







February 2016



Bicycle and Pedestrian Traffic Count Report



What is NCTCOG?

The North Central Texas Council of Governments is a voluntary association of cities, counties, school districts, and special districts which was established in January 1966 to assist local governments in **planning** for common needs, **cooperating** for mutual benefit, and **coordinating** for sound regional development.

It serves a 16-county metropolitan region centered around the two urban centers of Dallas and Fort Worth. Currently the Council has **238 members**, including 16 counties, 169 cities, 22 independent school districts, and 31 special districts. The area of the region is approximately **12,800 square**

miles, which is larger than nine states, and the population of the region is about **7 million**, which is larger than 38 states.

NCTCOG's structure is relatively simple; each member government appoints a votingrepresentative from the governing body. These voting representatives make up the **General Assembly** which annually elects a 15-member Executive Board. The **Executive Board** is supported by policy development, technical advisory, and study committees, as well as a professional staff of 324.



NCTCOG's offices are located in Arlington in the Centerpoint Two Building at 616 Six Flags Drive (approximately one-half mile south of the main entrance to Six Flags Over Texas).

North Central Texas Council of Governments P. O. Box 5888 Arlington, Texas 76005-5888 (817) 640-3300

NCTCOG's Department of Transportation

Since 1974 NCTCOG has served as the Metropolitan Planning Organization (MPO) for transportation for the Dallas-Fort Worth area. NCTCOG's Department of Transportation is responsible for the regional planning process for all modes of transportation. The department provides technical support and staff assistance to the Regional Transportation

Council and its technical committees, which compose the MPO policy-making structure. In addition, the department provides technical assistance to the local governments of North Central Texas in planning, coordinating, and implementing transportation decisions.

Prepared in cooperation with the Texas Department of Transportation and the U. S. Department of Transportation, Federal Highway Administration, and Federal Transit Administration.

"The contents of this report reflect the views of the authors who are responsible for the opinions, findings, and conclusions presented herein. The contents do not necessarily reflect the views or policies of the Federal Highway Administration, the Federal Transit Administration, or the Texas Department of Transportation."

NCTCOG Executive Board 2015-2016

President John Horn

County Judge, Hunt County

Vice President Lissa Smith

Mayor Pro Tem, City of Plano

Secretary-Treasurer Tom Lombard Councilmember

City of North Richland Hills

Past President

Kathryn Wilemon

Mayor Pro Tem, City of Arlington

Director Clay Jenkins

County Judge, Dallas County

Director

B. Glen Whitley

County Judge, Tarrant County

Director Lee Kleinman

Councilmember, City of Dallas

Director

Kelly Allen Gray

Councilmember, City of Fort Worth

Director Keith Self

County Judge, Collin County

Director

Bobbie Mitchell

Commissioner, Denton County

Director

Michael Glaspie

Councilmember, City of Arlington

Director J. D. Clark

County Judge, Wise County

Director

Bruce Archer

Councilmember, City of Mesquite

Director
Chris Watts

Mayor, City of Denton

Director

Dan McClendon

Councilmember, City of Burleson

Director

Kevin Strength

Mayor, City of Waxahachie

Director Laura Wheat

Mayor, Town of Westlake

Jeff leach

State Representative

District 67

Ex officio Member

Regional Transportation Council 2015-2016

Mark Riley, Chair

County Judge, Parker County

Ron Jensen, Vice Chair

Mayor, City of Grand Prairie

Rob Franke, P.E., Secretary

Mayor, City of Cedar Hill

Monica R, Alonzo

Mayor Pro Tem, City of Dallas

Bruce Arfsten

Councilmember, Town of Addison

Douglas Athas

Mayor, City of Garland

Brian Barth, P.E. District Engineer

TxDOT, Fort Worth District

Carol Bush

County Judge, Ellis County

Mike Cantrell

Commissioner, Dallas County

Rudy Durham

Mayor, City of Lewisville

Andy Eads

Commissioner, Denton County

Charles Emery

Board Chair, Denton County Transportation Authority

Gary Fickes

Commissioner, Tarrant County

Sandy Greyson

Councilmember, City of Dallas

Mojy Haddad Board Member

North Texas Tollway Authority

Roger Harmon

County Judge, Johnson County

Clay Lewis Jenkins

County Judge, Dallas County

Jungus Jordan

Councilmember, City of Fort Worth

Lee Kleinman

Councilmember, City of Dallas

Stephen Lindsey

Councilmember, City of Mansfield

Brian Loughmiller Mayor, City of McKinney

David Magness

Commissioner, Rockwall County

Scott Mahaffey

Board Chair, Fort Worth Transportation Authority

Matthew Marchant

Mayor, City of Carrollton

Maher Maso

Mayor, City of Frisco

Cary Moon

Councilmember, City of Fort Worth

Stan Pickett

Mayor, City of Mesquite

Kevin Roden

Councilmember, City of Denton

Amir Rupani

Citizen Representative, City of Dallas

Kelly Selman, P.E.District Engineer
TxDOT, Dallas District

Gary Slagel

Board Member, Dallas Area Rapid Transit

Lissa Smith

Mayor Pro Tem, City of Plano

Mike Taylor

Mayor Pro Tem, City of Colleyville

Stephen Terrell

Mayor, City of Allen

T. Oscar Trevino, Jr., P.E.

Mayor, City of North Richland Hills

William Velasco, II

Citizen Representative, City of Dallas

Oscar Ward

Councilmember, City of Irving

Bernice J. Washington

Board Member

Dallas/Fort Worth International Airport

Duncan Webb

Commissioner, Collin County

B. Glen Whitley

County Judge, Tarrant County

Kathryn Wilemon

Councilmember, City of Arlington

W. Jeff Williams

Mayor, City of Arlington

Erik Wilson

Deputy Mayor Pro Tem, City of Dallas

W. B. "Zim" Zimmerman

Councilmember, City of Fort Worth

Michael Morris, P.E.

