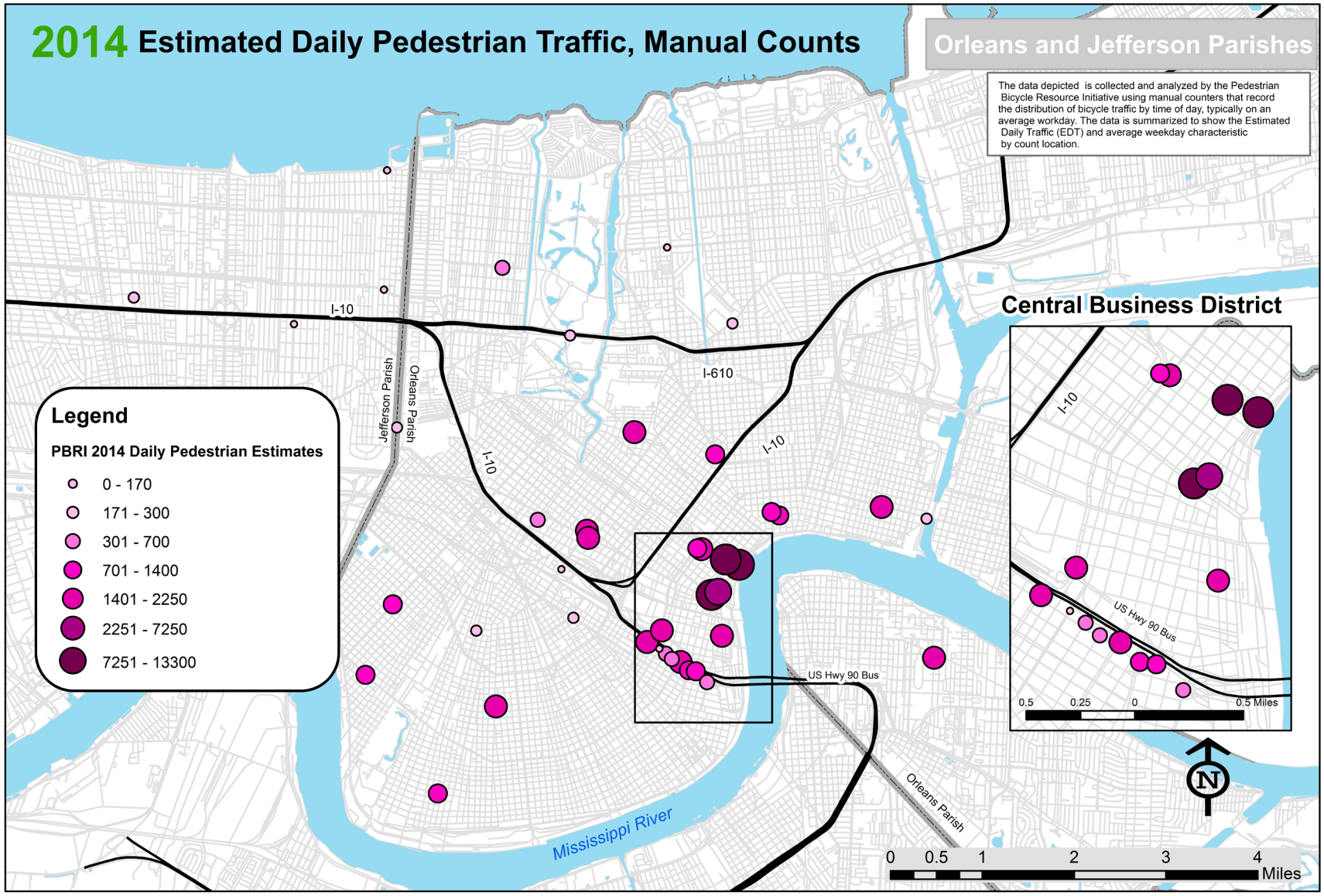
Figure 20: Estimated Daily Pedestrian Traffic, Manual Counts, 2014



"Data Sources: Basemap created using 2012 TIGER/Line Shapefiles for Orleans and Jefferson Parish Roads and Water features. Estimated Daily Pedestrian Traffic produced and provided by the Pedestrian Bicycle Resource Initiative, current as of 5/15/2014. Parish Boundary Line Shapefile produced and provided by City of New Orleans, current as of 9/26/2013. Any use of the data must be accompanied with this citation and accompanying seals and logos."

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3.4 Commuting Patterns near Manual Count Sites

Utilizing census tract-level data from the American Community Survey 2008-2012 five year estimates, commuting patterns were mapped in Figures 21 and 22. Active transportation commutes have increased slightly overall citywide from the previous dataset (2007-2011), but census-tract level patterns remain relatively stable, with strong rates of both walking and bicycling in the downtown neighborhoods surrounding the French Quarter, as well as pockets of strong active commuting in the Lower Garden District, Central City, Mid City, and the uptown University area. Low rates of active transportation are again found in more suburban, less compact neighborhoods of Gentilly, Lakeview, New Orleans East, Algiers and most of Jefferson Parish. As in previous years analyzed, count sites with high observed volumes tend to be located in or near census tracts with higher rates of active transportation commuting.

The manual count sites with the highest 2014 bicyclist EDT (Decatur Street, Esplanade Avenue, Camp Street, and Simon Bolivar Avenue) tend to be within or adjacent to census tracts with high rates of 2008-2012 bicycle commuting. One exception is the Jefferson Davis Parkway Bridge, which as noted above, is a critical cross-town connection for users in many uptown and mid-city neighborhoods.

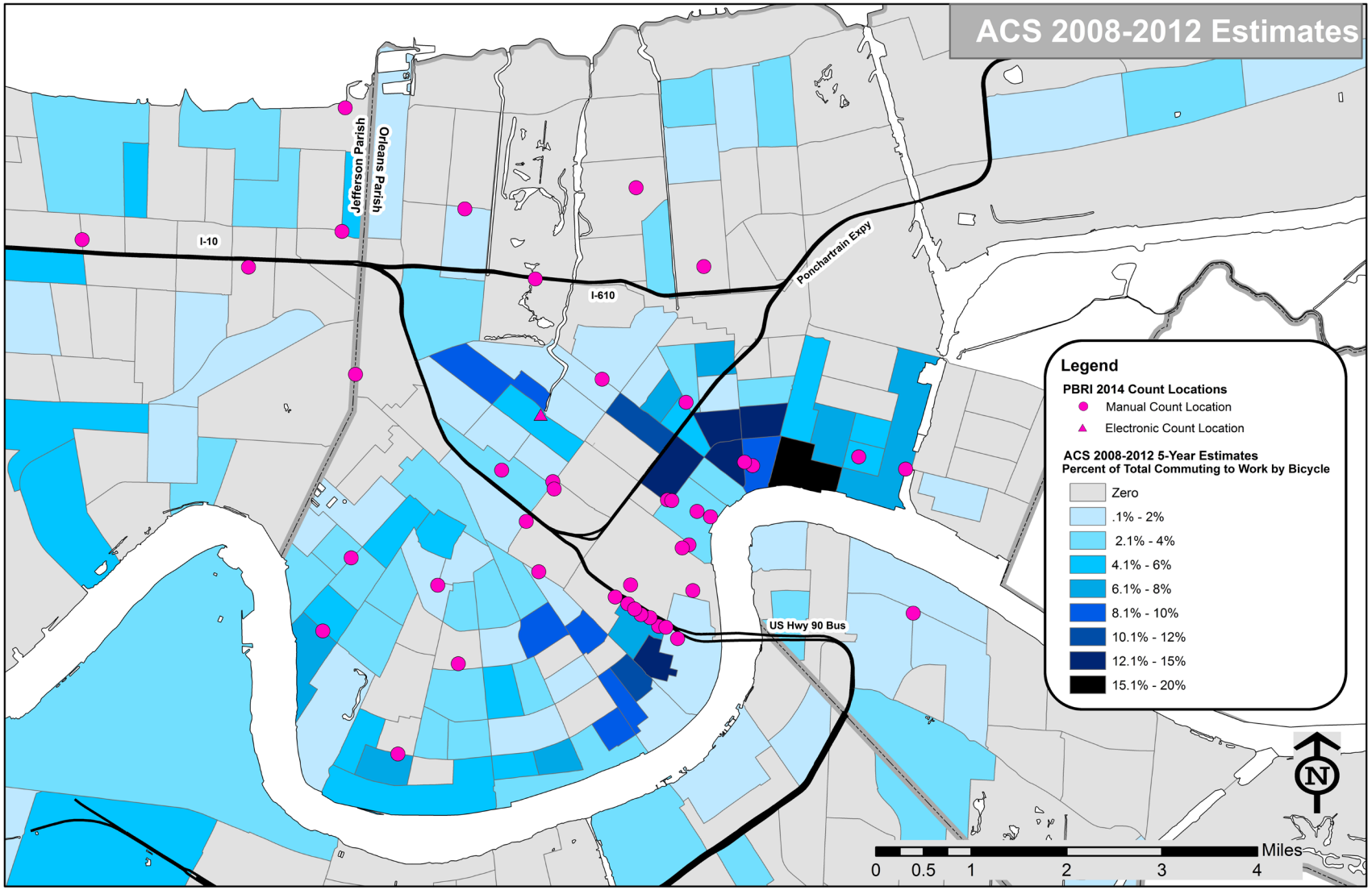
Conversely, the lowest bicyclist EDT sites (Papworth Avenue, Metairie Hammond Highway, and Bonnabel Boulevard in Jefferson Parish, Pace Boulevard in Algiers, and Mirabeau Avenue in Gentilly) are near census tracts with low rates of commuting by bicycle (zero to 5%). Again, one exception exists at S. Peters Street in the Warehouse District, where road construction is observed to have artificially deflated the number of cyclists using the corridor.

For pedestrians, correlations between commute mode and observed use are difficult to discern, as in previous years. Land uses, neighborhood demographics, and infrastructure may all play a role in pedestrian activity observed. Although some sites in or adjacent to census tracts with high rates of pedestrian commuting (e.g. Decatur Street and St. Charles Avenue, as well as some CBD gateway sites) also represent areas of high observed pedestrian totals, this is not consistently the case. Other sites with high observed numbers of pedestrians likely reflect non-work pedestrian trips (e.g. shopping, recreation, and public services).

Importantly, while general correlations appear to exist between higher observed rates of use and higher reported rates of active transportation commuting in the American Community Survey, discrepancies may exist as both datasets represent limited sample sizes. This study does not evaluate usership on all possible routes within a neighborhood, and ACS samples for this data are relatively small with high margins of error, particularly during the first few years after Hurricane Katrina. Figures 27 and 28 in section 3.7 further examines the apparent relationships between commute mode share, observed count volumes, and bicycle facility construction from 2004-2012.

Figure 21: Bicycle Commuters by Census Tract, Jefferson and Orleans Parishes, ACS 2008-2012 Estimates

Bicycle Commuters by Census Tract, Jefferson and Orleans Parishes



"Data Sources: Basemap created using 2012 TIGER/Line Shapefiles for Orleans and Jefferson Parish Roads and Water features. Manual and Electronic Count shapefiles produced and provided by the Pedestrian Bicycle Resource Iniative, current as of 5/15/2014. 'Nola Boundary' produced and provided by the City of New Orleans, current as of 9/26/2013. Any use of the data must be accompanied with this citation and accompanying seals and logos. American Community Survey 2008-2012 5-Year Estimates, Table B08301"

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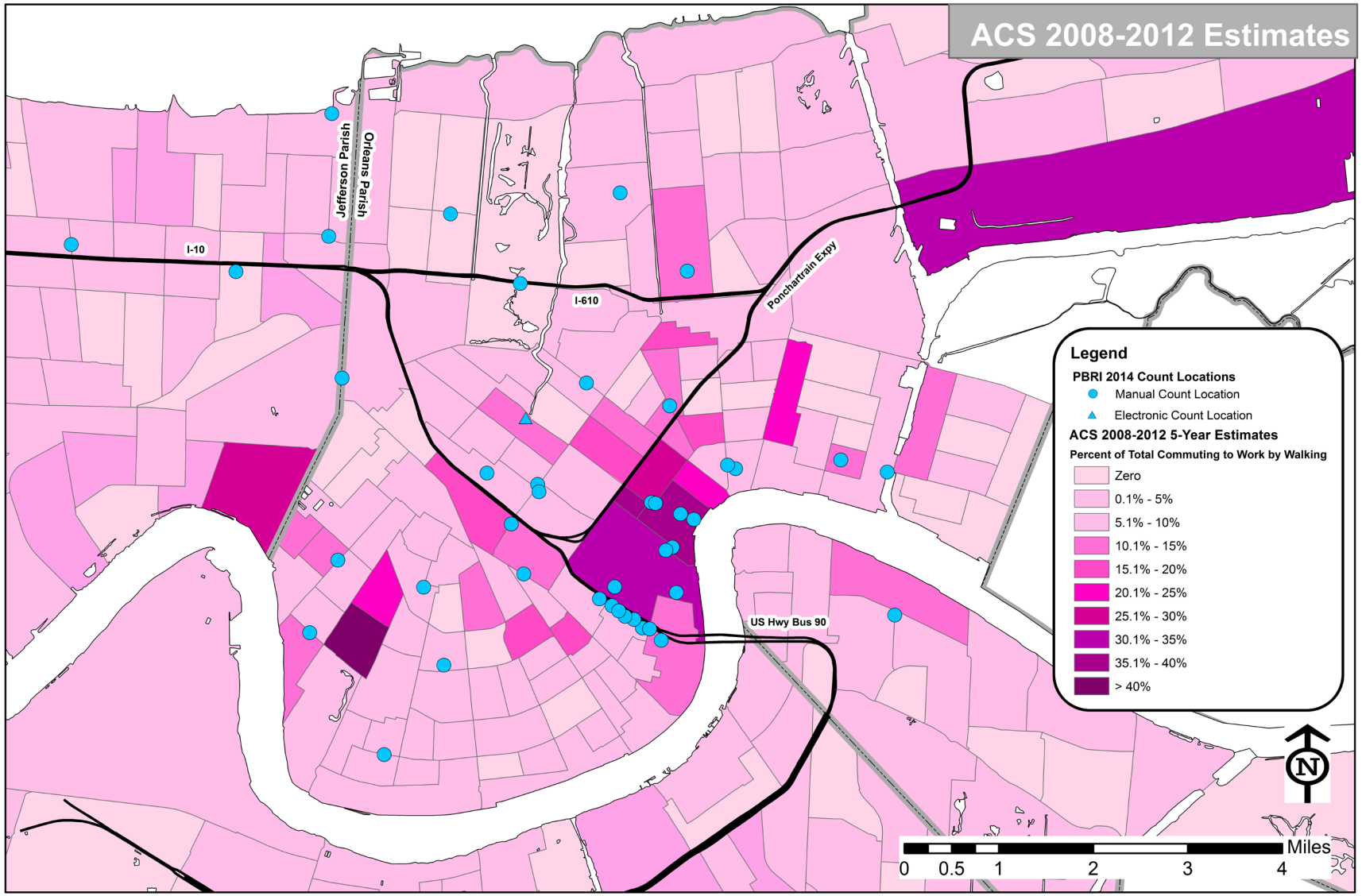
Figure 22: Pedestrian Commuters by Census Tract, Jefferson and Orleans Parishes, ACS 2008-2012 Estimates

Pedestrian Commuters by Census Tract, Jefferson and Orleans Parishes



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3.5 Estimating Active Transportation Mode Share

Previous PBRI reports on the findings of the count program (see pbriLA.org under "Research + Resources") examined mode share by comparing active transportation count data with automobile Average Daily Traffic (ADT) data collected by the New Orleans Regional Planning Commission at locations proximate to manual count sites. This analysis has been updated to include new count sites as well as more recent automobile count figures from both the Regional Planning Commission and Louisiana Department of Transportation and Development (Table 10). Using this data, we can construct a rough approximation of the mode share of selected facilities.

Notably, transit riders are not accounted for in this analysis. In addition, the pedestrian and bicycle EDT figures have an unknown margin of error as noted above, and motor vehicle counts are not necessarily from the same year as pedestrian and bicycle counts. Future data collection efforts should attempt to refine upon this analysis by utilizing data from the New Orleans Regional Transit Agency's recent Comprehensive Operations Analysis in order to more accurately capture all road users, including transit riders, and to coordinate the timing and location of future counts.

Combining estimated daily traffic for walking and bicycling with automobile ADT reveals that active transportation may account for a substantial percentage of overall daily traffic, particularly at points of entry and exit to the CBD and in downtown neighborhoods. As was observed in previous years, a substantial percentage of commuters into and out of the downtown area also arrive via active transportation, particularly at Camp Street, and Magazine Street.[8]

Active users—particularly pedestrians—make up a large proportion of total right-of-way users in and near the French Quarter: on Decatur Street at Jackson Square, these estimates suggest that more than half of all users travel on foot, as do 45% of users on Canal Street. Pedestrians make up a larger-than-typical share of users on Camp Street, Simon Bolivar Avenue, and North Rampart Street as well.

Excess Motor Vehicle Capacity
+ High Active Volumes of Active Users
= An opportunity to reallocate road space to better meet community needs

The highest mode share percentages for bicyclists, meanwhile, occur on Camp Street, Simon Bolivar Avenue, Magazine Street, Decatur Street (Jackson Square), and Elysian Fields Avenue. Low motorized vehicle counts and relatively large numbers of both pedestrians and bicyclists on Elysian Fields Avenue in the Marigny suggest that this corridor—currently six motor vehicle lanes—may be a good target for a future redesign to better accommodate active users.

Very low estimated mode shares are found in Jefferson Parish, in Gentilly, and on the St. Claude Bridge (one of only a few access points across the Industrial Canal and a critical connection for all modes). Elsewhere, active transportation mode shares fail to reach the levels found in and approaching downtown, but tend to be higher than the figures for ACS commute mode share described above, which only capture trips to and from employment.

8 Simon Bolivar Avenue is also a potential CBD gateway with a high proportion of active users, however observers noted that the majority of foot traffic appeared to be highly localized rather than entering the downtown area

Table 10: Approximate Active Transportation Mode Share for Select Sites

Approximate Active Transportation Mode Share for Select Sites

		2014 Bicycle EDT		2014 Pedestrian EDT		2014 Combined Bicycle/Pedestrian EDT		Motorized Vehicle ADT			Total Users (excludes transit)
Site #		**#**	**%**	**#**	**%**	**#**	**%**	**#**	**Year**	**%**	**#**
31	Decatur (Jackson Square)	1,528	**6.1%**	13,118	**52.0%**	14,646	**58.1%**	10,562	2011	**41.9%**	25,208
42	Canal St	609	**2.1%**	13,297	**45.3%**	13,906	**47.4%**	15,454	2013	**52.6%**	29,360
6	Camp St (Gateway)	938	**13.6%**	997	**14.5%**	1,935	**28.1%**	4,960	2009	**71.9%**	6,895
11	Simon Bolivar Ave (Gateway)	854	**6.7%**	1,951	**15.3%**	2,805	**21.2%**	9,956	2008	**78.8%**	12,761
10	Magazine St (Gateway)	734	**6.2%**	793	**6.7%**	1,527	**12.9%**	10,287	2009	**87.1%**	11,814
41	Elysian Fields Ave	483	**4.7%**	848	**8.2%**	1,331	**12.9%**	8,951	2012	**87.1%**	10,282
7	St. Charles Ave (Gateway)	752	**3.2%**	1,998	**8.5%**	2,750	**11.7%**	20,662	2011	**88.3%**	23,412
38	N. Rampart St	297	**1.3%**	2,177	**9.5%**	2,474	**10.8%**	20,481	2012	**89.2%**	22,955
24	Tulane Ave	368	**2.0%**	1,430	**7.7%**	1,798	**9.7%**	16,667	2013	**90.3%**	18,465
22	Loyola Ave	686	**2.6%**	1,678	**6.5%**	2,364	**9.1%**	23,579	2009	**90.9%**	25,943
4	St. Claude Ave	680	**2.7%**	1,511	**6.1%**	2,191	**8.8%**	22,750	2013	**91.2%**	24,941
18	St. Charles Ave (Uptown)	685	**3.5%**	1,126	**5.7%**	1,811	**7.1%**	17,839	2008	**92.9%**	19,650
23	S. Broad St	433	**1.4%**	1,790	**5.6%**	2,223	**7.0%**	29,637	2013	**93.0%**	31,860
33	MLK Blvd	277	**3.4%**	298	**3.6%**	575	**7.0%**	7,680	2008	**93.0%**	8,255
19	S. Carrollton Ave	650	**2.1%**	1,282	**4.2%**	1,932	**6.3%**	28,653	2012	**93.7%**	30,585
1	Gentilly Blvd	312	**3.0%**	281	**2.7%**	593	**5.6%**	9,950	2013	**94.4%**	10,543
13	Metairie Hammond Hwy	65	**0.4%**	41	**0.3%**	106	**5.3%**	16,126	2011	**94.7%**	16,232
35	Mirabeau Ave	51	**1.2%**	81	**2.0%**	132	**3.2%**	3,978	2008	**96.8%**	4,110
25	St. Claude Ave Bridge	315	**1.7%**	236	**1.2%**	551	**2.9%**	18,483	2013	**97.1%**	19,034
29	Metairie Rd	77	**0.5%**	199	**1.3%**	276	**1.9%**	14,586	2013	**98.1%**	14,862
27	Bonnabel Blvd	46	**0.3%**	130	**0.7%**	176	**1.0%**	17,400	2012	**99.0%**	17,576

Source: http://www.norpc.org/traffic_counts.html; http://www.dotd.la.gov/highways/tatv/default.asp (most recent counts used where multiple available)

3.6 Demographic and Behavioral Characteristics

In addition to counting the total number of pedestrians and bicyclists, the PBRI count study also aims to capture critical information about who is using our streets and sidewalks, and how. This section summarizes the user characteristics of pedestrians and bicyclists observed in 2014, including gender, age category (adult versus child), race, travel orientation, and helmet use for bicyclists (Tables 11 and 12). Gender, helmet use, and travel orientation are important indicators of bicyclist safety and perceptions toward bicycling, while age group and race illustrate demographic variances in usership and highlight potential opportunities to target future safety and educational campaigns to the groups and neighborhoods that could best benefit from them.