Director of Transportation, NCTCOG

Table of Contents

Introduction	
Mode Share Split	5
Season	7
Sample Week Data	14
Summary	16
Limitations of Data	16
Appendix	17
<u>List of Exhibits</u>	
Exhibit 1: Counters by City	3
Exhibit 2: Bicycle and Pedestrian Count Stations in the North Central Texas Region	4
Exhibit 3: Regional Average Mode Share Split of Count Stations in the North Central Texas Region	5
Exhibit 4: Mode Share Split by Count Station (2015)	6
Exhibit 5: Total Bicycle and Pedestrian Traffic by Count Station (October 2015)	8
Exhibit 6: Count Stations in Dallas	9
Exhibit 7: Count Stations in Denton	10
Exhibit 8: Count Stations in Fort Worth	11
Exhibit 9: Count Station in North Richland Hills	12
Exhibit 10: Count Stations in Plano	13
Exhibit 11: Total Daily Traffic During the Week of September 14, 2015	15
Exhibit 12: Denton: Denton Branch Rail Trail – MedPark Station Monthly Traffic Volumes	18
Exhibit 13: Denton: Denton Branch Rail Trail – Morse Street Monthly Traffic Volumes	18
Exhibit 14: Fort Worth: Trinity Trails – Clearfork Food Park Monthly Traffic Volumes	20

Exhibit 15: Fort Worth: Trinity Trails – Henderson Street Bridge Monthly Traffic Volumes	21
Exhibit 16: Fort Worth: Trinity Trails – Cowtown Wakepark Monthly Traffic Volumes	22
Exhibit 17: North Richland Hills: Cotton Belt Trail – Holiday Lane Monthly Traffic Volumes	23
Exhibit 18: Plano: Chisholm Trail – Jack Carter Park Monthly Traffic Volumes	24
Exhibit 19: Plano: Chisholm Trail – Orlando Drive Monthly Traffic Volumes	25
Exhibit 20: Plano: Legacy Trail Monthly Traffic Volumes	26
Exhibit 21: Plano: Bluebonnet Trail Monthly Traffic Volumes	27
Exhibit 22: Plano: Oak Point Park & Nature Preserve Trail Monthly Traffic Volumes	28
Exhibit 23: Plano: Russell Creek Trail Monthly Traffic Volumes	29
Exhibit 24: Dallas: Katy Trail – Lyte Street Monthly Traffic Volumes	30
Exhibit 25: Dallas: Katy Trail – Routh Street Monthly Traffic Volumes	31
Exhibit 26: Dallas: Katy Trail – Fitzhugh Avenue Monthly Traffic Volumes	32
Exhibit 27: Dallas: Katy Trail – Harvard Avenue Monthly Traffic Volumes	33
Exhibit 28: Dallas: Santa Fe Trail – Hill Avenue Monthly Traffic Volumes	34
Exhibit 29: Dallas: Santa Fe Trail – Beacon Street Monthly Traffic Volumes	35
Exhibit 30: Dallas: Santa Fe Trail – Glasgow Drive Monthly Traffic Volumes	18
Exhibit 31: Dallas: Santa Fe Trail – Winsted Drive Monthly Traffic Volumes	37
Exhibit 32: Dallas: White Rock Lake Trail – Wendy Lane Monthly Traffic Volumes	38
Exhibit 33: Dallas: White Rock Lake Trail – Fisher Road Monthly Traffic Volumes	39
Exhibit 34: Dallas: White Rock Lake Trail – Mockingbird Lane Monthly Traffic Volumes	40
Exhibit 35: Dallas: White Rock Creek Trail – Cottonwood Trail Crossing Monthly Traffic Volumes	41
Exhibit 36: Dallas: White Rock Creek Trail – Park Central Monthly Traffic Volumes	42
Exhibit 37: Dallas: Cottonwood Trail – Hamilton Park Monthly Traffic Volumes	43

Introduction

For decades, transportation planners and traffic engineers have collected extensive data related to motor vehicle traffic and travel behavior. Over time this resulted in a robust data collection program that contributed in the development in the planning, design, construction, and expansion of infrastructure for automobiles. Despite these efforts, there has been limited data for active transportation (bicycling and walking) as a mode of travel in cities. Increasingly, cities around the country are working to study and accommodate all modes of transportation in the travel system and develop performance metrics to measure their progress. One method used has been the deployment of equipment to collect data on how many people travel on shared-use paths and on-street bicycle facilities. Establishing a baseline count of bicyclists and pedestrians is the first step to gaining insight into active transportation traffic and travel behavior. Accurate counts, similar to those collected for automobiles, help inform and guide transportation planning and infrastructure investments.

In May of 2013, the North Central Texas Council of Governments (NCTCOG) hosted a two-day peer exchange summit on existing bicycle and pedestrian count programs sponsored by the Transportation Planning Capacity Building Peer Program. NCTCOG requested this summit to learn from other agencies about best practices and their approach to setting up and operating regional bicycle and pedestrian count programs. This work culminated in 2014, when NCTCOG procured equipment capable of collecting continuous (24/7) data.

The same question is often asked:

"How many people are walking and bicycling?"

In 2014 and 2015 NCTCOG partnered with several local agencies to install data collection equipment. NCTCOG and the partner agencies identified shared-use paths with significant value as active transportation corridors, connecting to major destinations and transit stations. NCTCOG equipment was installed in Fort Worth by the Tarrant Regional Water District along the Trinity Trails, in Denton along the Denton Branch Rail Trail, in

Plano along the Chisholm Trail, and as of September 2015, a counter was installed in the North Richland Hills along the Cotton Belt Trail. The permanent equipment utilizes inductive loop and passive infrared sensor technology to distinguish bicyclists from pedestrians, as well as their direction of travel.

In addition to the equipment purchased by NCTCOG, both the City of Dallas and the City of Plano purchased additional count equipment for shared-use paths. In July of 2015, the City of Dallas installed 26 permanent counters along the city's expanding shared-use path network. For purposes of reporting counts on transportation corridors, this report includes 14 of the 26 count stations in Dallas due to their close proximity to origins and destinations where residents can make active transportation trips. The remaining 12 count stations are located on paths primarily used for recreation (e.g. loops within parks).

Each agency agreed to share their data, which is included in this report. Exhibit 1 identifies the number of count stations per agency as reported in this document.

Exhibit 1: Counters by City

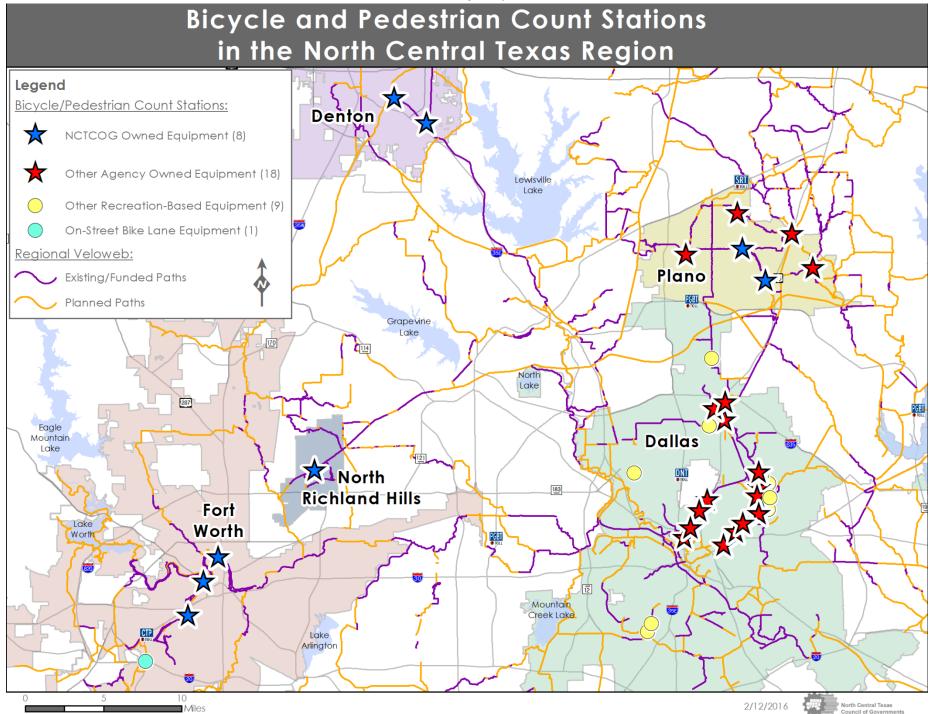
Agency	Number of Installed Permanent Counters
Dallas	141
Denton	2
North Richland Hills	1
Plano	6
Tarrant Regional Water District	
(Fort Worth)	3
Total	26

NCTCOG's initial <u>2015 North Central Texas Bicycle and</u>

<u>Pedestrian Traffic Count Report</u> serves as a comprehensive overview of transportation-related data being collected in urban and suburban areas of the region with 26 permanent counters installed across four counties and five communities. This annual report will expand and accommodate new count stations installed over time. Exhibit 2 identifies the existing shared-use path corridors with equipment collecting data.

¹ This report's focus is on locations considered most likely utilized for commuting trips and does not include 9 additional counters in Dallas that are installed on paths used for recreation purposes.

Exhibit 2:



This report reflects the first full calendar year in which data is available and also includes count equipment units installed throughout 2015. Due to partial year data for some counters, such as those installed in Dallas, not all statistics are available for the full year. Data collected in 2015 will provide a baseline to evaluate trends as more of the regional active transportation network is constructed. Through consistent data collection of active transportation facilities, it is possible to more fully understand the usage of existing facilities, allowing planners and engineers to better estimate demand of proposed facilities for project evaluation and selection purposes.

Mode Share Split

Among the 26 count stations, the combined average mode share is 50 percent bicyclists and 50 percent pedestrians (see Exhibit 3). However, the location of the shared-use path has a large impact on the ratio of pedestrians to bicyclists who use the corridor. Paths with count stations located further from nearby development or population density, such as portions of

the Trinity Trails in Fort Worth, feature a lower percentage of pedestrians and a higher percentage of bicyclists. Corridors in dense residential and retail areas, such as the Katy Trail in Dallas, have among the highest proportion of pedestrians in the region (as high as 82 percent). Exhibit 4 identifies the regional average mode share split (the percentage of bicyclists versus percentage of pedestrians) for each of the count stations.

Exhibit 3:

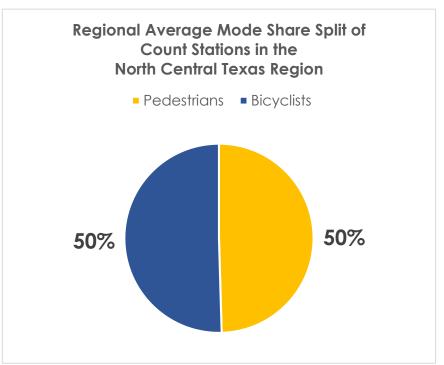
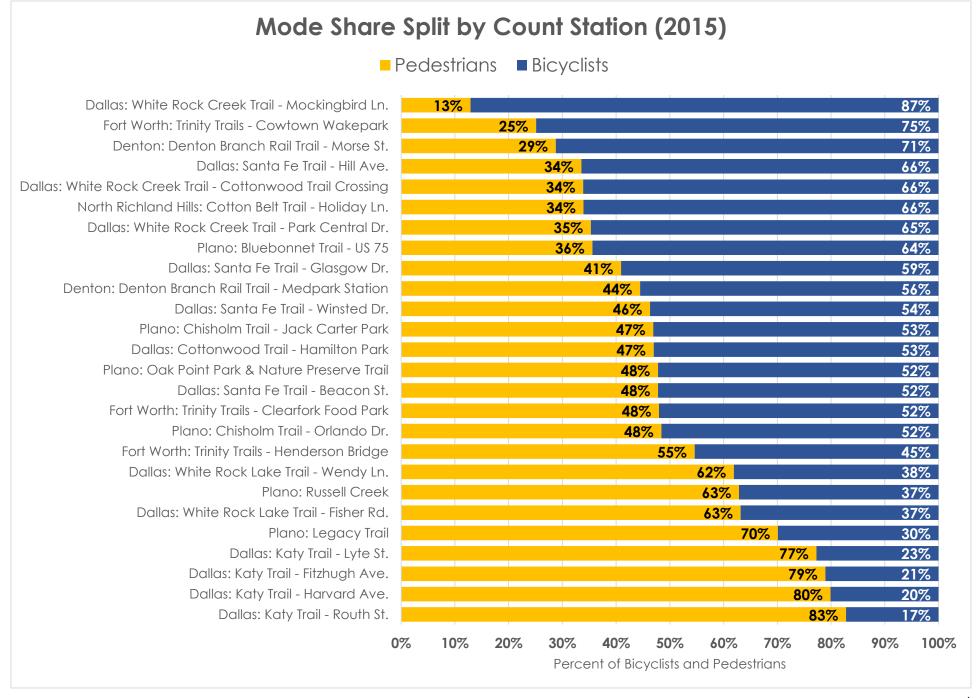


Exhibit 4:



Compared to motor vehicle traffic patterns, active transportation is highly variable, both spatially and temporally. Bicycling and walking are sensitive to adjacent land use(s) and nearby attractions such as large employment centers or downtowns, population density, precipitation, and temporal differences such as month of the year and day of the week. More analysis will be conducted in the future related to the relationship of the adjacent land use, nearby population, and employment surrounding count stations to identify how these variables impact bicycle and pedestrian traffic volumes.

In 2015 there was a wide range of traffic volumes among the 26 count stations throughout the region. Exhibit 5 represents a snapshot view, identifying the highest and lowest number of combined bicyclist and pedestrian trips collected during the month of October 2015. The top six count locations by volume in the region were located in Dallas along the Katy Trail and White Rock Lake Trail. With all count stations combined, over 688,000 bicycle and pedestrian trips were recorded during October 2015.