Appendix G breaks down these attributes for pedestrians and bicyclists by count site, highlighting how various characteristics shift dramatically by location.

Table 11: Overall Bicyclist Composition, 2010-2014

Overall Bicyclist Composition, 2010-2014

	Continuing Count Sites, 2010-2014						All 2014 Count Sites
	Percent of Total						
	2010	2011	2012	2013	2014	*Percentage Point Change, 2010-2014*	Percent of Total
Male Bicyclists	72.9%	72.1%	72.3%	69.0%	68.5%	-4.5%	72.7%
Female Bicyclists	27.1%	27.9%	28.0%	31.1%	31.5%	4.4%	27.3%
White Bicyclists	70.3%	72.5%	73.1%	73.9%	74.2%	3.9%	71.0%
Black Bicyclists	19.3%	20.5%	21.7%	21.5%	21.9%	2.6%	23.9%
Other Bicyclists	8.7%	7.0%	5.2%	4.6%	3.9%	-4.9%	5.1%
Adult Bicyclists	n/a	98.7%	98.4%	98.1%	99.3%	0.6%	99.1%
Youth Bicyclists	n/a	1.3%	1.6%	1.5%	0.7%	-0.6%	0.9%
Helmet Users	10.4%	16.3%	15.8%	20.9%	19.3%	8.9%	20.3%
Travel Orientation:							
Street - Right Way	75.5%	73.9%	80.2%	82.1%	86.7%	11.2%	81.0%
Street - Wrong Way	11.6%	9.7%	7.9%	7.3%	4.3%	-7.3%	4.7%
Sidewalk	12.6%	16.1%	11.6%	10.4%	9.0%	-3.6%	9.2%
Neutral Ground	0.4%	0.3%	0.3%	0.2%	0.0%	-0.3%	5.1%

Notes: in 2010, At Harrison Ave site, race/ethnicity wasn't included in one of the four counts. Adult/Youth data not available for 2010.

Table 12: Overall Pedestrian Composition, 2010-2014

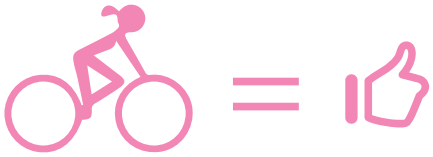
Overall Pedestrian Composition, 2010-2014

	Continuing Count Sites, 2010-2014						All 2014 Count Sites
	Percent of Total						
	2010	2011	2012	2013	2014	*Percentage Point Change, 2010-2014*	Percent of Total
Male Pedestrians	60.0%	60.3%	57.6%	58.1%	58.2%	*-1.8%*	54.3%
Female Pedestrians	40.0%	39.7%	42.4%	41.9%	41.8%	*1.8%*	45.7%
White Pedestrians	57.1%	65.5%	62.0%	67.0%	65.1%	*7.9%*	66.2%
Black Pedestrians	32.0%	28.1%	31.2%	27.6%	29.4%	*-2.6%*	27.7%
Other Pedestrians	8.1%	6.3%	6.8%	5.4%	5.5%	*-2.6%*	6.1%
Adult Pedestrians	n/a	96.4%	96.1%	96.2%	97.1%	*0.7%*	96.5%
Youth Pedestrians	n/a	3.6%	3.9%	3.8%	2.9%	*-0.7%*	3.5%
Travel Orientation:							
Sidewalk	n/a	92.6%	92.9%	92.7%	93.1%	*0.6%*	88.7%
Street	n/a	4.7%	4.8%	4.9%	4.4%	*-0.3%*	9.2%
Neutral Ground	n/a	2.8%	2.3%	2.4%	2.5%	*-0.3%*	2.1%

Notes: in 2010, race/ethnicity wasn't included in one of the four counts at Harrison Avenue. No data on travel orientation was collected for pedestrians in 2010. Adult/Youth data not available for 2010.

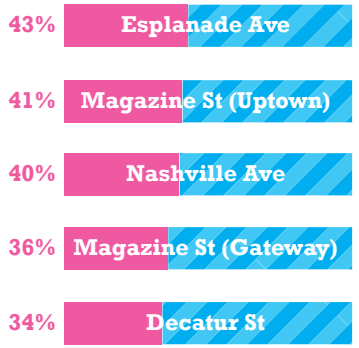
Gender

As has been widely documented in the literature and in previous iterations of this report, the proportion of female bicyclists is a strong indicator of the perceived safety and bicycle-friendliness of a location. Higher percentages of women and girls indicate a more comfortable cycling environment for all users. To some extent, this may also be true of high female pedestrian activity in a given area, although less research exists documenting this subject. In the New Orleans region, the percentage of bicyclists who are female observed at the 12 core count locations has increased by 4.4% over the last five years to 31.5%, a slight increase over last year. The percent of cyclists who are female at all 42 count locations is lower, at 27%, which may reflect that several of the newer locations are perceived as less safe. Pedestrian patterns have remained relatively stable, with the proportion of observed walkers who are female increasing just 1.8% over five years. The percent of female pedestrians at all 42 count sites is higher than at the core group, likely reflecting proportionally large numbers of women and girls observed in downtown/ French Quarter count locations.

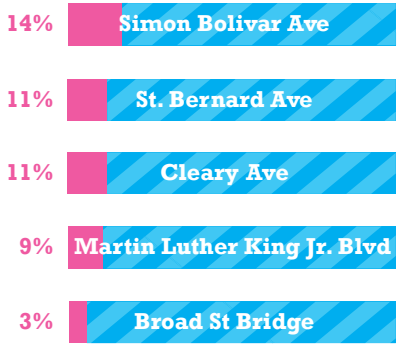


A higher proportion of female bicyclists indicates a bike-friendly street.

Sites with the highest female bicyclist percentage include:

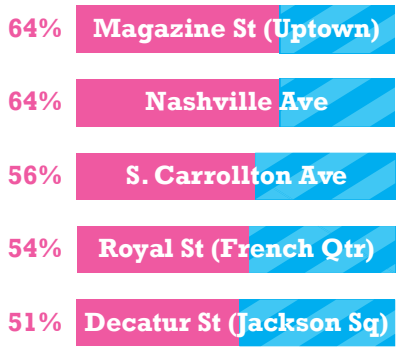


Very low percentages of women bicyclists were observed at the following locations:

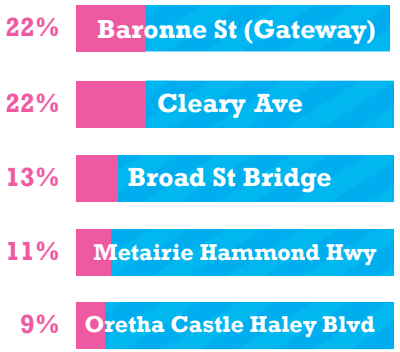


Interestingly, corridors with dedicated bike lanes appear on both of these lists (Esplanade Avenue, Nashville Avenue, St. Bernard Avenue, and Martin Luther King Boulevard). This suggests that perceived safety is more complex than simply the presence of a dedicated bikeway. Land use mix, traffic volumes, and personal safety (as from crime) also play important roles in determining who is willing to bike or walk in a given location.

Among pedestrians, the highest proportions of female pedestrians were observed at:



Meanwhile the lowest were documented at the following:



Again, while some of these trends are likely related to facility presence and quality (particularly in instances where pedestrian infrastructure is clearly deficient, such as Metairie Hammond Highway and the Broad Street Overpass), other factors such as commercial activity, tree cover, and the presence of many other pedestrians likely contribute to women's choices whether and where to walk. Notably, the percentages of both female pedestrians and to an even greater degree, female bicyclists observed do not align with the composition of the overall study area, where women make up slightly more than half of the population (Table 13).

Race

The general racial characteristics of users, categorized as "black," "white," or "other," assigned by the student observers, are highly subjective and used here for descriptive purposes only. In 2014, approximately 74% of bicyclists at the core continuing count locations were identified as white, 22% as black, and 4% as other. Over the last five years, the proportion of white and black bicyclists has increased slightly, while those identified as other has decreased proportionally. Similarly, the percentage of pedestrians identified as white (65%) in 2014 has increased over the 5-year period in the continuing count locations, with equal proportional declines for both other categories. For both pedestrians and bicyclists, figures for all 42 count locations in 2014 reflect similar compositions.

Generally, the racial composition of users has been found to principally reflect the demographic makeup of the neighborhood in which counts are conducted, except on corridors that are heavily traveled by bicycle commuters, or areas with high concentrations of tourism activity. However, on a regional scale, the racial characteristics of users observed (both pedestrians and bicyclists) during the count study differ substantially from the estimated demographic makeup of Orleans Parish, where most of the counts were conducted (Table 13), indicating that a) the count locations selected do not fully represent all neighborhoods of the city and b) some racial disparities may exist in terms of access to and/or preference for non-motorized modes of transport.

Table 13: Demographic Composition of Pedestrians and Bicyclists Relative to Area Population

Demographic Composition of Pedestrians and Bicyclists Relative to Area Population				
	% of Pedestrians Observed (All 2014 Count Locations)	% of Bicyclists Observed (All 2014 Count Locations)	ACS 2012 Estimates, Orleans Parish	ACS 2012 Estimates, Jefferson Parish
Gender				
Male	54.3%	72.7%	48.0%	48.5%
Female	45.7%	27.3%	52.0%	51.5%
Race				
Black	27.7%	23.9%	59.8%	26.8%
White	66.2%	71.0%	33.9%	63.4%
Other	6.1%	5.1%	6.3%	9.8%
Source: 2012 ACS 1-year estimates, Table DP05				

Age

As in previous years of data, the percentage of pedestrians and bicyclists identified as youths, i.e. 14 or younger, remains very small, at .9% of bicyclists and 3.5% of pedestrians—a slight decrease from 2013. Observers are instructed in techniques for assessing age classification, however it remains a subjective determination. Exceptions include Mirabeau Avenue, where 17.6% of all cyclists observed were identified as youths (though the total number of bicyclists was very small) and Gentilly Boulevard, where 6.8% were identified as 14 or younger. The highest proportions of youth were observed walking on Mirabeau Avenue at 37% (again, among a small number of total users) and on South Carrollton Avenue (17%).

Helmet Use

Although helmet use is not mandatory among adults in Louisiana, helmet use remains an important indicator of bicyclist safety. Over the last five years, helmet use has nearly doubled from 10% to more than 19% of users. At all 42 count locations, this figure is slightly higher at just over 20%. These numbers are still well below leading bicycling cities in the United States, but reflect an encouraging trend toward safer bicyclist behavior.

Over 5 years, observed helmet use has increased from 10% to 19%

The highest rates of helmet use (above 40%) were observed at Metairie Hammond Highway, Harrison Avenue, Nashville Avenue, Golf Drive, Metairie Road, and Mirabeau Avenue. Fewer than 10% of riders were observed wearing helmets at the following locations, which may represent opportunities for bicycling safety campaigns in the future:

- St. Claude Avenue
- St. Bernard Avenue
- Bonnabel Boulevard
- Elysian Fields Avenue
- S. Broad Street
- N. Rampart Street
- Cleary Avenue
- Papworth Avenue

Travel Orientation

Travel orientation refers to the direction and surface on which pedestrians and bicyclists are traveling. Ideally, pedestrians should travel on sidewalks, and bicyclists should travel on the roadway (unless a separate bicycle or multi-use trail is available, or the user is 14 years or younger) in the direction of traffic. Bicycling in the wrong direction or on the sidewalk or neutral ground, in addition to being illegal, significantly reduces safety for cyclists, drivers, and pedestrians alike, while pedestrians observed walking in the street—though also unsafe—may indicate gaps or inadequacies in the pedestrian infrastructure in the area.

In 2014, 87% of bicyclists were observed riding legally, in the direction of traffic.

Among bicyclists at the continuing group of count sites, nearly 87% of users were observed traveling on-street, in the direction of traffic. This represents a continuation of a previously identified upward trend, and an 11.2% increase over 2010. Notably, wrong-way riding in she street has decreased most sharply from 11.6% in 2010 to just 4.3% in 2014. Sidewalk riding has decreased by a smaller degree from 12.6% to 9%. Among all 42 count locations, legal travel was somewhat lower at 81%. These positive shifts indicate that bicyclists' behavior is slowly changing, possibly in part due to the Regional Planning Commission's ongoing pedestrian and bicycle safety media campaigns.

Corridors with right-way, on-street bicycling rates above 90% include:

- Bonnabel Boulevard
- Papworth Avenue
- Golf Drive
- Esplanade Avenue
- St. Charles Avenue (Uptown)
- Decatur Street (Jackson Square)
- Nashville Avenue
- Magazine Street (CBD Gateway)
- Royal Street (Marigny)
- S. Carrollton Avenue
- St. Charles Avenue (CBD Gateway)
- Decatur Street
- Carondelet Street (CBD Gateway)
- Royal Street (French Quarter)

Where dedicated bike lanes exist, nearly all bicyclists were observed utilizing them unless preparing for a left turn. Two exceptions include Mirabeau Avenue, where a high proportion of cyclists—including several children—were observed riding on the sidewalk, and on Decatur Street (Jackson Square), where there is a dedicated bike lane on only one side of the roadway and this figure excludes all users traveling in the opposite direction.

Among pedestrians, travel orientation trends have remained relatively unchanged since this information was first recorded in 2011, with approximately 93% of users at the continuing count locations walking on the sidewalk, 4% walking in the roadway, and 3% walking in the neutral ground where applicable. The proportion of pedestrians walking in the street at all forty-two 2014 count locations is more than twice as high, though this is largely attributable to large volumes of pedestrians observed in the French Quarter, who tend to spill out into the street during busy periods.

3.7 Impact of Bicycle Facilities on Ridership and Behavior

Previous PBRI pedestrian and bicycle count reports have attempted to provide a preliminary evaluation of the impacts of new facility construction on active transportation in the New Orleans area by looking at relative change in pedestrian and bicyclist Estimated Daily Traffic, as well as the percentage change in helmet use, female cyclists, and right-way travel at locations with or adjacent to bicycle facilities compared to sites with no facilities present. In order to more precisely differentiate possible impacts, in this report, dedicated bike lanes have been separated from bikeways with shared lane markings only. The category of count locations which are near or adjacent to bike facilities has been eliminated. Figures 23 through 26 illustrate overall differences in key metrics among 41 count sites[9] observed in the 2014 count period.

29% more bicyclists estimated at locations with bike lanes than where no facility present

Average EDT was found to be 27-29% greater at count locations with shared or dedicated bike lanes than at sites with no bicycle facility present. Twenty-eight and 30% of riders were female at locations with bike lanes or shared lanes, respectively, compared to only 23% at locations with no bikeway. Helmet use was observed at the greatest rates where bike lanes are present (23%), slightly lower where shared lanes occur (21%) and much lower where no facilities have been installed (15%). Finally, while roughly the same percent of riders on bike lanes and shared lanes travel legally, in the direction of travel on the roadway (88-89%), only 75% of users were observed doing so on roadways with no facility present.

9 The Jefferson Davis Parkway Bridge was excluded as it represents a different category of facility for which it was the only example observed

Figure 23: Average EDT by Facility Type, 2014 Count Locations

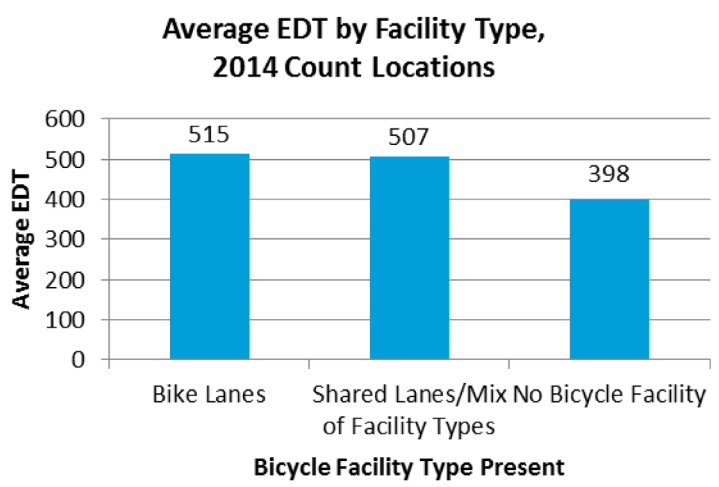


Figure 24: Percent of Bicyclists who are Female by Facility Type, 2014 Count Locations

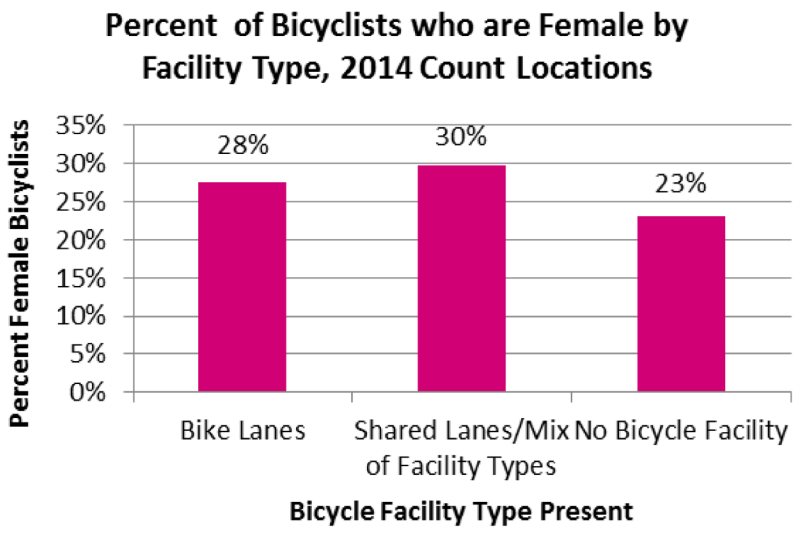


Figure 25: Percent of Bicyclists Wearing Helmets by Facility Type, 2014 Count Locations

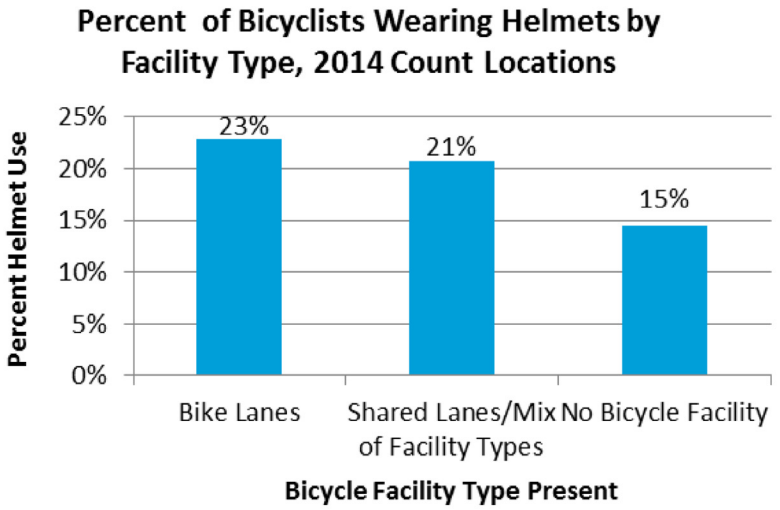
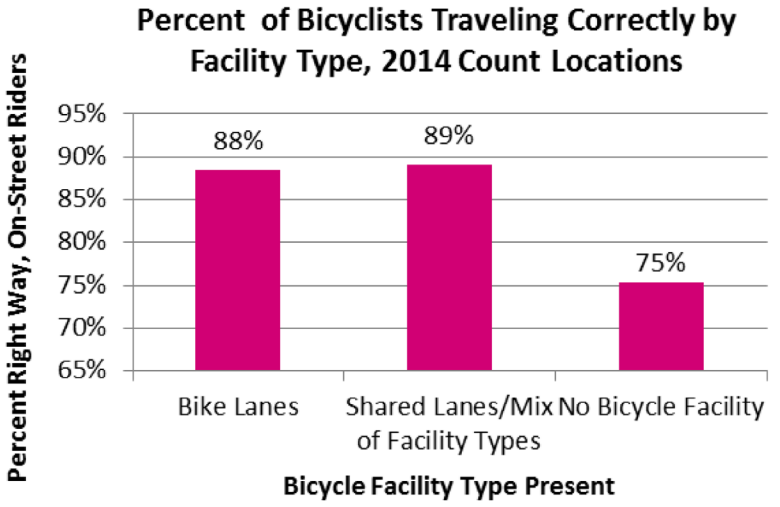


Figure 26: Percent of Bicyclists Traveling Correctly by Facility Type, 2014 Count Locations



Estimated daily bicycle traffic increased by 125% where bike lanes exist, compared to 23% where no facilities exist.