Various issues affect trips made by bicyclists and pedestrians. Exhibits 6-10 provide an overview on traffic patterns and trends by seasonality and day of the week.

Season

By collecting continuous bicycle and pedestrian traffic data it is possible to identify the fluctuations that occur over time, month by month throughout the year. Exhibits 6-10 report the average daily traffic by month for each count station by community. This data provides insight into how seasonal variation and the weather impact bicycling and walking activities in North Texas. Among the count stations reporting at least nine months of data, August, September, and July were found to be the highest volume months of the year by traffic counts. Despite hot temperatures in the summer, people in this region are going outside to walk and bicycle. Gaps in the data identified on the following exhibits represent time before a count station's installation date or when the equipment experienced a battery failure and did not have a full month of data to calculate an average.

Exhibit 5:

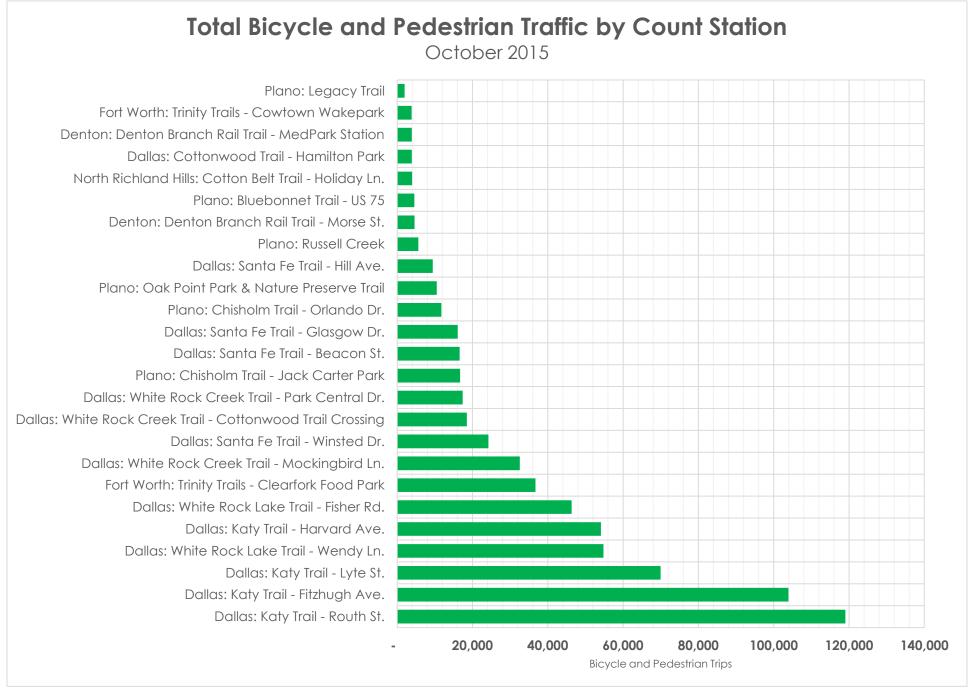


Exhibit 6:

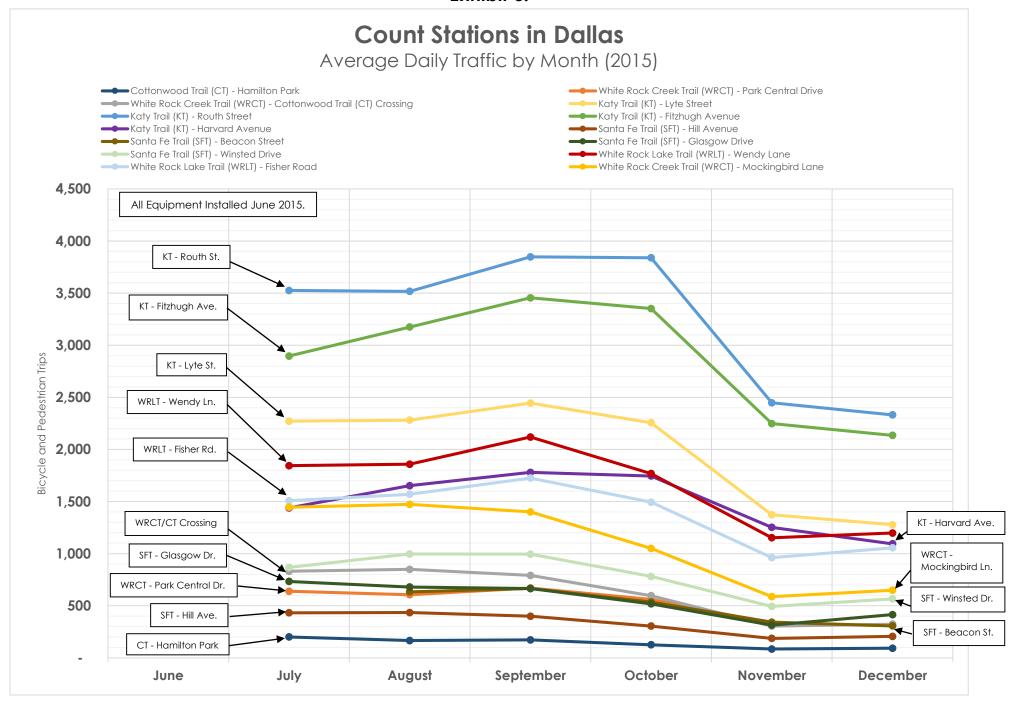


Exhibit 7:

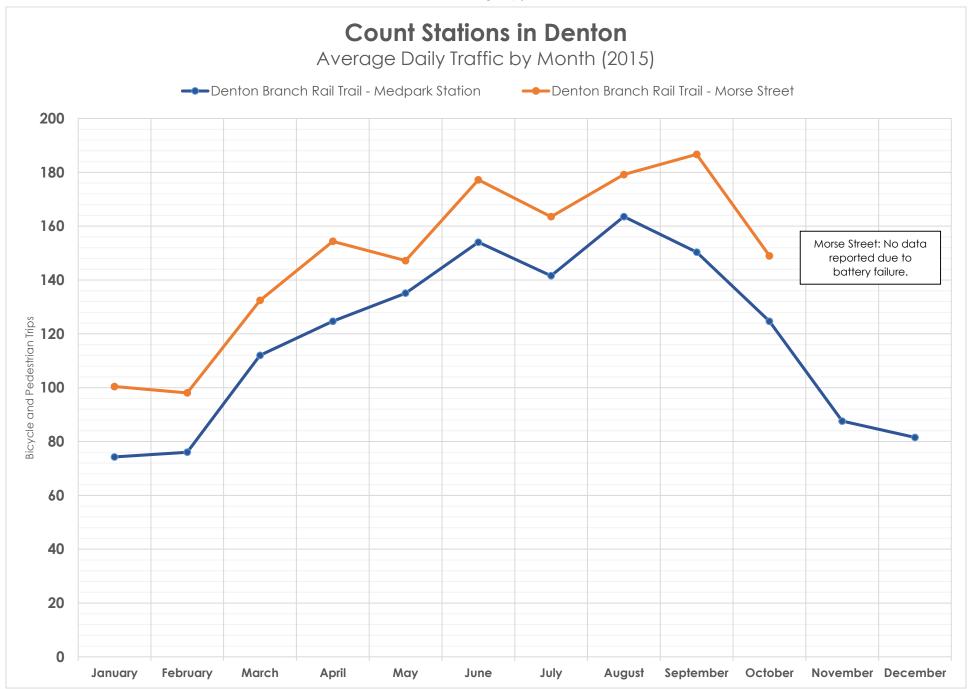


Exhibit 8:

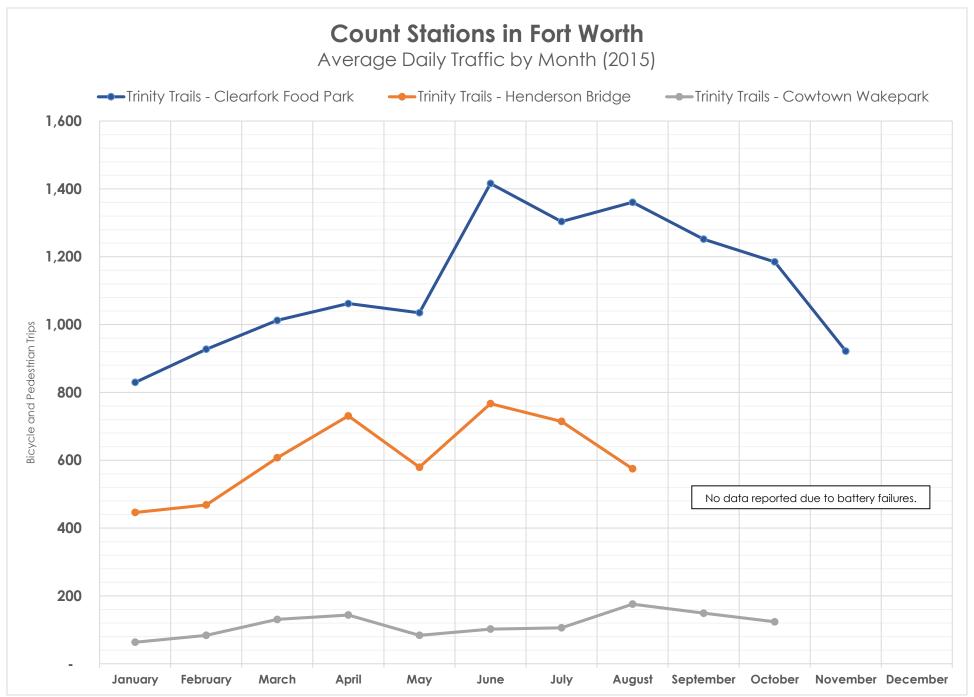


Exhibit 9:

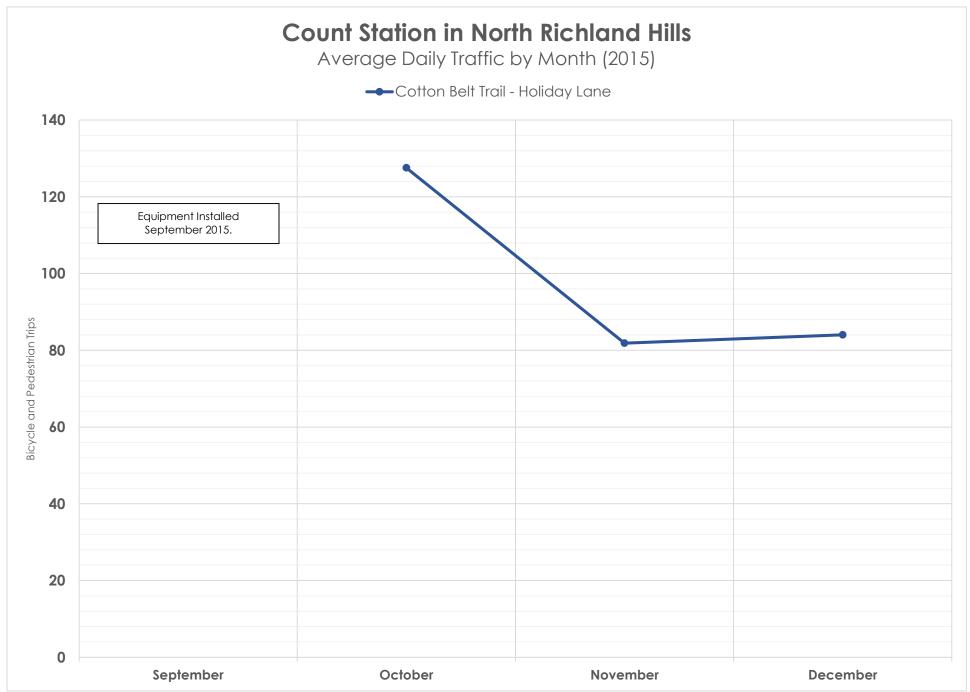
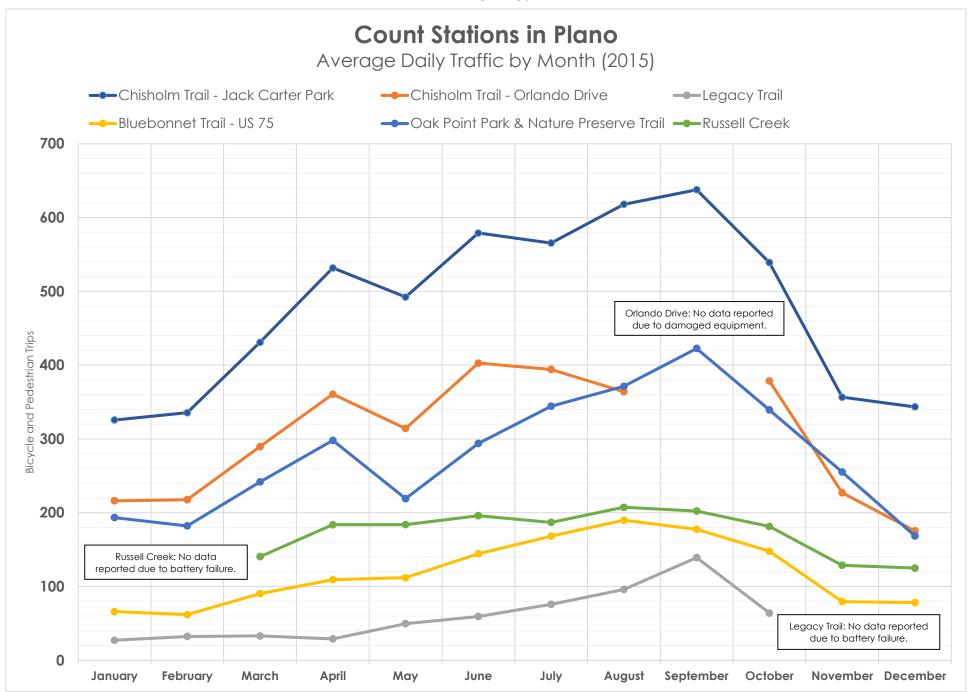