2010-2014

In addition to these findings from the 2014 count, PBRI evaluated how these metrics have changed over time at the 12 core count locations observed from 2010-2014 (Table 14), as well as those sites counted only in 2013 and 2014 (Table 15). Among the former dataset, a few key patterns emerge. From 2010 to 2014, EDT increased by 125% at locations that had dedicated bike lanes by March 2014, by 50% where shared lanes or a mix of facility types are present, and by 23% at locations with no bicycle facilities. The proportion of riders who are female also increased by a much larger margin at locations with dedicated bike lanes—19 percentage points, compared to only a 1 point increase with shared lanes and a 4 point increase where no facilities exist. Helmet use also appears to be increasing more rapidly where any type of bike facility exists (12-13%) compared to locations without (7.6%). On the other hand, change in the percentage of bicyclists traveling legally, while improving region-wide, actually appears to be growing more slowly on corridors with dedicated bike lanes than average, which may be largely attributable to the fact that these locations, on average, had high rates of on-street, right-way travel when observations began in 2010.

Table 14: Impact of Facilities on Change in User Behavior and Characteristics, 2010-2014 Count Locations

Impact of Facilities on Change in User Behavior and Characteristics, 2010-2014 Count Locations

		Change in Estimated Daily Traffic			Change in Percent of Users who are Female			Change in % Wearing Helmets			Change in Right-Way Travel		
Count Location by Bike Facility Type	**Year Installed**	**2010 EDT**	**2014 EDT**	**% Change**	**% Female, 2010**	**% Female, 2014**	**Percentage Point Change**	**Helmet Use 2010**	**Helmet Use 2014**	**Percentage Point Change**	**% Right Way 2010**	**% Right Way 2014**	**Percentage Point Change**
Bike Lanes													
Gentilly Blvd	2010	151	312	106.6%	8.7%	24.3%	15.6%	13.0%	25.2%	12.2%	67.4%	78.6%	11.2%
St. Claude Ave	2008	437	680	55.6%	25.0%	27.8%	2.8%	2.1%	9.1%	7.0%	86.5%	79.8%	-6.7%
Esplanade Ave	2013	330	1,076	226.1%	36.2%	42.7%	6.5%	7.6%	24.5%	16.9%	82.9%	98.1%	15.2%
Total		**918**	**2,068**	**125.3%**	**26.7%**	**45.9%**	**19.2%**	**6.5%**	**18.8%**	**12.4%**	**85.0%**	**88.2%**	**3.2%**
Shared Lane Markings													
Harrison Ave	2014	71	77	8.5%	18.5%	27.6%	9.1%	11.1%	58.6%	47.5%	77.8%	82.8%	5.0%
Magazine St (Gateway)	2010	471	734	55.8%	36.6%	35.9%	-0.7%	9.8%	17.9%	8.1%	68.6%	93.3%	24.6%
Total		**542**	**811**	**49.6%**	**33.9%**	**34.9%**	**1.0%**	**10.0%**	**22.6%**	**12.6%**	**70.0%**	**92.1%**	**22.1%**
No Bike Facility													
Camp St (Gateway)		598	938	56.9%	36.3%	33.0%	-3.3%	11.5%	23.3%	11.9%	69.4%	89.3%	19.8%
Simon Bolivar Ave (Gateway)		332	854	157.2%	7.0%	13.6%	6.6%	8.1%	15.4%	7.2%	57.0%	64.3%	7.3%
Decatur St		490	643	31.2%	26.0%	34.1%	8.1%	8.0%	16.4%	8.4%	83.3%	90.7%	7.4%
St. Charles Ave (Gateway)		665	752	13.1%	29.8%	33.1%	3.2%	24.6%	22.2%	-2.4%	73.3%	92.3%	19.0%
Royal St		1,056	596	-43.6%	22.3%	29.2%	7.0%	6.6%	16.5%	9.9%	83.0%	92.9%	9.9%
Carondelet St (Gateway)		322	371	15.2%	31.0%	26.7%	-4.4%	11.5%	12.4%	0.9%	70.1%	90.5%	20.4%
Magazine St (Uptown)		121	235	94.2%	18.4%	41.1%	22.7%	7.9%	24.4%	16.5%	26.3%	62.2%	35.9%
Total		**3,584**	**4,389**	**22.5%**	**25.5%**	**29.5%**	**4.0%**	**11.2%**	**18.9%**	**7.6%**	**74.3%**	**84.9%**	**10.6%**
ALL SITES		**5,044**	**7,268**	**44.1%**	**26.7%**	**31.5%**	**4.8%**	**10.3%**	**19.3%**	**9.0%**	**75.5%**	**86.7%**	**11.1%**

Among locations counted in 2013 and 2014, the relationships between facility presence and usership are less clear. Several more years of data may be needed before clear patterns emerge. EDT change does not correlate strongly with facility presence due to ridership decreases on Loyola Avenue and St Charles Avenue (both of which received bike lanes prior to the 2013 counts), though increases were seen on Nashville Avenue, Basin Street, and St. Bernard Avenue, all of which received bike-friendly interventions between the two years of data. No clear trends were discerned regarding changes in the percent of riders who are female; surprisingly, the proportion of female riders dropped by more than 10% following the installation of bike lanes on St. Bernard Avenue. Similarly, no clear pattern for rates of helmet use or right-way travel are evident, though St. Bernard Avenue's 25 percentage point jump in legal riding is notable. Additional data on facility impacts can be found in Appendix H.

Table 15: Impact of Facilities on Change in User Behavior and Characteristics, 2013-2014 Count Locations

Impact of Facilities on Change in User Behavior and Characteristics, 2013-2014 Count Locations

		Change in Estimated Daily Traffic			Change in Percent of Users who are Female			Change in % Wearing Helmets			Change in Right-Way Travel		
Count Location by Bike Facility Type	Year Installed	2010 EDT	2014 EDT	% Change	% Female, 2010	% Female, 2014	Percentage Point Change	Helmet Use 2010	Helmet Use, 2014	Percentage Point Change	% Right Way 2010	% Right Way 2014	Percentage Point Change
Bike Lanes													
St. Bernard Ave	2013	288	330	14.6%	19.3%	11.4%	-7.9%	14.8%	8.8%	-6.0%	59.1%	84.2%	25.1%
Nashville Ave	2013	124	400	222.6%	35.1%	39.9%	4.7%	43.2%	50.0%	6.8%	100.0%	93.5%	-6.5%
St. Charles Ave (Uptown)	2013	1,338	685	-48.8%	41.0%	28.1%	-12.9%	44.0%	31.0%	-13.0%	99.1%	96.3%	-2.8%
S. Carrollton Ave	2010	613	650	6.0%	27.7%	22.4%	-5.2%	26.2%	24.8%	-1.4%	90.8%	92.5%	1.7%
Loyola Ave	2012	892	686	-23.1%	9.7%	19.8%	10.1%	22.9%	18.5%	-4.4%	74.9%	81.1%	6.2%
Total		**3,255**	**2,751**	-15.5%	**28.3%**	**24.5%**	-3.8%	**32.5%**	**26.7%**	-5.9%	**87.9%**	**89.9%**	**2.0%**
Shared Lane Markings/Mix of Facilities													
St. Claude Bridge	2008	332	315	-5.1%	20.0%	30.3%	10.3%	11.4%	12.1%	0.7%	71.4%	62.6%	-8.8%
Basin St	2013	322	653	102.8%	25.3%	28.2%	3.0%	23.2%	26.6%	3.3%	71.7%	88.0%	16.2%
Total		**654**	**968**	**48.0%**	**22.5%**	**28.8%**	**6.3%**	**17.2%**	**22.4%**	**5.2%**	**71.6%**	**80.6%**	**9.0%**
No Bike Facility													
S. Broad St		376	433	15.2%	10.7%	14.8%	4.1%	8.9%	6.3%	-2.7%	51.8%	59.4%	7.6%
Tulane Ave		263	368	39.9%	16.9%	17.6%	0.7%	8.5%	16.7%	8.2%	43.7%	66.7%	23.0%
Broad St Bridge		186	215	15.6%	8.8%	3.4%	-5.4%	12.3%	10.2%	-2.1%	70.2%	67.8%	-2.4%
Total		**825**	**1,016**	**23.2%**	**12.1%**	**13.5%**	**1.4%**	**9.6%**	**10.7%**	**1.1%**	**53.8%**	**63.7%**	**9.9%**
ALL SITES		**4,734**	**4,735**	**0.0%**	**24.9%**	**23.4%**	-1.5%	**26.7%**	**22.8%**	-3.9%	**80.1%**	**83.0%**	**2.9%**

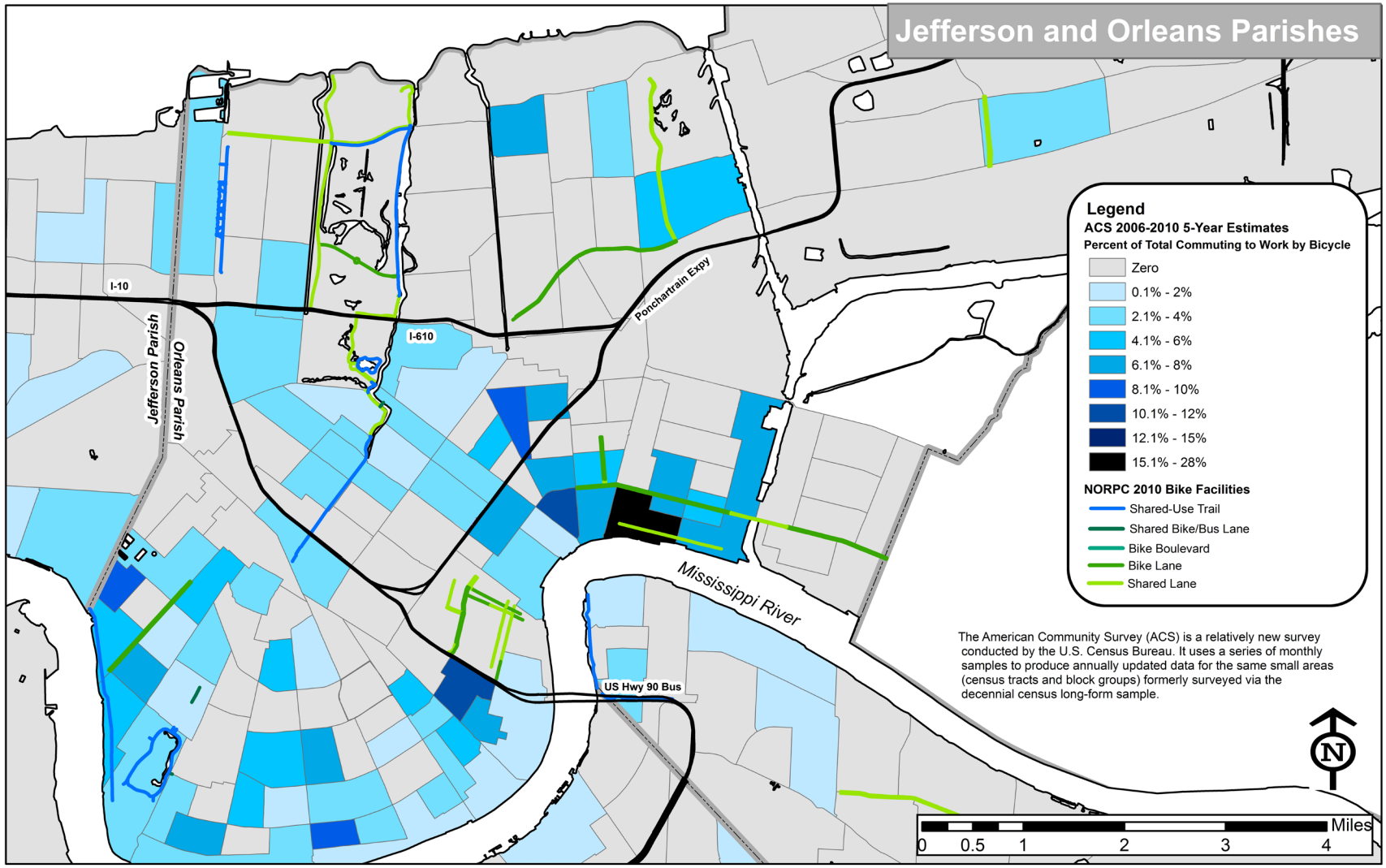
The relationship of the presence or absence of bicycle facilities and increases in pedestrian activity, evaluated in previous count reports, has been omitted here as no clear correlations had previously been suggested. However, it is worth noting that most roadway projects which have resulted in the addition of bicycle facilities have also included features (e.g. curb ramps at intersections and crosswalks) that improve the pedestrian environment as well.

Finally, as previous iterations of this study have observed, the construction of bicycle facilities is likely to have an impact on either overall mode share, travel patterns, or both, although this correlation is impacted by numerous other variables and not always easy to isolate directly.[10] As shown in Figures 27 and 28, the relationship between the growth of New Orleans' bicycle infrastructure network and active transportation commute mode share is complex. In some instances, commute mode share appears to have increased with the provision of new facilities (e.g. in the Lower Garden District and the Marigny and Bywater neighborhoods), while in other cases, new infrastructure does not yet appear to have impacted mode share significantly (e.g. Gentilly and Lakeview neighborhoods). These findings may change as the region's bicycle infrastructure network becomes more complete and more integrated, although rates of bicycle commuting are likely to remain lower in areas further from the city's downtown core and where land uses are more segregated. It is also important to note that Census data in the years immediately following Hurricane Katrina (2005-2009 data) may reflect demographic anomalies related to the city's recovery, rather than impacts of infrastructure development.

10 See for example: Douma, F. and Cleveland, F. (2008). *The Impact of Bicycling Facilities on Commute Mode Share (*http://www.lrrb.org/PDF/200833.pdf); Krizek, K., Barnes, G., and Thompson, K. (2009). *Analyzing the Effect of Bicycle Facilities on Commute Mode Share over Time*, Journal of Urban Planning and Development 135:2.

Figure 27: 2010 Bicycle Commuters and Bicycle Facilities, Jefferson and Orleans Parishes

2010 Bicycle Commuters and Bicycle Facilities



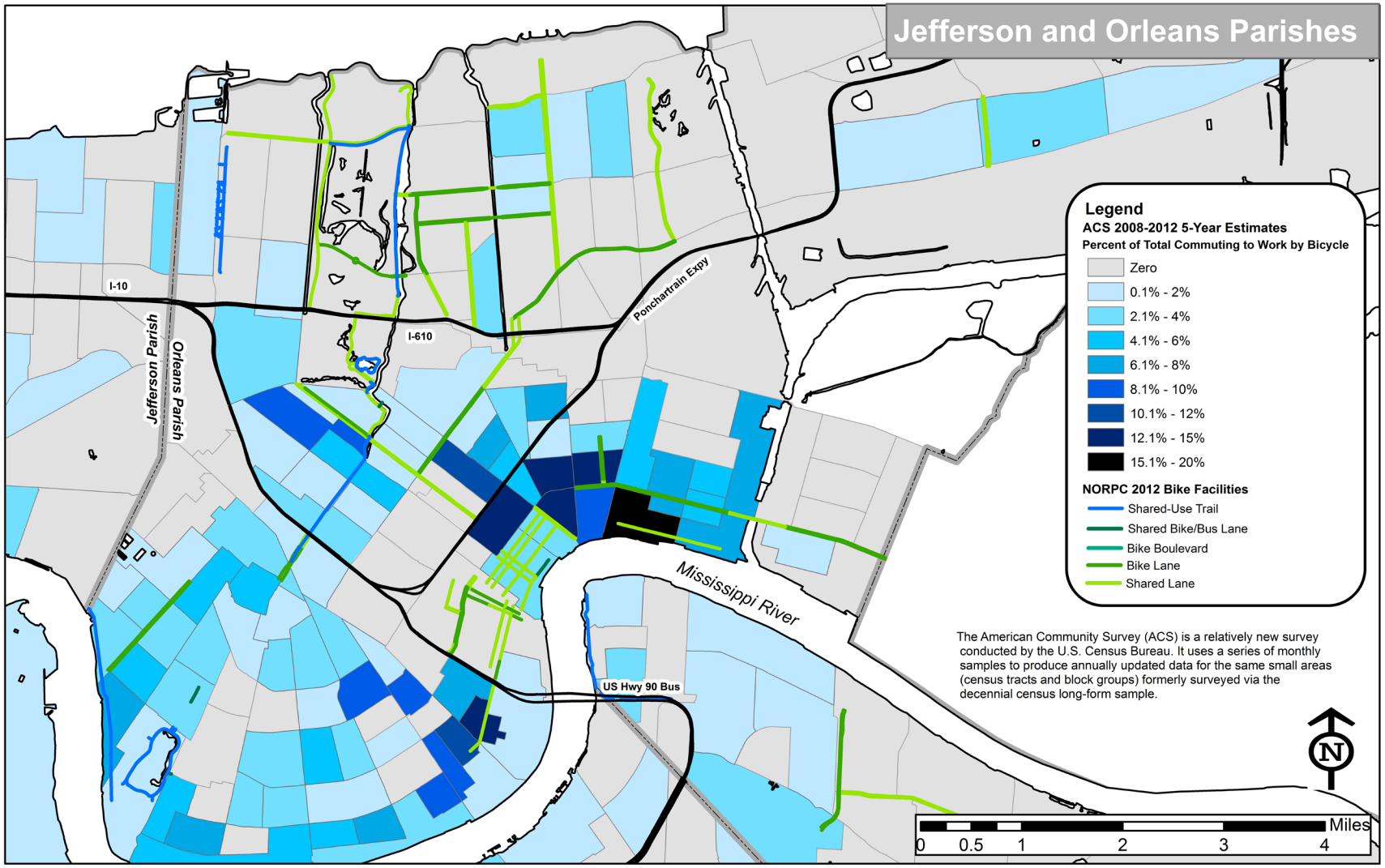
Data Sources: Basemap created using 2012 TIGER/Line Shapefiles for Orleans and Jefferson Parish Roads and Water features. Bicycle Facility Shapefile produced and provided by the New Orleans Regional Planning Commission, current as of 5/15/2014. 'NOLA Boundary Line' Shapefile produced and provided by the City of New Orleans, current as of 9/26/2013, Any use of the data must be accompanied with this citation and accompanying seals and logos. American Community Survey 5-Year Estimates: 2006-2010, Table B08301.

Coordinate System: NAD 1983 StatePlane Louisiana South FIPS 1702 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 3,280,833.3333
False Northing: 0.0000
Central Meridian: -91.3333
Standard Parallel 1: 29.3000
Standard Parallel 2: 30.7000
Latitude Of Origin: 28.5000
Units: Foot US

PBRI PEDESTRIAN BICYCLE RESOURCE INITIATIVE

Figure 28: 2012 Bicycle Commuters and Bicycle Facilities, Jefferson and Orleans Parishes

2012 Bicycle Commuters and Bicycle Facilities



Data Sources: Basemap created using 2012 TIGER/Line Shapefiles for Orleans and Jefferson Parish Roads and Water features. Bicycle Facility Shapefile produced and provided by the New Orleans Regional Planning Commission, current as of 5/15/2014. "NOLA Boundary Line" Shapefile produced and provided by the City of New Orleans, current as of 9/26/2013, Any use of the data must be accompanied with this citation and accompanying seals and logos. American Community Survey 5-Year Estimates: 2008-2012, Table B08301.

Coordinate System: NAD 1983 StatePlane Louisiana South FIPS 1702 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 3,280,833.3333
False Northing: 0.0000
Central Meridian: -91.3333
Standard Parallel 1: 29.3000
Standard Parallel 2: 30.7000
Latitude Of Origin: 28.5000
Units: Foot US

PBRI PEDESTRIAN BICYCLE RESOURCE INITIATIVE

4.0 Electronic Count Data

This section summarizes data retrieved from the Jefferson Davis Trail Eco-Counter from June 2010 through June 2014. This data represents New Orleans' only continuously operating active transportation monitor, which provides valuable information about long term trends and the temporal and meteorological variables that impact people who walk and bike. For detailed data tables, please refer to Appendix I.

4.1 Observed Traffic Volumes and Change

Figure 29 shows the monthly and annual average daily traffic volumes observed on the Jefferson Davis Trail from July 2010 through June 2014.[11] Over the last four years, average daily usership has increased from an average of 464 users per day to 665—a 43% total increase. In 2013-2014, user volumes were highest in March, April, May, October, and November. The lowest volumes were recorded in July, August, and September. These patterns roughly align with previous years of data, though variations in user volume may be attributable to more favorable or unfavorable weather patterns (discussed below) as well as to temporally variable events such as carnival season.

Jefferson Davis Parkway Trail:
43% Increase in annual usage
2010-2014

Overall, this trail experienced consistent user volumes year-round, with an average use rate of 665 users per day. From years of data available, trail usage appears to be continuing to increase at a consistent rate of 10-15% per year. Although this counter only reflects usership on one facility of many in the New Orleans region, this continued growth suggests that walking and bicycling—whether for transportation, recreation, or both—is on the rise.

This count site, which has now been upgraded with a more sophisticated model which can differentiate for the first time pedestrians and bicyclists, should continue to be regularly monitored to see whether volumes continue to increase or new trends emerge.

11 Due to dislocation and subsequent temporary de-installation of the electronic count device during the months of April and May, 2013, a total usership figure for the third year of the device's operation is not available.

Figure 29: Jefferson Davis Trail Average Daily Usage, 2010-2014

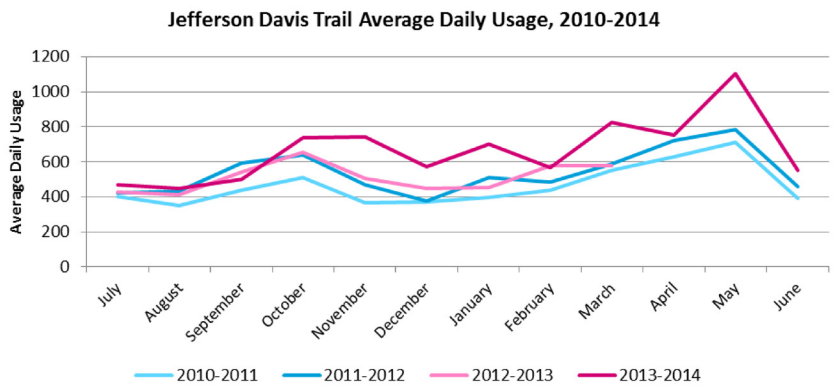
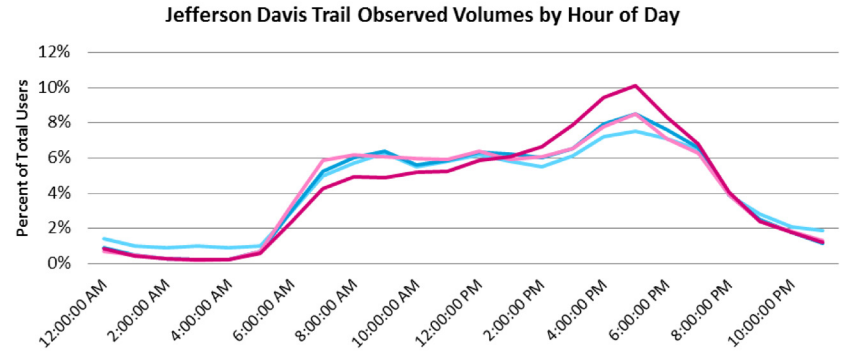


Figure 30: Jefferson Davis Trail Observed Volumes by Hour of the Day



4.2 Trail Use Distribution

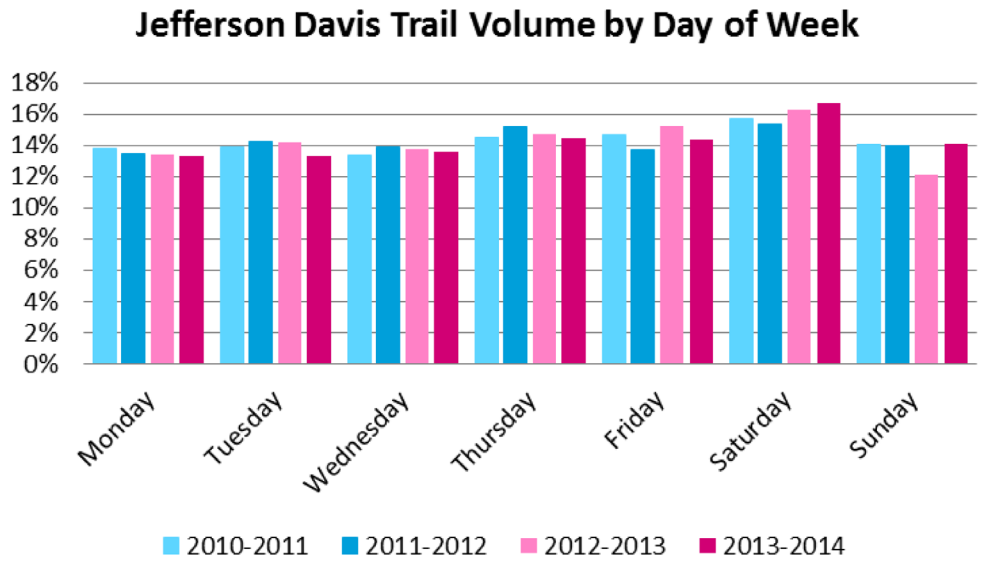
Electronic counts by hour, day of the week, and month for all four years of data were collected, allowing evaluation of usage patterns at various levels of detail. The following figures summarize these patterns. Percentages of total usership, rather than absolute totals, are used in order to compare the four years of data.

User Distribution by Hour of the Day and Day of the Week

Figure 30 illustrates trail usage by hour at this count location. Hourly patterns of use appear to be highly consistent from year to year with relatively steady use throughout the morning and early afternoon. The highest volume and percentage of users, as in previous years, were in the evening peak hours of 4:00 to 8:00 pm.

As in previous years, 2013-2014 data indicates a relatively even distribution of use across each day of the week, with a slight incline leading into the weekend and a Saturday peak (Figure 31).

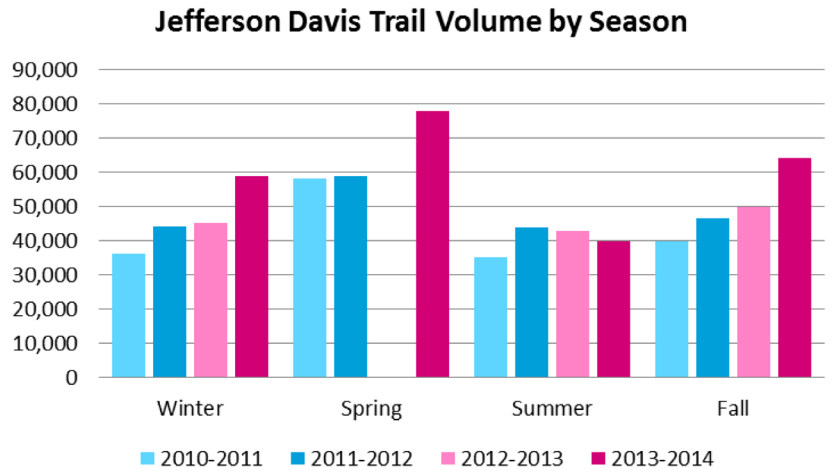
Figure 31: Jefferson Davis Trail Volume by Day of Week



Seasonal Trends

Figure 32 breaks down Jefferson Davis Trail data by season of the year for each year observed. Unsurprisingly, user volumes were highest during spring of 2014 (corresponding with unusually mild weather and a plethora of festivals, athletic events, and other activities that encourage trail use), with the lowest user volumes recorded during the summer season of 2013. Usership was greater in the Fall, Winter, and Spring of 2013-2014 compared to previous years of data, while summer volumes remained relatively flat.

Figure 32: Jefferson Davis Trail Volume by Season



4.3 Meteorological Variables and Traffic Volume

As previously identified in the New Orleans Pedestrian and Bicycle Count Report, 2010-2011, significant correlations appear to exist between temperature, precipitation, and active transportation activity. This section continues to track these relationships between electronic counts at the Jefferson Davis Trail and average daily temperatures and precipitation at the daily, weekly, and monthly scale. Temperature and precipitation data were obtained from The Weather Underground historical database. Additional data tables are found in Appendix I.

Temperature

Figure 33, 34, and 35 illustrate the relationship between average temperatures and user volumes at the daily, weekly, and monthly level. Average daily temperatures are used for this analysis. Daily volumes (Figure 33) follow a similar overall pattern from year to year, though there are several outliers corresponding to special event days. At this level, it is difficult to discern a clear relationship between temperature and usership; trail usage is relatively consistent from a range of 40 degrees Fahrenheit to 90 degrees, with a number of higher usage days occurring when weather is between 70 and 80 degrees.

Figure 33: Temperature and Usership (Daily)

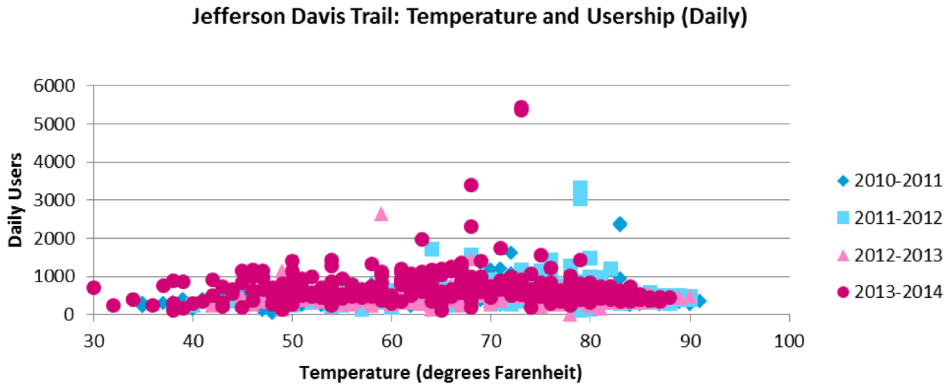


Figure 34: Temperature and Usership (Weekly)

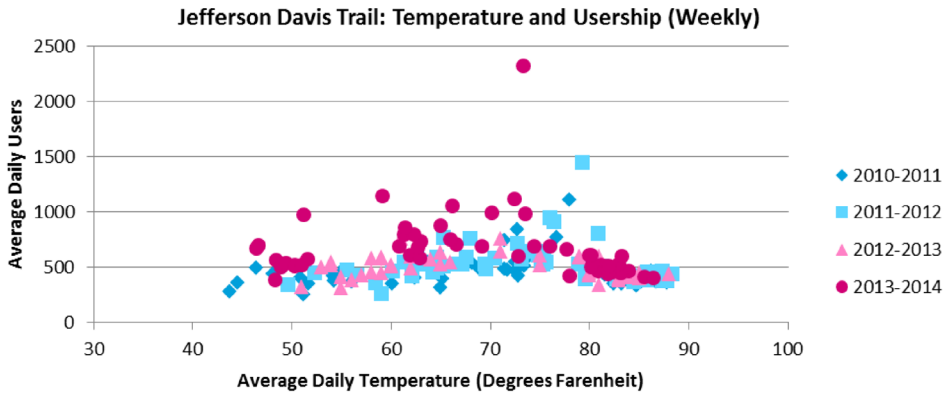
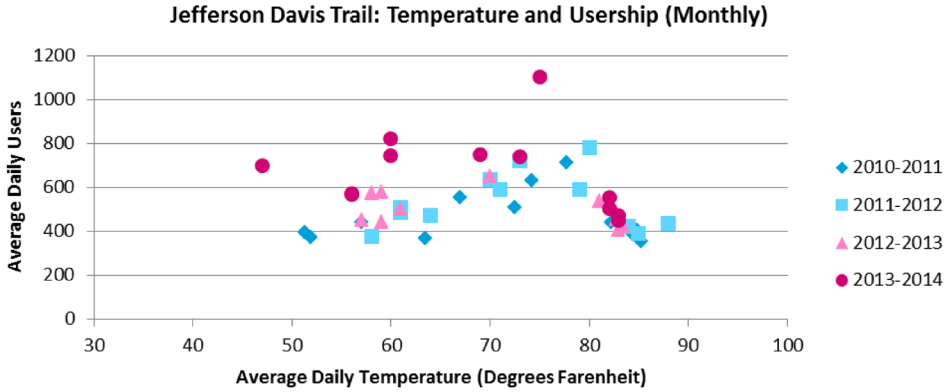


Figure 35: Temperature and Usership (Monthly)



Looking at this data at the weekly level (Figure 34), it is evident that as in previous years, the highest weekly volumes tend to occur in weeks where the average temperature ranges from approximately 60 to 80 degrees. Weeks with higher or lower average temperatures are more likely to have lower volumes. Therefore, this range of temperatures can be said to represent a threshold at which user volumes peak and then decline in either direction.

At the monthly level (Figure 35) these patterns remain consistent. Despite unusually cool weather in January-March of 2014, trail use remained high, with an average of more than 700 users per day during January—the coldest month in the last four years—when the average daily temperature was 47 degrees. Overall, these data indicate that the relationship between temperature and usership of the Jefferson Davis Trail is relatively stable, and possibly that trail usership is growing more consistent across a wider range of temperatures.

Precipitation

Precipitation can also be used as a variable by which to evaluate active transportation facility use. Precipitation in the New Orleans area tends to be highest during the summer months and early autumn, months which also experienced some the lowest user volumes on the Jefferson Davis Trail in 2013-2014, as in previous years (Figure 36). However, at the monthly level of analysis, clear correlations between precipitation and user volumes do not emerge

The relationship between precipitation and user volumes is clearer at the daily level, as daily variation in precipitation is high. Unsurprisingly, many people tend to avoid walking and bicycling on rainy days. Figure 37 shows that the days with the highest amount of precipitation tend to fall nearer to the bottom or middle of the range, with the day experiencing the greatest precipitation over the last four years (during Hurricane Isaac in 2012) resulting in zero trail use at all. Similarly, almost all of the days in this ten-month period with very high average daily usership correspond to days with little or no rain.

Figure 36: Precipitation and Average Daily Users by Month

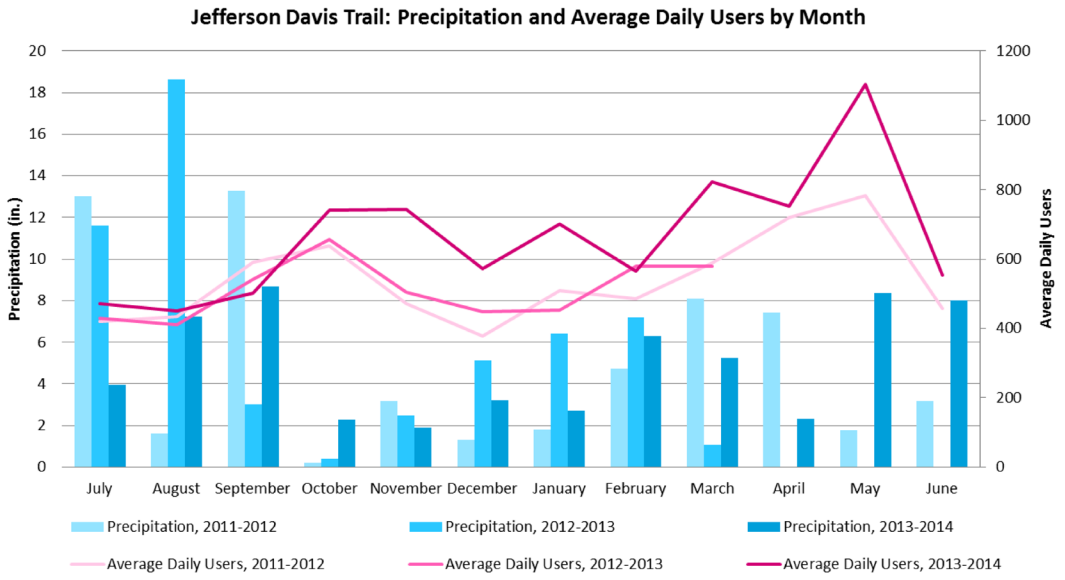
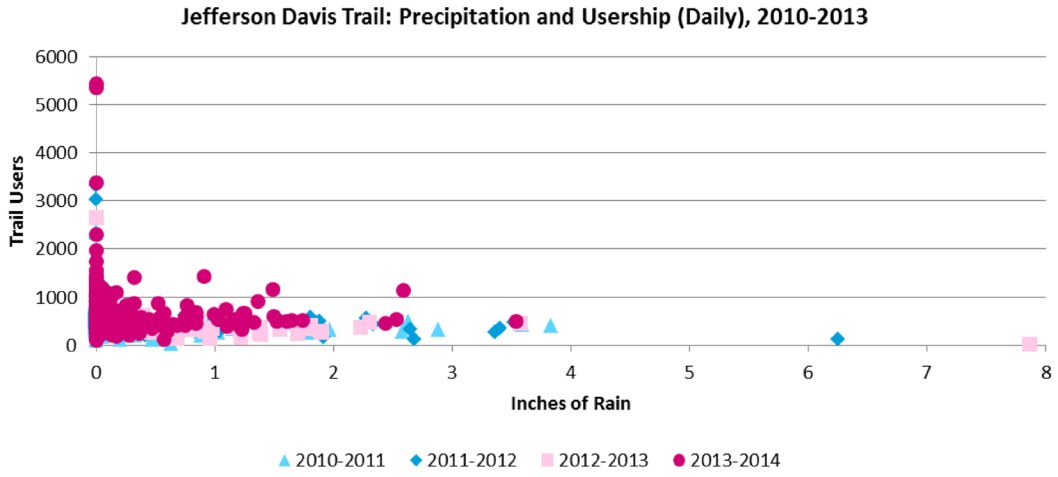
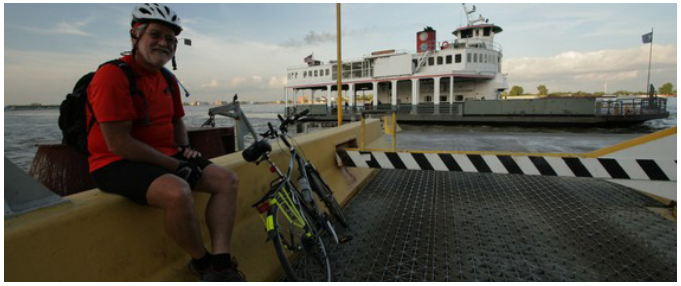


Figure 37: Precipitation and Usership (Daily), 2012-2013





5.0 State, Regional, and National Context: Comparing Commuter Mode Share and the Gender Split for Pedestrians and Bicyclists

This section provides an update to evaluations of commute data from the U.S. Census and American Community Survey (ACS) found in previous PBRI Pedestrian and Bicycle Count Reports, evaluating New Orleans progress as an active transportation leader relative to its context in the state of Louisiana, the Southern region of the United States, and the nation overall. This report updates this information with 2012 ACS data.