Exhibit 10:



Sample Week Data

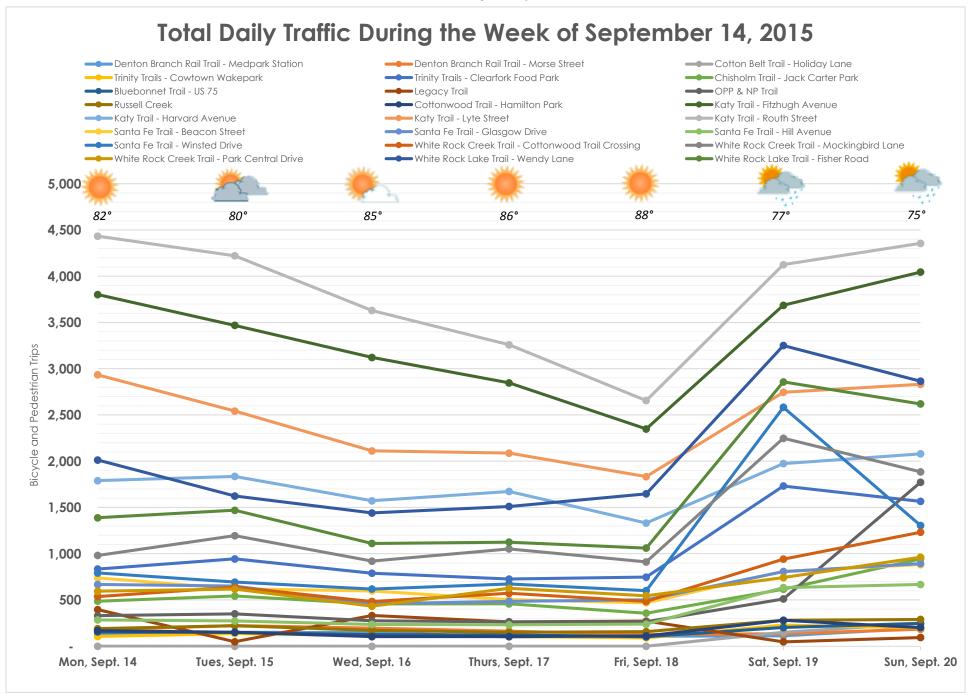
Not only can bicycle and pedestrian traffic fluctuate by month or season, count stations in our region documented fluctuations based on day of the week. In order to illustrate this example, Exhibit 11 displays the total daily number of bicycle and pedestrian trips among all count stations in our region from Monday, September 14 through Sunday, September 20, 2015. The National Pedestrian and Bicycle Documentation Project selected this specific week in September because it's a period for many people to bicycle and walk, both for commuting purposes and school-related trips. Each count station captured diverse patterns and trends during this specific week. In addition to the commute-based trips made during the week, some locations captured an increase of trips on the weekend. On Saturday, September 19, 2015, a nearby weather station recorded 0.47 inches of precipitation which appeared to have no negative impact on usage of the paths. As seen in Exhibit 11, every count station reports a unique pattern throughout the week, indicating that not all shared-use paths are traveled in the

same way. In total, the 26 count stations registered over 166,000 bicycle and pedestrian trips over the course of this week.





Exhibit 11:



Summary

The equipment procured and installed by NCTCOG and partner agencies in the region provides a wealth of data. With new count stations anticipated to be installed in 2016 and future years, NCTCOG will continue to serve as the regional clearinghouse for bicycle and pedestrian data. In total, all of the count stations in this report recorded nearly 4.3 million bicycle and pedestrian trips in 2015. As the active transportation network continues to grow and more bicycle and pedestrian facilities are constructed, NCTCOG will monitor the impact of these changes on the number of trips captured by the count equipment.

Limitations of Data

The amount of bicycle and pedestrian traffic registered by counting equipment presented in this report does not represent unique individuals, but instead represents the number of bicycle and pedestrian trips passing by each count station. The technology used by the count equipment, primarily the passive infrared sensor, is unable to distinguish the number of pedestrians who walk side-by-side and in large groups. Therefore, the data in

this report should be interpreted as slightly conservative. NCTCOG validated the accuracy of six NCTCOG-owned count stations and developed a unique correction factor for each mode at each location. NCTCOG staff observed the count stations for four hours and compared the manually recorded data to that collected by the equipment. Results from the validation process found pedestrians to have a higher error rate (ranging from 3-30 percent) than bicyclists (ranging from 4-8 percent). Correction factors were applied to the following six count stations:

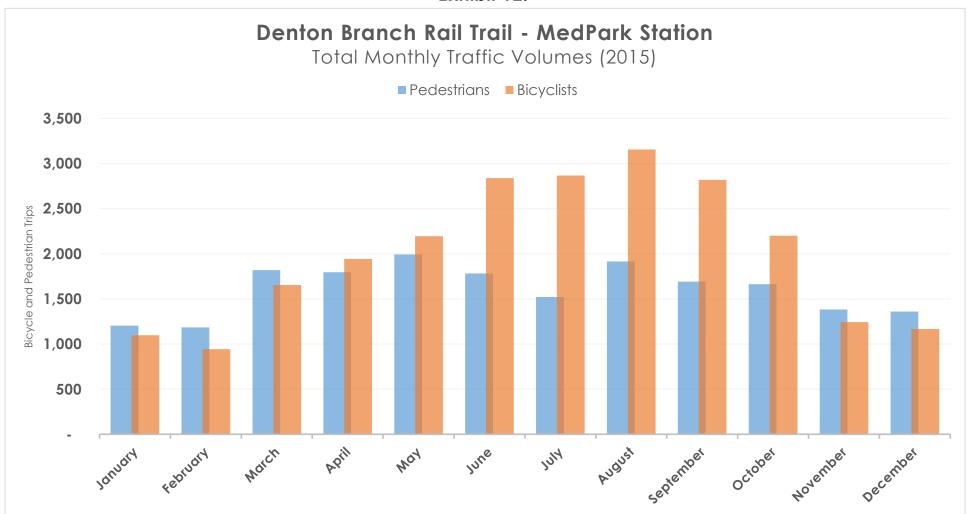
- 1. Chisholm Trail Jack Carter Park
- 2. Chisholm Trail Orlando Drive
- 3. Denton Branch Rail Trail Medpark Station
- 4. Denton Branch Rail Trail Morse Street
- 5. Trinity Trails Henderson Street Bridge
- 6. Trinity Trails Clearfork Food Park

In 2016, NCTCOG will work with partner agencies to perform validation counts and apply correction factors to each of the count stations.