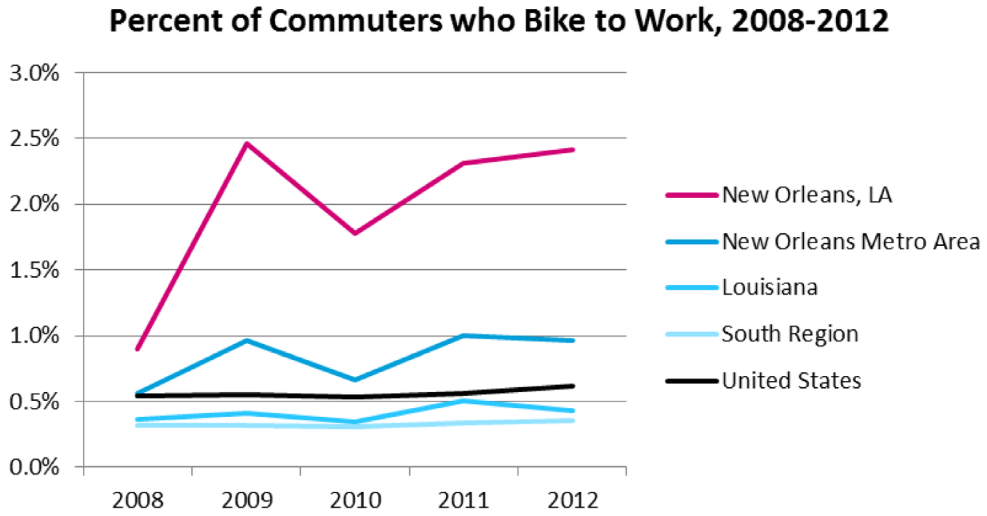
New Orleans consistently ranks among the top ten large cities in the US for bicycling to work.

As noted above, rates of female bicyclists are often examined as an indicator of the overall safety, comfort, and popularity of bicycling for a given area. This section also compares New Orleans' percentages of total and female pedestrian and bicycle commuters respectively to national leaders in active transportation, the South Region (as defined by the U.S. Census), and other cities in Louisiana.

5.1 Bicycle Commuting in New Orleans

In recent years, the city of New Orleans has firmly established itself as a regional leader in bicycling. Figure 38 illustrates New Orleans' bicycle commute mode share, relative to the metropolitan region, the state, the south region, and the nation. Nationally, bicycling to work is on the rise, but New Orleans' rate of bicycling greatly exceeds this trend.

Figure 38: Percent of Commuters who Bike to Work, 2008-2012



Source: American Community Survey 1-year Estimates, Table B08006, 2008-2012

Moreover, though estimates shift slightly from year to year, New Orleans has consistently ranked among the top ten cities with a population over 250,000 in the country for its rate of bicycling to work at 2.42% as of the 2012 American Community Survey estimates, a slight increase from 2011 (Table 16). Approximately 42% of bicycle commuters were female in 2012, a slight decrease from the previous year. As in 2011, this proportion is larger than the 28% of cyclists identified as female in PBRI's observations for 2012. New Orleans' ability to maintain its position as a national leader in bicycling to work is noteworthy, especially as many other cities have invested heavily in bicycle infrastructure and promoted policies that encourage active transportation.

Table 16: Top Cities over 250,000 for Bicycle Commuting, 2012

Top Cities over 250,000 for Bicycle Commuting, 2012			
Overall Rank	City	Bicycle Mode Share	Percent of bike commuters who are female
1	Portland, OR	6.14%	32.32%
2	Minneapolis, MN	4.53%	33.98%
3	Washington, DC	4.14%	35.69%
4	Seattle, WA	4.10%	28.83%
5	San Francisco, CA	3.76%	37.95%
6	Denver, CO	2.86%	24.89%
7	Tucson, AZ	2.76%	31.90%
8	Oakland, CA	2.74%	47.09%
9	Sacramento, CA	2.56%	28.65%
10	New Orleans, LA	*2.42%*	*41.93%*
	PBRI Findings, 2012	*n/a*	*28.00%*
11	Lincoln, NE	2.30%	16.45%
12	Philadelphia, PA	2.29%	34.15%
13	Honolulu, HI	2.26%	32.82%
14	Boston, MA	*2.00%*	*32.62%*
15	Buffalo, NY	1.61%	26.27%
Source	U.S. Census Bureau, 2012 American Community Survey 1-yr estimates, Table B08006		

Table 17: Regional Bicycling Commuting Statistics, 2012

Regional Bicycling Commuting Statistics, 2012		
Geography	Bicycle Mode Share	Percent of bike commuters who are female
West Region	**1.14%**	**27.97%**
Midwest Region	**0.55%**	**28.17%**
Northeast Region	**0.54%**	**26.96%**
South Region	**0.36%**	**25.38%**
Washington, DC	4.14%	35.69%
New Orleans, LA	2.42%	41.93%
PBRI Findings, 2012	*n/a*	*28.00%*
Austin, TX	1.56%	30.15%
Tampa, FL	1.41%	42.03%
Baltimore, MD	1.04%	31.20%
Raleigh, NC	1.01%	22.86%
Miami, FL	1.00%	13.33%
Lexington, KY	0.66%	25.32%
Atlanta, GA	0.64%	23.41%
Virginia Beach, VA	0.60%	49.31%
United States	**0.61%**	**27.29%**
Notes	Selected cities in the South Region represent the 10 highest bicycle commuting rates for cities over 250,000	
Source	U.S. Census Bureau, 2012 American Community Survey, Table B08006	

The south region[12] as a whole tends to lag behind other regions of the country for rates of bicycling (Table 17). However, within this region, New Orleans is a clear leader, behind only Washington, D.C. in 2012. New Orleans' estimated rate of women who bike to work is also highly ranked within the region, exceeding all but two other major southern cities.

12 Defined by the US Census Bureau as including the states of Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia, Alabama, Kentucky, Mississippi, Tennessee, Arkansas, Louisiana, Oklahoma, Texas, and the District of Columbia

Finally, New Orleans also leads the state of Louisiana by a significant margin. To evaluate New Orleans relative to other cities in Louisiana, three-year aggregate ACS data from 2010-2012 is used. Table 18 summarizes bicycling trends in major cities in Louisiana. As in previous years, New Orleans has the highest bicycle commuter mode share, as well as the highest estimated percentage of female bike commuters of all Louisiana cities. The state's overall rate of bicycle commuting, on the other hand, has held steady at .43%.

Table 18: Bicycle Commuting in Louisiana, 2010-2012

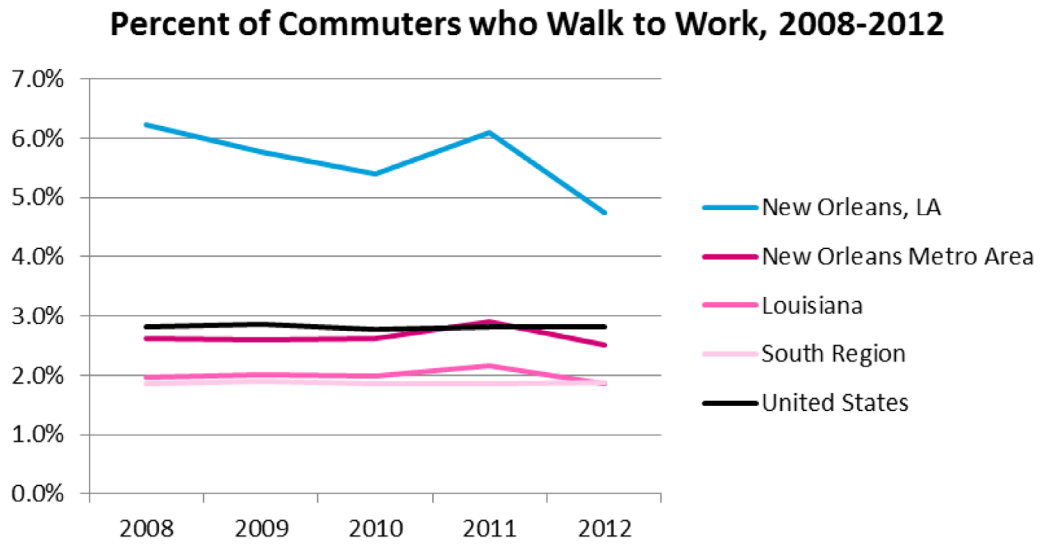
Bicycle Commuting in Louisiana, 2010-2012		
Geography	Bicycle Mode Share	Percent of bike commuters who are female
New Orleans	**2.25%**	**37.60%**
Lafayette	0.90%	13.99%
Baton Rouge	0.82%	21.68%
Metairie	0.71%	11.06%
Kenner	0.50%	0.00%
Alexandria	0.49%	27.38%
Monroe	0.47%	11.36%
Bossier City	0.29%	16.67%
Shreveport	0.16%	0.00%
Lake Charles	0.13%	0.00%
Louisiana	**0.43%**	**27.62%**
South Region	0.33%	24.43%
United States	**0.57%**	**26.84%**
Notes	Louisiana cities selected were the only geographies for which data is available	
Source	U.S. Census Bureau, 2010-2012 American Community Survey 3-year estimates, Table B08006	

5.2 Pedestrian Commuting in New Orleans

This section compares New Orleans' percentages of total and female pedestrian commuters relative to other cities in Louisiana, the South Region, and the United States as a whole to evaluate progress toward becoming a more active city where men and women are comfortable walking to work, as well as to other destinations for daily needs and recreation.

Overall, New Orleans has ranked above national, regional, and state averages for the last five years in the rate of commuters who walk to work (Figure 39). However, this figure has declined slightly during this period. Increasing rates of walking—to work or other destinations—involves a complex set of policy decisions to ensure not only safe and comfortable infrastructure, but personal safety, a jobs-housing balance that allows people to live near where they work, and other considerations.

Figure 39: Percent of Commuters who Walk to Work, 2008-2012



Source: American Community Survey 1-year Estimates, Table B08006, 2008-2012

In 2012, New Orleans slipped several places—from 13th to 21st, in the share of its population that walks to work among cities with populations greater than 250,000 in 2010 (Table 19), with a total of 4.74% of commuters walking to work. These numbers are based on small sample sizes and can fluctuate from year to year, but if this trend continues, research into why the proportion of commuters who walk is declining would be warranted. The percent of pedestrian commuters who are female also decreased in 2012 to just under 40%, a slightly lower percentage than was observed by PBRI's 2012 count study (and which includes non-commute trips).

Table 19: Top Cities over 250,000 for Pedestrian Commuting, 2012

Top Cities over 250,000 for Pedestrian Commuting, 2012			
Overall Rank	City	Walking Mode Share	Percent of pedestrian commuters who are female
1	Boston, MA	15.47%	51.99%
2	Washington, DC	11.90%	48.40%
3	Pittsburgh, PA	10.64%	47.36%
4	New York, NY	10.09%	51.92%
5	Seattle, WA	9.91%	47.30%
6	San Francisco, CA	9.83%	46.08%
7	Honolulu, HI	8.44%	45.04%
8	Philadelphia, PA	8.18%	54.72%
9	Jersey City, NJ	7.82%	45.83%
10	Newark, NJ	7.06%	37.83%
11	Minneapolis, MN	6.95%	45.32%
12	Portland, OR	6.93%	48.50%
13	Chicago, IL	6.93%	49.52%
14	Baltimore, MD	6.85%	*54.41%*
15	Buffalo, NY	6.38%	46.60%
21	New Orleans, LA	4.74%	39.97%
	PBRI Findings, 2012	*n/a*	*42.40%*
Source	U.S. Census Bureau, 2012 American Community Survey, Table B08006		

Within the south region[13], however, New Orleans still ranks relatively high for pedestrian commuting, fourth among major southern cities (Table 20). As with bicycling, the South lags behind other regions in overall pedestrian commuters, and New Orleans still significantly exceeds the average for both the South region and the United States as a whole.

Table 20: Regional Pedestrian Commuting Statistics, 2012

Regional Pedestrian Commuting Statistics, 2012		
Geography	Walking Mode Share	Percent of pedestrian commuters who are female
West Region	**2.97%**	**44.89%**
Northeast Region	**4.68%**	**49.67%**
Midwest Region	**2.67%**	**47.23%**
South Region	**1.87%**	**42.07%**
Washington, DC	11.90%	48.40%
Baltimore, MD	6.85%	54.41%
Atlanta, GA	5.89%	35.08%
New Orleans, Louisiana	**4.74%**	**39.97%**
PBRI Findings, 2012	*n/a*	*42.40%*
Lexington, KY	4.20%	44.47%
Miami, FL	4.18%	50.43%
Greensboro, NC	2.97%	40.33%
Tampa, FL	2.97%	46.87%
Austin, TX	2.81%	47.91%
Charlotte, NC	2.50%	38.96%
United States	**2.82%**	**46.17%**
Notes	Selected cities in the South Region represent the 10 highest commuting rates for cities over 250,000	
Source	U.S. Census Bureau, 2012 American Community Survey, Table B08006	

13 Defined by the US Census Bureau as including the states of Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia, Alabama, Kentucky, Mississippi, Tennessee, Arkansas, Louisiana, Oklahoma, Texas, and the District of Columbia

Within Louisiana, New Orleans had the highest mode share for pedestrian commuting in the state, as in previous years, and an above-average rate of female pedestrians relative to other cities and the state as a whole. As with bicycling data, state-level comparisons were conducted using 2010-2012 3-Year ACS estimates. Table 21 summarizes the resulting pedestrian commuting patterns in Louisiana. Louisiana's overall rate of pedestrian commuters and female pedestrians, at 1.99% and 42.82% respectively, is slightly higher than the southern regional average, but again lags behind national averages and represents a slight decrease from 2011 estimates.

Table 21: Pedestrian Commuting in Louisiana, 2010-2012

Pedestrian Commuting in Louisiana, 2010-2012		
Geography	Walking Mode Share	% of pedestrians who are female
New Orleans	**5.27%**	**50.12%**
Baton Rouge	3.86%	49.76%
Bossier	2.85%	25.93%
Lake Charles	2.73%	62.09%
Kenner	2.11%	33.39%
Shreveport	1.98%	27.24%
Lafayette	1.93%	37.66%
Alexandria	1.47%	37.01%
Metairie	1.47%	36.20%
Monroe	1.08%	50.25%
Louisiana	**1.99%**	**42.82%**
South Region	**1.85%**	**42.60%**
United States	**2.80%**	**46.13%**
Notes	Louisiana cities selected were the only geographies for which data is available	
Source	U.S. Census Bureau, 2010-2012 American Community Survey 3-year estimates, Table B08006	

6.0 Conclusions

This section synthesizes the trends and data presented in this report and evaluates possible directions for future study, in order to promote New Orleans as a regional and national leader in active transportation.

6.1 Bicycle Activity in New Orleans

The American Community Survey, this count study, and recent national recognition[14] all make it clear that bicycling is on the rise in New Orleans. From 2010 to 2014, the number of bicyclists observed at the study's original twelve count locations has increased by 52%. When the data is extrapolated into Estimated Daily Traffic (EDT) figures to adjust for temporal variations, an overall 44% increase in bicycle activity at these sites is reported. This rapid growth over the last five years suggests that bicycling—whether to commute to work, as transportation for other trips, or as a recreational activity—is becoming more popular in the region, and that New Orleans' recent investments in creating a network of bikeways is facilitating this surge.

Among the core group of count sites, particularly high usage and strong growth has been observed among sites that have either dedicated bicycle infrastructure, or which serve as gateways to the Central Business District. At the ten 2013-2014 count locations, substantial increases in bicycling were observed at each of the count locations where new bicycle facilities were installed in the last year. New count locations were added, demonstrating the popularity of bicycling in and around the French Quarter, the importance of the Jefferson Davis Parkway Bridge as a non-motorized connection, and demand for bicycling in City Park, on Oretha Castle Haley Boulevard, and on Elysian Fields Avenue.

14 New Orleans was named a League of American Bicyclists' Bronze-level "Bicycle Friendly Community" in 2011

Important, positive trends in the composition of the region's bicyclists and their behavior have been identified over the five years of this study. More women are bicycling, which indicates that the perceived safety of riding is going up. The rate of helmet use, while still far below national leaders, has nearly doubled, while legal, right-way on-street travel has risen from 76% to 87%. This indicates that regional educational campaigns emphasizing correct travel orientation and safe cyclist behavior has positively affected behavioral change.

In addition, the development of the city's bicycle infrastructure network appears to be having a marked effect on both increasing user volumes and these positive shifts in user characteristics. Count locations where bikeways have been installed have higher estimated daily bicycle traffic, a larger share of female riders, higher helmet use rates, and higher rates of legal, on-street riding. Over time, changes in these statistics have happened more quickly and profoundly at locations with bikeways compared to those without.

Finally, these changes have corresponded with New Orleans' growing presence as a national bicycling leader, as corroborated by American Community Survey data: bicycling mode share is among the highest in the nation, and a clear leader among other cities in the south and in the rest of Louisiana.

6.2 Pedestrian Activity in New Orleans

Along with New Orleans' expansion of its bicycle network, pedestrian improvements have accompanied nearly all road projects over the last five years. Though the relationships between these improvements and pedestrian observation outcomes are less clear, it is apparent that New Orleans has the potential to be a vibrant walking city, and that in many locations, pedestrian activity is increasing.

Overall among continuing count locations, the number of pedestrians observed has increased by 53% from 2010 to 2014 (extrapolated to a 35% estimated increase in EDT). The strongest increases have been noted in the downtown area and on corridors (e.g. Esplanade Avenue and St. Claude Avenue) where all modes of travel are accommodated. Among the 2013-2014 count sites, pedestrian volumes increased at seven out of ten locations, and among new count sites, strong pedestrian presence was observed at both downtown/French Quarter locations (where pedestrians account for a substantial proportion of all users, including motor vehicles) and in revitalizing neighborhood commercial corridors.

At many count locations, there are significantly more pedestrians utilizing the corridor than bicyclists, reminding us that pedestrian improvements are just as important to the overall safety and completeness of our streets as bicycle infrastructure. Required ADA retrofits that have accompanied road reconstruction and resurfacing projects have provided benefits to pedestrians, but additional improvements to signalized and un-signalized intersections as well as sidewalk repairs are recommended in order to maximize the impact of these investments for all users.

The composition of pedestrians has remained relatively stable, with the percentage of women observed walking, pedestrians traveling on sidewalks, and demographic characteristics remaining roughly the same at the core continuing count sites from 2010 to 2014. However, there is safety in numbers, so as overall volumes of active users increase throughout the city, we may predict that the characteristics of users will begin to align more closely to the population overall.

New Orleans has slipped somewhat from its position as a national leader for pedestrian commuting according to the most recent national data, though it continues to rank above national, regional, and state averages for the last five years in the rate of commuters who walk to work. In order to encourage walking—whether to work, to other destinations, or simply to promote more physical activity among residents, the region must proactively plan for safer, more active communities by continuing to address pedestrian safe-

ty concerns, cultivating comfortable, interesting streetscapes, and pursuing policies that facilitate vibrant, mixed-use neighborhood corridors where people can live, work, and play.

6.3 Jefferson Davis Parkway Trail

The ongoing monitoring of the Jefferson Davis Parkway Trail continues to provide this study with strong, reliable data that indicate a steady overall increase in active transportation over time. Over the last four years, usership (both pedestrians and bicyclists) has increased by 43%. Over the four years of the device's operation, clear and stable temporal trends have been identified. Average Daily Traffic (ADT) is variable by season with the highest ADT volumes occurring during the spring season and the lowest occurring during the summer. Usership spikes sharply during festivals and sporting events in the Mid-City area and tends to be higher on weekends, but very seldom declines below about 300 users per day. Hourly patterns of use reveal relatively consistent use throughout daylight hours, with a peak in activity in the late afternoon and early evening. Predictable relationships exist between weather and *usership*, with the highest usership occurring on mild days with little or no rainfall. Importantly though, except in very extreme circumstances, inclement weather does not completely inhibit use. Regular trail users appear to exist year-round, regardless of temperature or precipitation.

The planned expansion of PBRI's electronic count program in 2014-2015, with the installation of up to five more continuous count devices (for either permanent or temporary installation) will significantly enhance our understanding of differences in walking and bicycling patterns across different locations, as well as provide greater insight into overall trends in active transportation use regionwide.

6.4 Evaluating Active Transportation in New Orleans: Policy Implications and Next Steps

Over the last five years, the New Orleans region has made significant progress toward becoming a more walkable, bikeable city. The city of New Orleans has expanded its bicycle infrastructure network by 140%, and as the PBRI count program shows, this expansion has been rewarded with increased bicycling and safer cyclist behavior, particularly in areas where such improvements have occurred. Neighboring Jefferson Parish has adopted a bicycle master plan to guide the development of their own bikeway network, which outlines cyclist priorities and promotes a range of context-sensitive infrastructure solutions well-suited to more suburban areas of the metro area. Meanwhile, the city of New Orleans and the Regional Planning Commission have adopted complete streets policies that have begun to institutionalize consideration of high-quality accommodation for non-motorized road users whenever roadway projects are planned and developed.

As this report demonstrates, change in who walks and bikes, where they travel, and how does not occur evenly, predictably, or instantly: where new facilities are constructed, user counts may increase immediately reflecting latent demand among more hesitant users, or it may take a few years for impacts to be fully realized as residents and commuters adjust their transportation habits in response to new options. In addition, it is important to note than disconnected segments of bicycle facilities are likely not sufficient to encourage additional cyclists; impacts on usership also depend on the development of a contiguous network of linked facilities, creating safer, more comfortable access to various neighborhoods and destinations.

Over the last five years, New Orleans' bicycling network has developed from a series of largely disjointed bike-friendly corridors to a reasonably well-connected series of neighborhood links and cross-town connections. More such connections need to be made; the network is still incomplete and some neighborhoods are better served than others. National data indicate that New Orleans leads the state, as well as the South region, in active transportation, and is an emerging leader nationally, ranked high for walking and bicycling mode share. As more and more connections between existing facilities for cyclists are developed, and the region focuses (through the implementation of the Strategic Highway Safety Plan) on improving pedestrian safety, New Orleans has the opportunity to maintain and improve its reputation as a walkable, bikeable city.

In addition to infrastructure and policy change, the continued development of regional campaigns to educate citizens and enforce laws pertaining to pedestrians and bicyclists, as well as the growth of data-focused programs like the Pedestrian Bicycle Resource Initiative which aim to provide information the region needs to evaluate its successes and identify opportunities for future growth, have contributed to the current state of walking and bicycling in the New Orleans area. Decision-making processes regarding the prioritization and placement of future bicycle facilities, as well as improvements to the pedestrian environment, should take quantitative data sources into account. Timely collection of multi-modal data to evaluate the effects of individual projects, assess potential demand for various transportation modes, and identify overall trends in usership and behavior is essential to promoting a data-driven planning culture and fostering economically competitive, vibrant communities.

This is particularly essential as the city, region, and state endeavor to fulfill the aims of a complete streets policy approach, which in many cases can be expected to challenge the design and engineering status-quo and demand innovation and experimentation. Institutionalization of routine multi-modal data collection as part of the planning process—and integration of that data in decision-making—is an essential step to advancing and prioritizing active transportation goals. In addition, utilization of existing local and national datasets, planning resources, and design guides, as well as a willingness to find creative new solutions that enhance opportunities for active transportation will enable this region to take the next step toward becoming a national leader in walking and bicycling and achieve a safer, healthier, more equitable, and ultimately more sustainable city and region.

APPENDICES

Appendix A: 2014 Manual Count Site Characteristics

2014 Manual Count Site Characteristics							
Site #	**Site Name**	**Neighborhood**	**Facility Type**	**On-Street Parking**	**Bicycle Infrastructure Improvements**	**Year Installed**	**CBD Gate-way**
1	Gentilly Blvd	Gentilly	4-Lane, Divided	None	Bike Lanes	2010	
2	Esplanade Ave	Mid-City	2-Lane, Divided	Both Sides	Bike Lanes	2013	
3	Harrison Ave	Lakeview	4-Lane, Divided	Both Sides	Shared lane markings; Connecting segment with bike lanes	2014; 2009	
4	St. Claude Ave	Bywater	4-Lane, Divided	Both Sides	Bike Lanes	2008	
5	Royal St	Marigny	1-lane, One-Way	Both Sides			
6	Camp St	Lower Garden District	2-Lane, One Way	One Side	Connecting segment with Shared Lane Markings	2010	X
7	St. Charles Ave	Central City	4-Lane, Divided	Both Sides			X
8	Decatur St	French Quarter	1-lane, One-Way	One Side	Connecting segment with Bike Lane/Shared Lane Marking	2013	
9	Magazine St (Uptown)	Uptown	2-Lane	None			
10	Magazine St	Lower Garden District	2-Lane, One Way	Both Sides	Shared Lane Markings	2010	X
11	Simon Bolivar Ave	Central City	4-Lane, Divided	Both Sides	Connecting segment with bike lanes	2013; 2010	X
12	Carondelet St	Central City	2-Lane, One Way	Both Sides*			X
13	Metairie Hammond Hwy	Bucktown	2-Lane	None			
14	Papworth Ave	Metairie	2-Lane	None	Shared Lane Markings	2013	
15	St. Bernard Ave	Seventh Ward	2-Lane, Divided	Both Sides	Bike Lanes	2013	
16	Basin St	Treme/Lafitte	4-Lane, Divided	Both Sides	Bike Lane/Shared Lane Markings/Shared bike and bus lane	2013	
17	Nashville Ave	Fountainbleau	2-Lane, Divided	Both Sides	Bike Lanes	2013	
18	St. Charles Avenue (Uptown)	Uptown	2-Lane, Divided	Both Sides	Bike Lanes	2012	
19	S. Carrollton Ave	East Carrollton/Audubon	2-Lane, Divided	Both Sides	Bike Lanes	2010	
20	OC Haley Blvd	Central City	4-Lane, Divided	Both Sides			X

21	Pace Blvd	Whitney	2-Lane, Divided	Both Sides	Bike Lanes (Under Construction at time of count)	2014	
22	Loyola Ave	CBD	6-Lane, Divided	One Side	Bike Lanes	2013	X
23	S. Broad St	Tulane/Gravier	6-Lane, Divided	Both Sides			
24	Tulane Ave	Tulane/Gravier	6-Lane, Divided	Both Sides			
25	St. Claude Bridge	Bywater/Holy Cross	4-Lane, Divided Bridge	None	Shared Lane Markings, Connecting segment with bike lanes	2008	
26	Broad St Bridge	Tulane/Gravier	4-Lane, Divided Bridge	None			
27	Bonnabel Blvd	Jefferson Parish	4-Lane, Divided	Both Sides			
28	Cleary Ave	Jefferson Parish	2-Lane	None			
29	Metairie Rd	Lakewood	2-Lane	None	Shared Lane Markings	2014	
30	Jeff Davis Parkway Bridge	Mid City	4-Lane, Divided Bridge	None	Separated Shared-Use Trail	1981	
31	Decatur St (Jackson Square)	French Quarter	2-Lane	None	Shared Lane/Bike Lane	2013	
32	Freret St	Freret	2-Lane	Both Sides	Shared Lane Markings	2014	
33	MLK Blvd	BW Cooper	4-Lane, Divided	Both Sides	Bike Lanes	2013	
34	Royal St (French Quarter)	French Quarter	1-lane, One-Way	One Side	Shared Lane Markings	2012	
35	Mirabeau Ave	Filmore	4-Lane, Divided	Both Sides	Bike Lanes	2011	
36	S. Peters St	CBD	2-Lane, One Way	Both Sides			
37	Baronne St (Baronne)	Central City	2-Lane, One Way	Both Sides			X
38	N. Rampart St	French Quarter	4-Lane, Divided	Both Sides			
39	Golf Dr	City Park	2-lane	None	Shared Lane Markings	2008	
40	Annunciation St	LGD	2-lane	Both Sides			X
41	Elysian Fields Ave	Marigny	6-Lane, Divided	Both Sides			
42	Canal St	CBD/French Quarter	6-Lane, Divided	Both Sides			
	Notes:	CBD is the Central Business District. FQ is French Quarter. LGD is Lower Garden District. Orleans Parish neighborhood classification derived from Greater New Orleans Community Data Center (GNOCDC, 2002).					
		*One side of the block observed on Carondelet has an off-street parking strip immediately perpendicular to the road.					

Appendix B: Manual Count Observation Protocol

Pedestrian and Bicycle Observation Protocol

Rationale

In 2009-2011, the city of New Orleans Department of Public Works and the State of Louisiana Department of Transportation installed approximately fifty miles of bikeways in New Orleans. These bikeways run through several neighborhoods in New Orleans. We would like to examine the effect of bikeways on ridership and pedestrian behavior in New Orleans.

Summary

This data collection method was created by Kathryn Parker, MPH. The data collection sheet is based upon examples of other pedestrian and bicycle data collection methods from the United States Department of Transportation.[1] The collection method is based upon two individuals counting bicycle riders on the street, sidewalk and neutral ground before and after the installation of bicycle facilities. Pedestrian counts will also be conducted. The data will be analyzed to find the number of cyclists by direction of travel, specific location, (i.e. street, sidewalk or neutral ground) gender, race and approximate age.

Observation Areas

Each group of streets will have different observation areas. These areas will be provided on maps we give to you.

Two observers should stand or sit at the designated location as indicated by the observation area maps. One observer should be located at each side of the street, within eyesight of the other observer.

Training and Certification

All observers will read this protocol with the trainer and then practice near the corner of N. Rampart and Canal Streets. Observers will be certified with 80% agreement with the trainer after 30 minutes of observation.

Codes and Recoding

Intersection: Usually, this will be Broad and Lafitte; etc.

Temperature: Observers will leave this section blank. The temperature will be filled out by the project manager using the average hour weather data from www.wunderground.com

Rain: Observers will record if there are any rain showers.

Observer Name: Observers will record their first and last name

Hour: example: 7:00-8:00am will read: 7:00am. Only one hour should be indicated per time slot. If the observer sees that they are running out of room, they may use a time slot for every half hour or less.

Comments: Observers should note if there are any unusual circumstances affecting lane usage, such as cars parked on the bike lane or unsafe riding conditions. It should also be noted if another observer substitutes counting by adding their name and the time they observed under comments (i.e., for a bathroom break).

1 [1]Schneider, Robert; Patton, Robert; Toole, Jennifer; Raborn, Craig. Pedestrian and Bicycle Data Collection in United States Communities: Quantifying Use, Surveying Users, and Documenting Facility Extent. January 2005. Pedestrian and Bicycle Information Center,

Appendix C: Manual Count Observation Recording Templates

Bicycle Observation Tally Form

Observer Name: ______________________________ Intersection: ____________________________________

Day: ________ Date: ________ Temperature: _____ Rain: Y/N

Hour	Street								Neutral Ground				Sidewalk				Helmet?
	Women		Girls		Men		Boys		Women	Girls	Men	Boys	Women	Girls	Men	Boys	
	RW	WW	RW	WW	RW	WW	RW	WW									
	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	
_:_ _	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	
_:_ _	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	
_:_ _	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	

Comments:

Appendix C: Manual Count Observation Recording Templates

Pedestrian Observation Tally Form

Observer Name: ______________________________ Intersection: ______________________________

Day: ________ Date: ________ Temperature: _____ Rain: Y/N

	Street				Neutral Ground				Sidewalk			
Hour	Women	Girls	Men	Boys	Women	Girls	Men	Boys	Women	Girls	Men	Boys
	W	W	W	W	W	W	W	W	W	W	W	W
__:__	B	B	B	B	B	B	B	B	B	B	B	B
	O	O	O	O	O	O	O	O	O	O	O	O
	W	W	W	W	W	W	W	W	W	W	W	W
__:__	B	B	B	B	B	B	B	B	B	B	B	B
	O	O	O	O	O	O	O	O	O	O	O	O
	W	W	W	W	W	W	W	W	W	W	W	W
__:__	B	B	B	B	B	B	B	B	B	B	B	B
	O	O	O	O	O	O	O	O	O	O	O	O
	W	W	W	W	W	W	W	W	W	W	W	W
__:__	B	B	B	B	B	B	B	B	B	B	B	B
	O	O	O	O	O	O	O	O	O	O	O	O

Comments:

Appendix D: Manual Count Weather Data

2014 Manual Count Weather Data								
			Temperature (°F)			Precip.	Observed Weather Events	Degrees difference between 2014 average temperature and 2013 average temperature
#	Site	Count Date	High	Average	Low	(in)		
1	Gentilly Blvd	4/1/2014	79	69	59	0		-2
		4/3/2014	81	75	69	0		-3
2	Esplanade Ave	4/17/2014	66	58	50	T	Rain	-21
		5/7/2014	85	78	70	0		-4
3	Harrison Ave	4/9/2014	71	59	46	0		-6
		4/10/2014	73	62	51	0		10
4	St. Claude Ave	4/22/2014	78	70	61	T		-6
		4/24/2014	83	73	63	0		0
5	Royal St	4/8/2014	70	62	53	0.11	Rain-Thunderstorm	-11
		4/9/2014	71	59	46	0		-12
6	Camp St (Gateway)	4/29/2014	84	78	71	0.12	Rain-Thunderstorm	2
		5/1/2014	73	66	58	0		-9
7	St. Charles Ave (Gateway)	5/14/2013	86	73	60	T	Rain-Thunderstorm	4
		5/15/2013	75	65	54	0		-7
8	Decatur St	4/29/2014	84	78	71	0.12	Rain-Thunderstorm	2
		4/30/2014	74	69	63	T	Rain-Thunderstorm	1
9	Magazine St (Uptown)	4/22/2014	78	70	61	T		-6
		4/23/2014	83	72	61	0		7
10	Magazine St (Gateway)	5/13/2014	87	80	73	0.02	Rain	10
		5/14/2014	86	73	60	T	Rain-Thunderstorm	4
11	Simon Bolivar Ave (Gateway)	5/6/2014	83	73	62	0		7
		5/8/2014	86	79	71	0		5
12	Carondelet St (Gateway)	4/23/2014	83	72	61	0		2
		4/24/2014	83	73	63	0		0
13	Metairie Hammond Hwy	4/16/2014	63	55	47	0		-14
		4/17/2014	66	58	50	T	Rain	-17

14	Papworth Ave	4/3/2014	81	75	69	0		7
		4/8/2014	70	62	53	0.11	Rain-Thunderstorm	5
15	St. Bernard Ave	3/25/2014	68	59	50	0		2
		3/27/2014	69	62	54	0.14	Rain-Thunderstorm	2
16	Basin St	4/1/2014	79	69	59	0		5
		4/2/2014	81	73	65	0		16
17	Nashville Ave	3/25/2014	68	59	50	0		12
		3/26/2014	58	53	47	T		-2
18	St. Charles Ave (Uptown)	3/20/2014	74	66	58	0		0
		4/15/2014	61	54	47	0.12	Rain	-7
19	S. Carrollton Ave	5/6/2014	83	73	62	0		-4
		5/8/2014	86	79	71	0		7
20	OC Haley Blvd	3/18/2014	62	52	42	0		
		3/19/2014	76	62	47	0		
21	Pace Blvd	5/20/2014	86	78	69	0		
		5/21/2014	87	79	70	0		
22	Loyola Ave	4/15/2014	61	54	47	0.12	Rain	-16
		4/16/2014	63	55	47	0		0
23	S. Broad St	4/30/2014	74	69	63	T	Rain-Thunderstorm	8
		5/1/2014	73	66	58	0		7
24	Tulane Ave	5/13/2014	87	80	73	0.02	Rain	31
		5/15/2013	75	65	54	0		7
25	St. Claude Bridge	5/14/2013	86	73	60	T	Rain-Thunderstorm	4
		5/15/2013	75	65	54	0		-8
26	Broad St Bridge	6/3/2014	83	78	73	T	Rain	1
		6/4/2014	87	80	73	0		4
27	Bonnabel Blvd	5/27/2014	88	81	74	0.05		
		5/28/2014	80	76	71	1.52	Rain-Thunderstorm	
28	Cleary Blvd	6/3/2014	83	78	73	T	Rain	
		6/4/2014	87	80	73	0		

29	Metairie Rd	4/2/2014	81	73	65	0		
		4/30/2014	74	69	63	T	Rain-Thunderstorm	
30	Jeff Davis Bridge	3/27/2014	69	62	54	0.14	Rain-Thunderstorm	
		4/22/2014	78	70	61	T		
31	Decatur St (Jackson Square)	5/20/2014	86	78	69	0		
		5/22/2014	88	78	68	0		
32	Freret St	3/26/2014	58	53	47	T		
		4/16/2014	63	55	47	0		
33	MLK Blvd	5/20/2014	86	78	69	0		
		5/21/2014	87	79	70	0		
34	Royal St	5/21/2014	87	79	70	0		
		5/22/2014	88	78	68	0		
35	Mirabeau Ave	5/27/2014	88	81	74	0.05		
		5/29/2014	87	79	71	0.09	Rain-Thunderstorm	
36	S. Peters St	5/7/2014	85	78	70	0		
		5/28/2014	80	76	71	1.52	Rain-Thunderstorm	
37	Baronne St (Gateway)	4/9/2014	71	59	46	0		
		4/23/2014	83	72	61	0		
38	N. Rampart St	5/28/2014	80	76	71	1.52	Rain-Thunderstorm	
		5/29/2014	87	79	71	0.09	Rain-Thunderstorm	
39	Golf Dr	6/3/2014	83	78	73	T	Rain	
		6/5/2014	88	81	74	0		
40	Annunciation St	6/4/2014	87	80	73	0		
		6/5/2014	88	81	74	0		
41	Elysian Fields Ave	5/27/2014	88	81	74	0.05		
		5/28/2014	80	76	71	1.52	Rain-Thunderstorm	
42	Canal St	6/3/2014	83	78	73	T	Rain	
		6/4/2014	87	80	73	0		

Source: The Weather Undergound (www.wunderground.com)

Appendix E: PBRI Extrapolation Methodology

Manual Counts were performed at 42 sites in Orleans and Jefferson Parish, LA. Each count site represents a total of four observation periods: two AM counts (7-9 AM) and two PM counts (4-6 PM). For all sites, two volunteers observed from opposite sides of the street, creating a "plane" of observation. Observers differentiated between pedestrians and bicyclists and noted gender, race, age group, helmet use, and travel orientation. With the data collected by PBRI student workers, the following extrapolation method, derived from the National Bicycle and Pedestrian Documentation (NBPD) Project, was used to estimate daily, weekly, monthly, and annual traffic volumes of pedestrians and bicyclists.

PBRI Extrapolation Methodology

- Divide counts into AM and PM sessions. There should be two, 2-hour counts for each session.
- Come up with separate pedestrian and bicycle averages for AM and PM sessions. (i.e. for AM bicycle average, add both 2-hour AM bicycle counts and divide by the amount of hours observed, which should be four.)
- Add the pedestrian and bicycle averages together for a total user average. Then, multiply this number by 1.05 (this multiplier accounts for traffic between 11pm and 6am which is rarely manually counted and assumed to make up 5% of all daily volume).
- To calculate the daily volume, note the time (hours) that were observed for AM and PM counts. These should always be 7-9am for AM counts and 4-6pm for PM counts. Also note the month of the year. Use the NBPD Project extrapolation formula to find the corresponding adjustment factors for the time period and month. For our purposes, all manual counts are PED trails and should have been observed on a weekday. Divide total user averages by their appropriate adjustment factor to get the daily user average.
- For weekly volumes, determine the days that the AM and PM counts were observed. They may be the same or different. Use NBPD Project methodology to find the correct adjustment factor(s) for the AM and PM counts. If, for example, one AM count (2 hours) was taken on a Tuesday and the other count (2 hours) was taken on a Thursday, take the average of the two adjustment factors and apply it. Divide the AM and PM session daily user averages by their appropriate adjustment factor to get the weekly averages for AM and PM sessions.
- At this point, average the weekly user averages for the AM and PM sessions together since all unique data attributes have now been accounted for.
- Get the monthly user average by multiplying the combined AM and PM weekly average by 4.33 (the number of weeks in a year).
- In order to get the annual estimate, note the month that the counts were observed. This is done to account for seasonal variation in use. Use NBPD Project methodology to find the respective adjustment factor for the month observed under our climate pattern and divide the monthly user average by this number. NBPD methodology provides 3 climates to choose from. For New Orleans, choose "very hot summer, mild winter." Climate is accounted for because it affects monthly patterns.
- To get monthly or daily averages from the annual estimate above, simply divide by 12 or 365 respectively.
- In order to get individual pedestrian and bicycle averages, multiply the desired average (daily, weekly, monthly, or annual) by the pedestrian or bicycle percentage observed from the manual counts at that site.

Appendix F: NBPD Project Count Adjustment Detailed Explanation

NATIONAL BICYCLE & PEDESTRIAN DOCUMENTATION PROJECT : Count Adjustment Factors (March 2009)

Available at http://bikepeddocumentation.org/downloads/

While more year-long automatic count data is needed from different parts of the county, especially for pedestrians and on-street bicyclists, enough data now exists to allow us to adjust counts done almost any period on multi-use paths and pedestrian districts to an annual figure.

All percentages in the following tables represent the percentage of the total period (day, week, or month).

How to Use This Data

The factors in the following tables are designed to extrapolate daily, monthly, and annual users based on counts done during any period of a day, month, or year. The factors currently are designed to be used by (a) multi-use pathways (PATH) and (b) higher density pedestrian and entertainment areas (PED).

How Many Counts Can it Be Based On?

Given the variability of bicycle and pedestrian activity, we strongly encourage that all estimates be based on the average of at least two (2) and preferably three (3) counts during the same time period and week, especially for lower volume areas. For example, counts could be done from 2-4pm on consecutive weekdays (Tuesday – Thursday) during the same week, or, in consecutive weeks. Weekday counts should always be done Tuesday through Thursday, and never on a holiday. Weekend counts can be done on either day.

Bicyclists versus Pedestrians

The factors used in these formulas are for combined bicyclist and pedestrian volumes. Once you have calculated your total daily, monthly, or annual volume, you can simply multiple the total by the percent breakdown between bikes and pedestrians based on your original count information.

Start with the Hour Count

Once you have collected your count information and developed an average weekday and weekend count volume for bicyclists and/or pedestrians, pick any one (1) hour period from either of those days.

Adjustment Factor

Your next step is to multiply those counts by 1.05.

Sample #1

Average 1 hour weekday count: 236 bikes/peds x 1.05 = 248

Average 1 hour weekend day count: 540 bikes/peds x 1.05 = 567

This adjustment factor is done to reflect the bicyclists/pedestrians who use the facility between 11pm and 6am, or, about 5% of the average daily total. The count formulas are all based on total counts between 6am and 10pm, since many available counts only cover those periods. If you are certain your facility gets virtually no use between those hours, you can forgo this step.

Calculate Daily Weekday and Weekend Daily Total

Identify the weekday and weekend hour your counts are from in Table 1 below. Be sure to use the PATH column for all multi-use paths, and the PED column for all higher density pedestrian areas with some entertainment uses such as restaurants. Be sure to select the correct time of year (April- September, or, October-March) as well.

Sample #2: done in June on a multiuse path (weekday = 4-5pm, weekend day = 12-1pm):

Adjusted weekday hourly count = 248/.07 = 3,542 daily users

Adjusted weekend day hourly count = 567/.1= 5,670 daily users

Calculating Average Weekly Volumes

We need to adjust these figures based on the day of the week. See table 2 below. Find the day of the week your counts were done, and factor them by that percent. If you did multiple counts on different days of the week, then take the average of those factors.

Sample #3: counts were done on a Tuesday and a Saturday.

Adjusted weekday count = 3,542/.13 = 27,246 average weekly users

Adjusted weekend count = 5,670/.18 = 31,500

Add these two figures together, and divide by 2:
27,246+31,500=58,746/2 = 29,373 people

The average weekly volumes for that month are 29,373 people.

Convert to Monthly Volumes

To convert from average weekly volumes to an average monthly volume, multiply the average weekly volume by the average number of weeks in a month (4.33 weeks).

Sample #4: 29,373 x 4.33 = 127,282 people.

This is the average monthly volume for the month the counts were conducted.

Convert to Annual Totals

To convert from the average monthly volume for the month the counts were taken into an annual total, divide the average monthly figure by the factor from Table 3 for the month the counts were conducted. Use the general climate zones described. Some climate zone types are not included.

Sample #5: counts were done in June in a moderate climate zone.

Average monthly volumes = 127,282/.08 = 1,591,037 people.

Based on these sample figures, it is estimated that almost 1.6 million people use the pathway annually

Average Monthly and Daily Figures

To identify the average monthly and daily figures, simply divide the annual figure by 12 (for month) or by 365 (for daily figures).

Monthly average = 1,591,037/12 = 132,586 people

Daily Average = 1,591,037/365 = 4,359 people

Table 1 -- Hourly Adjustment Factors

Multi-use paths and pedestrian entertainment areas by season

	April - September					October - March			
	6am - 9pm					6am - 9pm			
	---- PATH------		-----PED-----			---- PATH------		-----PED-----	
	wkdy	wkend	wkdy	wkend		wkdy	wkend	wkdy	wkend
600	2%	1%	1%	1%	600	2%	1%	1%	1%
700	4%	3%	2%	1%	700	4%	2%	2%	1%
800	7%	6%	4%	3%	800	6%	6%	3%	2%
900	9%	9%	5%	3%	900	7%	10%	5%	4%
1000	9%	9%	6%	5%	1000	9%	10%	6%	5%
1100	9%	11%	7%	6%	1100	9%	11%	8%	8%
1200	8%	10%	9%	7%	1200	9%	11%	9%	10%
1300	7%	9%	9%	7%	1300	9%	10%	10%	13%
1400	7%	8%	8%	9%	1400	9%	10%	9%	11%
1500	7%	8%	8%	9%	1500	8%	10%	8%	8%
1600	7%	7%	7%	9%	1600	8%	8%	7%	7%
1700	7%	6%	7%	8%	1700	7%	5%	6%	6%
1800	7%	5%	7%	8%	1800	6%	3%	7%	6%
1900	5%	4%	7%	8%	1900	4%	2%	7%	6%
2000	4%	3%	7%	8%	2000	2%	1%	6%	6%
2100	2%	2%	6%	8%	2100	2%	1%	5%	5%

Table 2 -- Daily Adjustment Factors

Note: Holidays use weekend rates

MON	14%
TUES	13%
WED	12%
THURS	12%
FRI	14%
SAT	18%
SUN	18%

Table 3 -- Monthly Adjustment Factors by Climate Area

	Climate Region		
Month	**Long Winter, Short Summer**	**Moderate Climate**	**Very hot summer, Mild Winter**
JAN	3%	7%	10%
FEB	3%	7%	12%
MAR	7%	8%	10%
APR	11%	8%	9%
MAY	11%	8%	8%
JUN	12%	8%	8%
JUL	13%	12%	7%
AUG	14%	16%	7%
SEP	11%	8%	6%
OCT	6%	6%	7%
NOV	6%	6%	8%
DEC	3%	6%	8%

Appendix G: Observed User Characteristics by Count Location

Bicyclist Composition, by Count Site, 2014														
		Gender		Race			Age Group		Helmet Use	Travel Orientation				
Site #	Site	Female	Male	White	Black	Other	Adult	Youth	%	Street-Right Way	Street-Wrong Way	Sidewalk	Neutral Ground	Bike Lane Use (of on-street riders)
1	Gentilly Blvd	24.3%	75.7%	45.6%	52.4%	1.9%	93.2%	6.8%	25.2%	78.6%	9.7%	11.7%	0.0%	95.6%
2	Esplanade Ave	42.7%	57.0%	86.9%	11.1%	1.9%	99.7%	0.3%	24.5%	98.1%	1.3%	0.6%	0.0%	98.4%
3	Harrison Ave	27.6%	72.4%	82.8%	10.3%	6.9%	100.0%	0.0%	58.6%	82.8%	3.4%	13.8%	0.0%	
4	St. Claude Ave	27.8%	72.2%	55.6%	43.3%	1.2%	98.4%	1.6%	9.1%	79.8%	8.3%	11.5%	0.4%	96.8%
5	Royal St (Marigny)	29.2%	70.8%	93.4%	5.2%	1.4%	100.0%	0.0%	16.5%	92.9%	4.7%	2.4%		
6	Camp St (Gateway)	33.0%	67.0%	83.0%	10.4%	6.7%	100.0%	0.0%	23.3%	89.3%	1.1%	9.6%		
7	St. Charles Ave (Gateway)	33.1%	66.9%	79.8%	15.7%	4.4%	100.0%	0.0%	22.2%	92.3%	0.0%	7.7%	0.0%	
8	Decatur St	34.1%	65.9%	81.9%	11.9%	6.2%	100.0%	0.0%	16.4%	90.7%	3.1%	6.2%		
9	Magazine St (Uptown)	41.1%	58.9%	84.4%	12.2%	3.3%	100.0%	0.0%	24.4%	62.2%	3.3%	34.4%		
10	Magazine St (Gateway)	35.9%	64.1%	86.1%	9.0%	4.9%	100.0%	0.0%	17.9%	93.3%	2.7%	4.0%		
11	Simon Bolivar Ave (Gateway)	13.6%	86.4%	29.9%	67.4%	2.7%	99.1%	0.9%	15.4%	64.3%	11.8%	24.0%	0.0%	
12	Carondelet St (Gateway)	26.7%	73.3%	75.2%	15.2%	9.5%	99.0%	1.0%	12.4%	90.5%	7.6%	1.9%		
13	Metairie Hammond Hwy	13.8%	86.2%	86.2%	10.3%	3.4%	96.6%	3.4%	72.4%	79.3%	20.7%	0.0%		
14	Papworth Ave	33.3%	66.7%	66.7%	33.3%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%		
15	St. Bernard Ave	11.4%	88.6%	45.6%	54.4%	0.0%	97.4%	2.6%	8.8%	84.2%	11.4%	4.4%	0.0%	95.4%
16	Basin St	28.2%	71.8%	70.1%	26.1%	3.7%	99.2%	0.8%	26.6%	88.0%	7.5%	4.1%	0.4%	91.7%
17	Nashville Ave	39.9%	60.1%	83.3%	7.2%	9.4%	97.1%	2.9%	50.0%	93.5%	4.3%	2.2%	0.0%	97.0%

18	St. Charles Ave (Uptown)	28.1%	71.9%	86.8%	8.7%	4.5%	99.2%	0.8%	31.0%	96.3%	1.7%	0.4%	1.7%	97.5%
19	S. Carrollton Ave	22.4%	77.6%	74.3%	19.6%	6.1%	96.3%	3.7%	24.8%	92.5%	1.9%	5.1%	0.5%	98.5%
20	Oretha Castle Haley Blvd	19.0%	81.0%	51.5%	44.8%	3.7%	98.8%	1.2%	15.3%	73.0%	9.2%	17.8%	0.0%	
21	Pace Blvd	22.7%	77.3%	36.4%	63.6%	0.0%	100.0%	0.0%	18.2%	77.3%	9.1%	13.6%		
22	Loyola Ave	19.8%	80.2%	52.3%	41.4%	6.3%	98.6%	1.4%	18.5%	81.1%	7.7%	10.4%	0.9%	98.0%
23	S. Broad St	14.8%	85.2%	34.4%	54.7%	10.9%	99.2%	0.8%	6.3%	59.4%	3.1%	37.5%		
24	Tulane Ave	17.6%	82.4%	51.0%	44.1%	4.9%	100.0%	0.0%	16.7%	66.7%	2.9%	30.4%	0.0%	
25	St. Claude Bridge	30.3%	69.7%	67.7%	31.3%	1.0%	100.0%	0.0%	12.1%	62.6%	4.0%	33.3%		
26	Broad St Bridge	3.4%	96.6%	52.5%	40.7%	6.8%	100.0%	0.0%	10.2%	67.8%	10.2%	22.0%		
27	Bonnabel Blvd	25.0%	75.0%	83.3%	16.7%	0.0%	100.0%	0.0%	8.3%	100.0%	0.0%	0.0%		
28	Cleary Ave	10.8%	89.2%	32.4%	59.5%	8.1%	100.0%	0.0%	2.7%	81.1%	0.0%	18.9%		
29	Metairie Rd	16.7%	83.3%	91.7%	8.3%	0.0%	100.0%	0.0%	45.8%	58.3%	16.7%	25.0%		
30	Jeff Davis Pkwy Bridge	28.7%	71.3%	78.5%	13.5%	8.0%	100.0%	0.0%	33.6%	4.8%	0.0%	0.3%	94.8%	
31	Decatur St (Jackson Square)	27.2%	72.8%	76.3%	19.2%	4.5%	99.6%	0.4%	13.3%	93.7%	1.3%	5.0%		30.1%
32	Freret St	28.7%	71.3%	73.6%	23.0%	3.4%	96.6%	3.4%	21.9%	77.0%	0.6%	22.5%		
33	MLK Blvd	9.4%	90.6%	31.8%	60.0%	8.2%	100.0%	0.0%	9.4%	77.6%	12.9%	9.4%	0.0%	100.0%
34	Royal St (French Quarter)	31.1%	68.9%	76.8%	18.6%	4.6%	100.0%	0.0%	10.4%	90.4%	7.1%	2.5%		
35	Mirabeau Ave	17.6%	82.4%	52.9%	47.1%	0.0%	82.4%	17.6%	41.2%	64.7%	11.8%	23.5%	0.0%	76.9%
36	S. Peters St	31.6%	68.4%	78.9%	10.5%	10.5%	100.0%	0.0%	10.5%	68.4%	21.1%	10.5%		
37	Baronne St (Gateway)	25.5%	74.5%	82.4%	17.6%	0.0%	100.0%	0.0%	25.5%	76.5%	11.8%	11.8%		
38	N. Rampart St	22.9%	77.1%	59.0%	35.2%	5.7%	97.1%	2.9%	5.7%	82.9%	4.8%	11.4%	1.0%	
39	Golf Dr	32.8%	67.2%	92.9%	5.5%	1.6%	98.9%	1.1%	48.6%	99.5%	0.5%	0.0%		
40	Annunciation St	22.0%	78.0%	64.4%	17.8%	17.8%	100.0%	0.0%	16.1%	78.8%	11.0%	10.2%		
41	Elysian Fields Ave	25.6%	74.4%	80.0%	18.1%	1.9%	99.4%	0.6%	8.1%	88.1%	3.1%	8.8%	0.0%	
42	Canal St	25.2%	74.8%	60.9%	23.5%	15.7%	99.6%	0.4%	18.7%	60.9%	8.7%	10.4%	20.0%	
	All Sites	**27.27%**	**72.71%**	**70.98%**	**23.95%**	**5.07%**	**99.1%**	**0.9%**	**20.30%**	**80.99%**	**4.73%**	**9.17%**	**5.11%**	

Pedestrian Composition, by Count Site, 2014											
		Gender		Race			Age Group		Travel Orientation		
Site #	Site	Female	Male	White	Black	Other	Adult	Youth	Sidewalk	Street	Neutral Ground
1	Gentilly Blvd	34.4%	65.6%	9.7%	87.1%	3.2%	97.8%	2.2%	94.6%	5.4%	0.0%
2	Esplanade Ave	45.9%	54.1%	65.9%	31.2%	2.9%	96.7%	3.3%	82.4%	16.9%	0.6%
3	Harrison Ave	47.4%	52.6%	84.2%	9.4%	6.4%	93.2%	6.8%	83.3%	8.5%	8.1%
4	St. Claude Ave	37.0%	63.0%	15.0%	82.3%	2.7%	88.2%	11.8%	82.7%	10.2%	7.1%
5	Royal St (Marigny)	34.5%	65.5%	88.0%	11.2%	0.8%	98.6%	1.4%	93.3%	6.7%	
6	Camp St (Gateway)	32.4%	67.6%	68.6%	28.6%	2.8%	98.3%	1.7%	95.8%	4.2%	
7	St. Charles Ave (Gateway)	36.0%	64.0%	67.1%	23.7%	9.3%	98.9%	1.1%	90.1%	1.1%	8.8%
8	Decatur St	46.3%	53.7%	79.5%	13.1%	7.4%	98.7%	1.3%	98.7%	1.3%	
9	Magazine St (Uptown)	64.0%	36.0%	91.0%	6.2%	2.8%	95.8%	4.2%	99.7%	0.3%	
10	Magazine St (Gateway)	34.9%	65.1%	71.8%	22.8%	5.4%	99.2%	0.8%	96.3%	3.7%	
11	Simon Bolivar Ave (Gateway)	24.8%	75.2%	8.7%	88.5%	2.8%	97.4%	2.6%	87.7%	4.2%	8.1%
12	Carondelet St (Gateway)	42.9%	57.1%	53.8%	36.1%	10.1%	95.0%	5.0%	91.6%	8.4%	
13	Metairie Hammond Hwy	11.1%	88.9%	83.3%	0.0%	16.7%	94.4%	5.6%	11.1%	88.9%	
14	Papworth Ave	39.5%	60.5%	76.3%	13.2%	10.5%	92.1%	7.9%	97.4%	2.6%	
15	St. Bernard Ave	32.7%	67.3%	4.2%	95.2%	0.6%	88.8%	11.2%	92.9%	5.4%	1.6%
16	Basin St	38.6%	61.4%	48.7%	46.5%	4.8%	94.2%	5.8%	88.7%	8.0%	3.4%
17	Nashville Ave	63.5%	36.5%	77.8%	17.5%	4.8%	96.8%	3.2%	95.2%	4.8%	0.0%
18	St. Charles Ave (Uptown)	50.0%	50.0%	84.9%	11.1%	4.0%	98.2%	1.8%	70.6%	0.5%	28.9%
19	S. Carrollton Ave	56.2%	43.8%	56.2%	36.5%	7.3%	82.9%	17.1%	77.5%	1.9%	20.6%
20	Oretha Castle Haley Blvd	9.2%	90.8%	26.0%	69.1%	4.9%	100.0%	0.0%	93.1%	6.4%	0.4%
21	Pace Blvd	46.3%	53.7%	53.7%	46.3%	0.0%	95.1%	4.9%	75.6%	24.4%	
22	Loyola Ave	30.6%	69.4%	38.5%	52.5%	9.0%	98.5%	1.5%	93.2%	4.2%	2.6%
23	S. Broad St	34.2%	65.8%	14.4%	78.1%	7.6%	97.0%	3.0%	95.3%	2.3%	2.5%
24	Tulane Ave	37.4%	62.6%	33.3%	63.4%	3.3%	96.2%	3.8%	95.2%	3.3%	1.5%
25	St. Claude Bridge	24.3%	75.7%	23.0%	66.2%	10.8%	94.6%	5.4%	97.3%	2.7%	
26	Broad St Bridge	13.3%	86.7%	20.0%	77.8%	2.2%	100.0%	0.0%	100.0%	0.0%	

27	Bonnabel Blvd	41.2%	29.4%	94.1%	5.9%	0.0%	100.0%	0.0%	100.0%	0.0%	
28	Cleary Ave	21.9%	78.1%	31.3%	64.1%	4.7%	96.9%	3.1%	93.8%	6.3%	
29	Metairie Rd	37.1%	62.9%	79.0%	21.0%	0.0%	98.4%	1.6%	91.9%	8.1%	
30	Jeff Davis Pkwy Bridge	34.0%	66.0%	21.3%	70.9%	7.8%	90.1%	9.9%	27.7%	7.8%	64.5%
31	Decatur St (Jackson Square)	51.2%	48.8%	82.7%	10.6%	6.7%	96.2%	3.8%	99.3%	0.7%	
32	Freret St	47.3%	52.7%	64.6%	34.3%	1.2%	88.9%	11.1%	96.3%	3.7%	
33	MLK Blvd	42.6%	57.4%	4.1%	91.8%	4.1%	85.2%	14.8%	93.4%	6.6%	0.0%
34	Royal St (French Quarter)	54.0%	46.0%	83.7%	10.6%	5.7%	99.1%	0.9%	65.6%	34.4%	
35	Mirabeau Ave	37.0%	63.0%	3.7%	96.3%	0.0%	63.0%	37.0%	96.3%	0.0%	3.7%
36	S. Peters St	49.4%	50.6%	72.3%	18.7%	9.0%	98.5%	1.5%	97.6%	2.4%	
37	Baronne St (Gateway)	22.1%	77.9%	32.9%	65.1%	2.0%	94.0%	6.0%	80.5%	19.5%	
38	N. Rampart St	33.6%	66.4%	40.8%	54.3%	4.9%	98.3%	1.7%	94.3%	3.9%	1.8%
39	Golf Dr	48.5%	51.5%	84.8%	10.6%	4.5%	100.0%	0.0%	45.5%	54.5%	
40	Annunciation St	33.8%	66.2%	60.0%	24.6%	15.4%	100.0%	0.0%	92.3%	7.7%	
41	Elysian Fields Ave	36.3%	63.7%	64.4%	31.7%	3.9%	96.8%	3.2%	85.4%	9.3%	5.3%
42	Canal St	48.0%	52.0%	61.6%	30.5%	7.9%	95.0%	5.0%	96.7%	2.1%	1.2%
	All Sites	**45.7%**	**54.3%**	**66.2%**	**27.7%**	**6.1%**	**96.5%**	**3.5%**	**88.7%**	**9.2%**	**2.1%**

Appendix H: Impacts of Bicycle Facilities on Usership: Additional Data Tables

Impact of Facilities on Change in EDT, 2010-2014 Count Locations						
Site #	Count Location by Bike Facility Type	Year Installed	2010 EDT	2014 EDT	Total Change, 2010-2014	*% Change in Bicyclist EDT*
Bike Lanes						
1	Gentilly Blvd	2010	151	312	161	*106.6%*
4	St. Claude Ave	2008	437	680	243	*55.6%*
2	Esplanade Ave	2013	330	1,076	746	*226.1%*
	Total		**918**	**2,068**	**1,150**	***125.3%***
Shared Lane Markings						
3	Harrison Ave	2014	71	77	6	*8.5%*
10	Magazine St (Gateway)	2010	471	734	263	*55.8%*
	Total		**542**	**811**	**269**	***49.6%***
No Bike Facility						
6	Camp St (Gateway)		598	938	340	*56.9%*
8	Simon Bolivar Ave (Gateway)		332	854	522	*157.2%*
11	Decatur St		490	643	153	*31.2%*
5	St. Charles Ave (Gateway)		665	752	87	*13.1%*
7	Royal St		1,056	596	(460)	*-43.6%*
9	Carondelet St (Gateway)		322	371	49	*15.2%*
12	Magazine St (Uptown)		121	235	114	*94.2%*
	Total		**3,584**	**4,389**	**805**	***22.5%***
	ALL SITES		**5,044**	**7,268**	**2,224**	***44.1%***

Impact of Facilities on Helmet Use, 2010-2014 Count Locations									
			2010			2014			
Site #	Count Location by Bike Facility Type	Year Installed	Total Observed Bicyclists	Helmets Observed	%	Total Observed Bicyclists	Helmets Observed	%	*Percentage Point Change, 2010-2014*
	Bike Lanes								
1	Gentilly Blvd	2010	46	6	*13.0%*	103	26	*25.2%*	*12.2%*
4	St. Claude Ave	2008	96	2	*2.1%*	252		*9.1%*	*7.0%*
2	Esplanade Ave	2013	105	8	*7.6%*	314	77	*24.5%*	*16.9%*
	Total		**247**	**16**	***6.5%***	**669**	**126**	***18.8%***	*12.4%*
	Shared Lane Markings								
3	Harrison Ave	2014	27	3	*11.1%*	29	17	*58.6%*	*47.5%*
10	Magazine St (Gateway)	2010	153	15	*9.8%*	223	40	*17.9%*	*8.1%*
	Total		**180**	**18**	***10.0%***	**252**	**57**	***22.6%***	*12.6%*
	No Bike Facility								
6	Camp St (Gateway)		157	18	*11.5%*	270	63	*23.3%*	*11.9%*
8	Simon Bolivar Ave (Gateway)		86	7	*8.1%*	221	34	*15.4%*	*7.2%*
11	Decatur St		150	12	*8.0%*	226	37	*16.4%*	*8.4%*
5	St. Charles Ave (Gateway)		191	47	*24.6%*	248	55	*22.2%*	*-2.4%*
7	Royal St		377	25	*6.6%*	212	35	*16.5%*	*9.9%*
9	Carondelet St (Gateway)		87	10	*11.5%*	105	13	*12.4%*	*0.9%*
12	Magazine St (Uptown)		38	3	*7.9%*	90	22	*24.4%*	*16.5%*
	Total		**1,086**	**122**	***11.2%***	**1,372**	**259**	***18.9%***	***7.6%***
	ALL SITES		**1,513**	**156**	***10.3%***	**2,293**	**442**	***19.3%***	***9.0%***

Impact of Facilities on Travel Orientation, 2010-2014 Count Locations									
			2010			2014			
Site #	Count Location by Bike Facility Type	Year Installed	Total Observed Bicyclists	Right-Way, On Street Cyclists	%	Total Observed Bicyclists	Right-Way, On Street Cyclists	%	*Percentage Point Change, 2010-2014*
	Bike Lanes								
1	Gentilly Blvd	2010	46	31	*67.4%*	103	81	*78.6%*	*11.2%*
4	St. Claude Ave	2008	96	83	*86.5%*	252	201	*79.8%*	*-6.7%*
2	Esplanade Ave	2013	105	87	*82.9%*	314	308	*98.1%*	*15.2%*
	Total		**247**	**210**	***85.0%***	**669**	**590**	***88.2%***	***3.2%***
	Shared Lane Markings								
3	Harrison Ave	2014	27	21	*77.8%*	29	24	*82.8%*	*5.0%*
10	Magazine St (Gateway)	2010	153	105	*68.6%*	223	208	*93.3%*	*24.6%*
	Total		**180**	**126**	***70.0%***	**252**	**232**	***92.1%***	***22.1%***
	No Bike Facility								
6	Camp St (Gateway)		157	109	*69.4%*	270	241	*89.3%*	*19.8%*
8	Simon Bolivar Ave (Gateway)		86	49	*57.0%*	221	142	*64.3%*	*7.3%*
11	Decatur St		150	125	*83.3%*	226	205	*90.7%*	*7.4%*
5	St. Charles Ave (Gateway)		191	140	*73.3%*	248	229	*92.3%*	*19.0%*
7	Royal St		377	313	*83.0%*	212	197	*92.9%*	*9.9%*
9	Carondelet St (Gateway)		87	61	*70.1%*	105	95	*90.5%*	*20.4%*
12	Magazine St (Uptown)		38	10	*26.3%*	90	56	*62.2%*	*35.9%*
	Total		**1,086**	**807**	***74.3%***	**1,372**	**1,165**	***84.9%***	***10.6%***
	ALL SITES		**1,513**	**1,143**	***75.5%***	**2,293**	**1,987**	***86.7%***	***11.1%***

Impact of Facilities on Percent of Users who are Female, 2010-2014 Count Locations									
			2010			2014			
Site #	Count Location by Bike Facility Type	Year Installed	Total Observed Bicyclists	Female Users	%	Total Observed Bicyclists	Female Users	%	*Percentage Point Change, 2010-2014*
	Bike Lanes								
1	Gentilly Blvd	2010	46	4	*8.7%*	103	25	*24.3%*	*15.6%*
4	St. Claude Ave	2008	96	24	*25.0%*	252	70	*27.8%*	*2.8%*
2	Esplanade Ave	2013	105	38	*36.2%*	314	134	*42.7%*	*6.5%*
	Total		**247**	**66**	***26.7%***	**669**	**229**	***45.9%***	***19.2%***
	Shared Lane Markings								
3	Harrison Ave	2014	27	5	*18.5%*	29	8	*27.6%*	*9.1%*
10	Magazine St (Gateway)	2010	153	56	*36.6%*	223	80	*35.9%*	*-0.7%*
	Total		**180**	**61**	***33.9%***	**252**	**88**	***34.9%***	***1.0%***
	No Bike Facility								
6	Camp St (Gateway)		157	57	*36.3%*	270	89	*33.0%*	*-3.3%*
8	Simon Bolivar Ave (Gateway)		86	6	*7.0%*	221	30	*13.6%*	*6.6%*
11	Decatur St		150	39	*26.0%*	226	77	*34.1%*	*8.1%*
5	St. Charles Ave (Gateway)		191	57	*29.8%*	248	82	*33.1%*	*3.2%*
7	Royal St		377	84	*22.3%*	212	62	*29.2%*	*7.0%*
9	Carondelet St (Gateway)		87	27	*31.0%*	105	28	*26.7%*	*-4.4%*
12	Magazine St (Uptown)		38	7	*18.4%*	90	37	*41.1%*	*22.7%*
	Total		**1,086**	**277**	***25.5%***	**1,372**	**405**	***29.5%***	***4.0%***
	ALL SITES		**1,513**	**404**	***26.7%***	**2,293**	**722**	***31.5%***	***4.8%***

Impact of Facilities on Change in EDT, 2013-2014 Count Locations						
Site #	**Count Location by Bike Facility Type**	**Year Installed**	**2010 EDT**	**2014 EDT**	**Change, 2013-2014**	***% Change in Bicyclist EDT***
Bike Lanes						
15	St. Bernard Ave	2013	288	330	42	*14.6%*
17	Nashville Ave	2013	124	400	276	*222.6%*
18	St. Charles Ave (Uptown)	2013	1,338	685	(653)	*-48.8%*
19	S. Carrollton Ave	2010	613	650	37	*6.0%*
22	Loyola Ave	2012	892	686	(206)	*-23.1%*
	Total		**3,255**	**2,751**	**(504)**	***-15.5%***
Shared Lane Markings/Mix of Facilities						
25	St. Claude Bridge	2008	332	315	(17)	*-5.1%*
16	Basin St	2013	322	653	331	*102.8%*
	Total		**654**	**968**	**314**	***48.0%***
No Bike Facility						
23	S. Broad St		376	433	57	*15.2%*
24	Tulane Ave		263	368	105	*39.9%*
26	Broad St Bridge		186	215	29	*15.6%*
	Total		**825**	**1,016**	**191**	***23.2%***
	ALL SITES		**4,734**	**4,735**	**1**	***0.0%***

Impact of Facilities on Helmet Use, 2013-2014 Count Locations									
			2013			2014			
Site #	**Count Location by Bike Facility Type**	**Year Installed**	**Total Observed Bicyclists**	**Helmets Observed**	**%**	**Total Observed Bicyclists**	**Helmets Observed**	**%**	***Percentage Point Change, 2013-2014***
	Bike Lanes								
15	St. Bernard Ave	2013	88	13	*14.8%*	114	10	*8.8%*	*-6.0%*
17	Nashville Ave	2013	37	16	*43.2%*	138	69	*50.0%*	*6.8%*
18	St. Charles Ave (Uptown)	2013	441	194	*44.0%*	242	75	*31.0%*	*-13.0%*
19	S. Carrollton Ave	2010	206	54	*26.2%*	214	53	*24.8%*	*-1.4%*
22	Loyola Ave	2012	267	61	*22.8%*	222	41	*18.5%*	*-4.4%*
	Total		1,039	338	*32.5%*	930	248	*26.7%*	*-5.9%*
	Shared Lane Markings/Mix of Facilities								
25	St. Claude Bridge	2008	105	12	*11.4%*	99	12	*12.1%*	*0.7%*
16	Basin St	2013	99	23	*23.2%*	241	64	*26.6%*	*3.3%*
	Total		204	35	*17.2%*	340	76	*22.4%*	*5.2%*
	No Bike Facility								
23	S. Broad St		112	10	*8.9%*	128	8	*6.3%*	*-2.7%*
24	Tulane Ave		71	6	*8.5%*	102	17	*16.7%*	*8.2%*
26	Broad St Bridge		57	7	*12.3%*	59	6	*10.2%*	*-2.1%*
	Total		240	23	*9.6%*	289	31	*10.7%*	*1.1%*
	ALL SITES		**1,483**	**396**	***26.7%***	**1,559**	**355**	***22.8%***	***-3.9%***

Impact of Facilities on Travel Orientation, 2013-2014 Count Locations									
			2013			2014			
Site #	**Count Location by Bike Facility Type**	**Year Installed**	**Total Observed Bicyclists**	**Right-Way, On Street Cyclists**	**%**	**Total Observed Bicyclists**	**Right-Way, On Street Cyclists**	**%**	***Percentage Point Change, 2013-2014***
	Bike Lanes								
15	St. Bernard Ave	2013	88	52	*59.1%*	114	96	*84.2%*	*25.1%*
17	Nashville Ave	2013	37	37	*100.0%*	138	129	*93.5%*	*-6.5%*
18	St. Charles Ave (Uptown)	2013	441	437	*99.1%*	242	233	*96.3%*	*-2.8%*
19	S. Carrollton Ave	2010	206	187	*90.8%*	214	198	*92.5%*	*1.7%*
22	Loyola Ave	2012	267	200	*74.9%*	222	180	*81.1%*	*6.2%*
	Total		1,039	913	*87.9%*	930	836	*89.9%*	*2.0%*
	Shared Lane Markings/Mix of Facilities								
25	St. Claude Bridge	2008	105	75	*71.4%*	99	62	*62.6%*	*-8.8%*
16	Basin St	2013	99	71	*71.7%*	241	212	*88.0%*	*16.2%*
	Total		204	146	*71.6%*	340	274	*80.6%*	*9.0%*
	No Bike Facility								
23	S. Broad St		112	58	*51.8%*	128	76	*59.4%*	*7.6%*
24	Tulane Ave		71	31	*43.7%*	102	68	*66.7%*	*23.0%*
26	Broad St Bridge		57	40	*70.2%*	59	40	*67.8%*	*-2.4%*
	Total		240	129	*53.8%*	289	184	*63.7%*	*9.9%*
	ALL SITES		**1,483**	**1,188**	***80.1%***	**1,559**	**1,294**	***83.0%***	***2.9%***

Impact of Facilities on Percent of Users who are Female, 2013-2014 Count Locations									
			2013			2014			
Site #	**Count Location by Bike Facility Type**	**Year Installed**	**Total Observed Bicyclists**	**Female Users**	**%**	**Total Observed Bicyclists**	**Female Users**	**%**	***Percentage Point Change, 2013-2014***
	Bike Lanes								
15	St. Bernard Ave	2013	88	17	*19.3%*	114	13	*11.4%*	*-7.9%*
17	Nashville Ave	2013	37	13	*35.1%*	138	55	*39.9%*	*4.7%*
18	St. Charles Ave (Uptown)	2013	441	181	*41.0%*	242	68	*28.1%*	*-12.9%*
19	S. Carrollton Ave	2010	206	57	*27.7%*	214	48	*22.4%*	*-5.2%*
22	Loyola Ave	2012	267	26	*9.7%*	222	44	*19.8%*	*10.1%*
	Total		1,039	294	*28.3%*	930	228	*24.5%*	*-3.8%*
	Shared Lane Markings/Mix of Facilities								
25	St. Claude Bridge	2008	105	21	*20.0%*	99	30	*30.3%*	*10.3%*
16	Basin Str	2013	99	25	*25.3%*	241	68	*28.2%*	*3.0%*
	Total		204	46	*22.5%*	340	98	*28.8%*	*6.3%*
	No Bike Facility								
23	S. Broad St		112	12	*10.7%*	128	19	*14.8%*	*4.1%*
24	Tulane Ave		71	12	*16.9%*	102	18	*17.6%*	*0.7%*
26	Broad St Bridge		57	5	*8.8%*	59	2	*3.4%*	*-5.4%*
	Total		240	29	*12.1%*	289	39	*13.5%*	*1.4%*
	ALL SITES		**1,483**	**369**	***24.9%***	**1,559**	**365**	***23.4%***	***-1.5%***

Appendix I: Jefferson Davis Parkway Trail Electronic Counts: Additional Data Tables

Jefferson Davis Trail User Volumes, 2010-2014, by Month												
	Total Usage						Average Daily Usage					
Month	2010-2011	2011-2012	2012-2013	2013-2014	Absolute Change, 2010-2014	*Percent Change, 2010-2014*	2010-2011	2011-2012	2012-2013	2013-2014	Absolute Change, 2010-2014	*Percent Change, 2010-2014*
July	12,506	13,053	13,273	14,581	2,075	*16.6%*	403	421	428	470	67	*16.6%*
August	10,945	13,471	12,719	13,978	3,033	*27.7%*	353	435	410	451	98	*27.7%*
September	13,191	17,719	16,278	15,071	1,880	*14.3%*	440	591	543	502	63	*14.3%*
October	15,755	19,752	20,330	22,936	7,181	*45.6%*	508	637	656	740	232	*45.6%*
November	10,975	14,117	15,146	22,303	11,328	*103.2%*	366	471	505	743	378	*103.2%*
December	11,502	11,715	13,867	17,748	6,246	*54.3%*	371	378	447	573	201	*54.3%*
January	12,245	15,806	14,057	21,752	9,507	*77.6%*	395	510	453	702	307	*77.6%*
February	12,301	14,080	16,215	16,987	4,686	*38.1%*	439	486	579	566	127	*28.9%*
March	17,188	18,256	17,978	25,517	8,329	*48.5%*	554	589	580	823	269	*48.5%*
April	18,946	19,449	n/a	22,537	3,591	*19.0%*	632	720	n/a	751	120	*19.0%*
May	22,128	24,256	n/a	34,175	12,047	*54.4%*	714	783	n/a	1,102	389	*54.4%*
June	11,733	13,740	n/a	16,586	4,853	*41.4%*	391	458	n/a	553	162	*41.4%*
Total	***169,415***	***195,414***	***n/a***	***244,171***	***74,756***	***44.1%***	***464***	***540***	***n/a***	***665***	***201***	***43.3%***

Jefferson Davis Trail Observed Volume by Hour of Day, 2013-2014			
	Absolute #	*% of Total*	Average Hourly Users
12:00 AM	2,012	*0.8%*	6
1:00 AM	1124	*0.5%*	3
2:00 AM	685	*0.3%*	2
3:00 AM	548	*0.2%*	2
4:00 AM	545	*0.2%*	1
5:00 AM	1,396	*0.6%*	4
6:00 AM	5,673	*2.3%*	16
7:00 AM	10,354	*4.2%*	28
8:00 AM	12,021	*4.9%*	33
9:00 AM	11,957	*4.9%*	33
10:00 AM	12,670	*5.2%*	35
11:00 AM	12,811	*5.2%*	35
12:00 PM	14,323	*5.9%*	39
1:00 PM	14,839	*6.1%*	41
2:00 PM	16,211	*6.6%*	44
3:00 PM	19,279	*7.9%*	53
4:00 PM	23,065	*9.4%*	63
5:00 PM	24,650	*10.1%*	68
6:00 PM	20,378	*8.3%*	56
7:00 PM	16,609	*6.8%*	46
8:00 PM	9,848	*4.0%*	27
9:00 PM	5,840	*2.4%*	16
10:00 PM	4,341	*1.8%*	12
11:00 PM	2,992	*1.2%*	8
12-Month Total	**244,171**	***100.0%***	**28**

Jefferson Davis Trail Observed Volume by Day of Week, 2013-2014			
	Absolute #	% of Total	Average Daily Users
Monday	32,568	*13.3%*	614
Tuesday	32,547	*13.3%*	626
Wednesday	33,142	*13.6%*	637
Thursday	35,415	*14.5%*	681
Friday	35,146	*14.4%*	676
Saturday	40,934	*16.8%*	787
Sunday	34,419	*14.1%*	662
12 Month Total	**244,171**	*100.0%*	**665**

Jefferson Davis Trail User Volumes by Month, 2013-2014					
	Total Users	*% of Annual Volume*	Average Daily Users	Average Daily Temperature	Total Precipitation (in)
July, 2013	14,581	*6.0%*	470	83	3.97
August, 2013	13,978	*5.7%*	451	83	7.22
September, 2013	15,071	*6.2%*	502	82	8.68
October, 2013	22,936	*9.4%*	740	73	2.29
November, 2013	22,303	*9.1%*	743	60	1.89
December, 2013	17,748	*7.3%*	573	56	3.21
January, 2014	21,752	*8.9%*	702	47	2.72
February, 2014	16,987	*7.0%*	566	56	6.31
March, 2014	25,517	*10.5%*	823	60	5.25
April, 2014	22,537	*9.2%*	751	69	2.31
May, 2014	34,175	*14.0%*	1,102	75	8.35
June, 2014	16,586	*6.8%*	553	82	8.03
12 Month Total	**244,171**	*100.0%*	**665**	**69**	**60.23**

Jefferson Davis Trail User Volumes by Season, 2013-2014					
	Total Users	*% of Annual Volume*	Average Daily Users	Average Daily Temp	Total Precip. (in)
Winter	58,745	*24.4%*	660	53	12.55
Spring	77,705	*32.3%*	836	73	16.66
Summer	39,832	*16.6%*	458	83	20.18
Fall	64,280	*26.7%*	714	66	6.4
Total	**240,562**	**100.00%**	**672**	**69**	**55.79**
*Summer 2013 missing 7 days of data. Seasonal totals include slightly different data parameters, therefore annual totals differ from other graphs					

Jefferson Davis Trail User Volumes by Season, 2010-2014				
	Absolute #	*Average Daily Users*	Average Daily Temp	Total Precip. (in)
Summer 2010	35,099	*382*	85	24.1
Summer 2011	43,776	*466*	84	30.8
Summer 2012	42,875	*456*	83	31.9
Summer 2013	39,832	*458*	83	20.2
Fall 2010	39,921	439	65	3.8
Fall 2011	46,550	517	66	4.3
Fall 2012	49,880	554	66	7.8
Fall 2013	64,280	714	66	6.4
Winter 2010-2011	36048	401	56	14.4
Winter 2011-2012	44,224	497	63	8.3
Winter 2012-2013	45,245	508	57	15.8
Winter 2013-2014	58,745	660	53	12.6
Spring 2011	58,262	633	77	9.1
Spring 2012	58,857	654	78	17.8
Spring 2013	n/a	n/a	n/a	n/a
Spring 2014	77,705	836	73	16.7

Jefferson Davis Trail Average Daily Temperature and User Volumes, 2010-2014								
	2010-2011		2011-2012		2012-2013		2013-2014	
Month	Average Daily Users	Average Daily Temperature	Average Daily Users	Average Daily Temperature	Average Daily Users	Average Daily Temperature	Average Daily Users	Average Daily Temperature
July	403	85	421	84	428	84	470	83
August	353	85	435	88	410	83	451	83
September	440	82	591	79	543	81	502	82
October	508	72	637	70	656	70	740	73
November	366	63	471	64	505	61	743	60
December	371	52	378	58	447	59	573	56
January	395	51	510	61	453	57	702	47
February	439	57	486	61	579	58	566	56
March	554	67	589	71	580	59	823	60
April	632	74	720	73	n/a	68	751	69
May	714	78	782	80	n/a	74	1102	75
June	391	85	458	83	n/a		553	82