Appendix: Individual Count Station Summaries

Denton

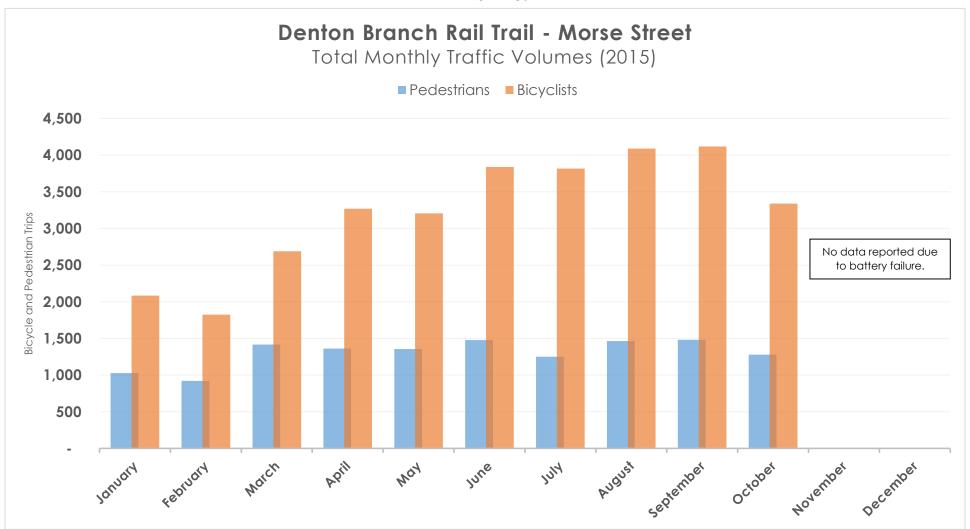
Exhibit 12:



2015 Annual Traffic	
Pedestrians	19,314
Bicyclists	24,127
Total Traffic	43,441

Denton

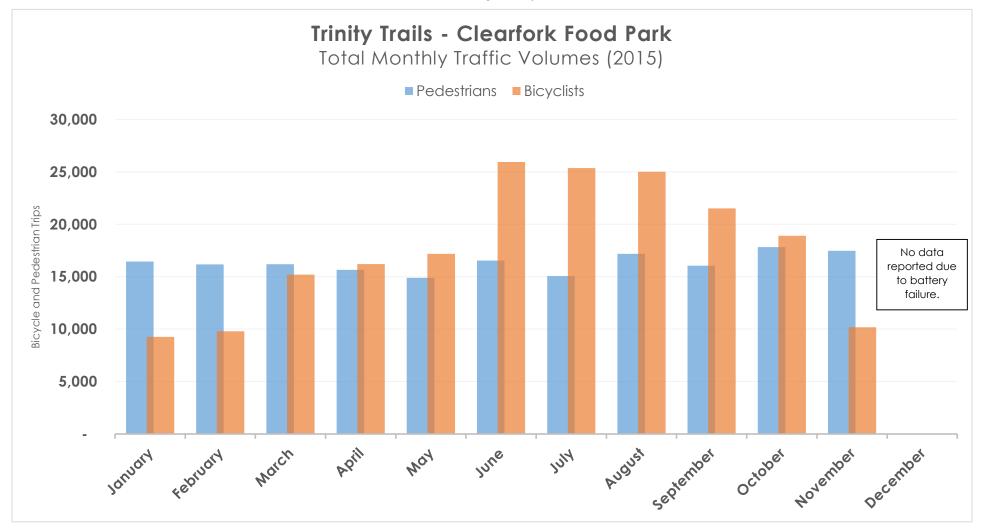
Exhibit 13:



2015 Annual Traffic (partial year)	
Pedestrians	13,039
Bicyclists	32,276
Total Traffic	45,315

Fort Worth

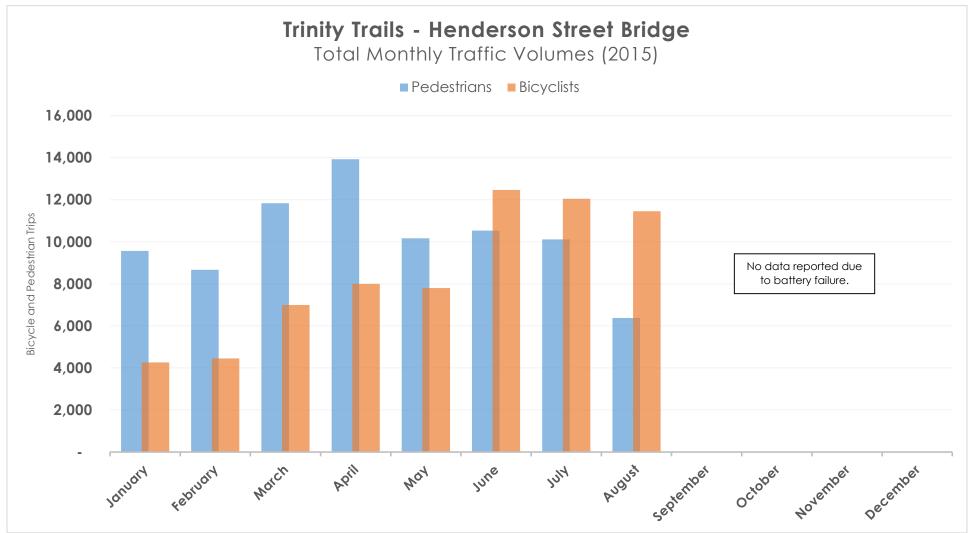




2015 Annual Traffic (partial year)	
Pedestrians	179,483
Bicyclists	194,528
Total Traffic	374,011

Fort Worth

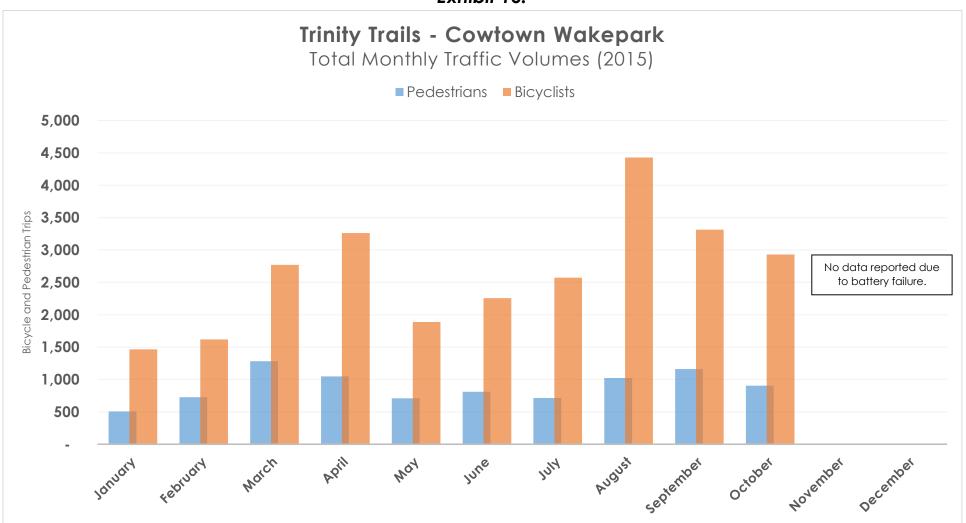




2015 Annual Traffic (partial year)	
Pedestrians	81,173
Bicyclists	67,473
Total Traffic	148,647

Fort Worth

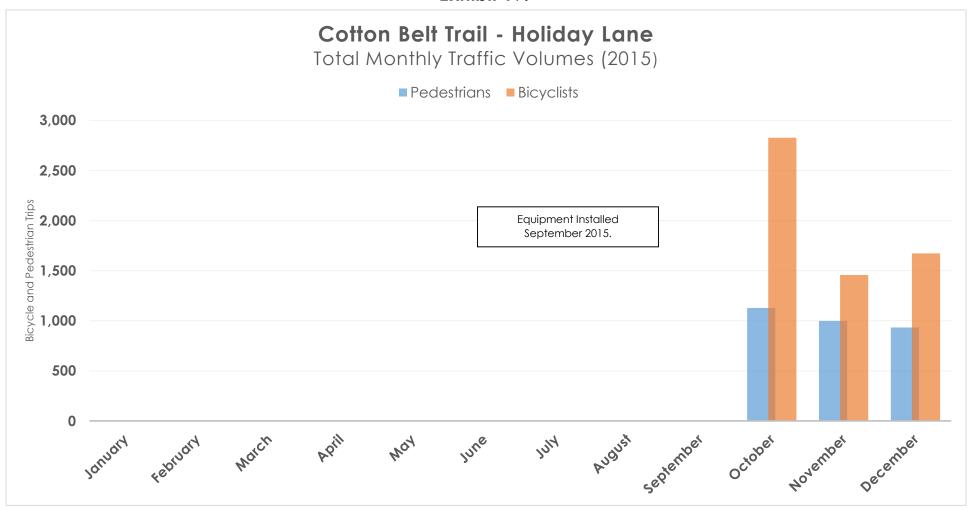




2015 Annual Traffic (partial year)	
Pedestrians	8,882
Bicyclists	26,505
Total Traffic	35,387

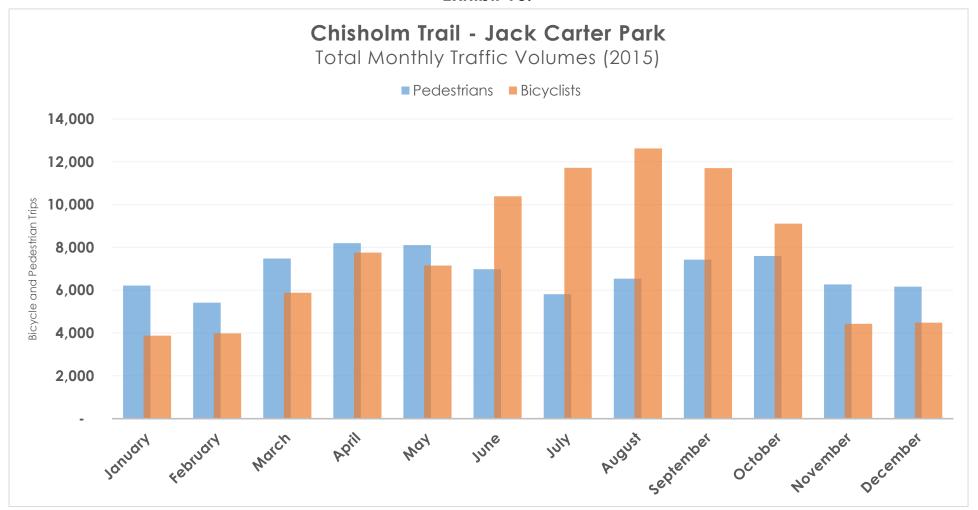
North Richland Hills





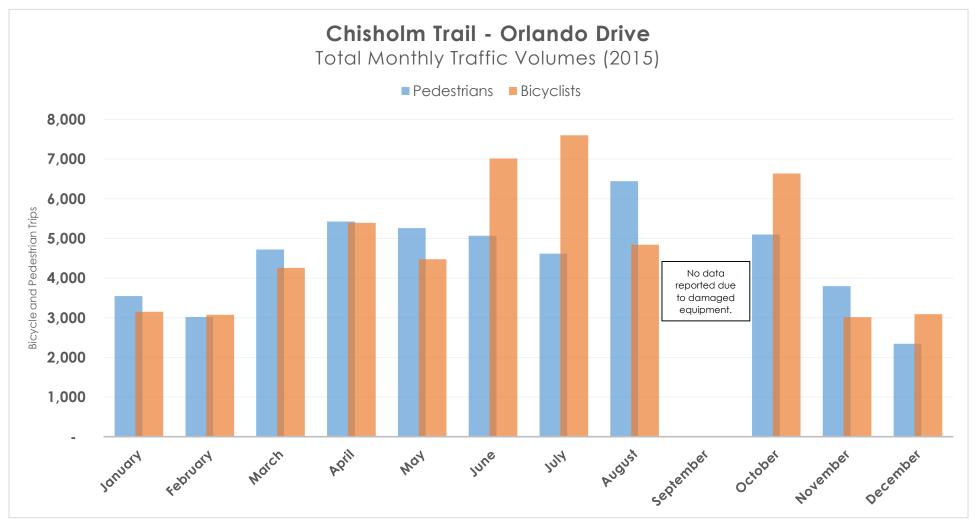
2015 Annual Traffic (partial year)	
Pedestrians	3,060
Bicyclists	5,956
Total Traffic	9,016





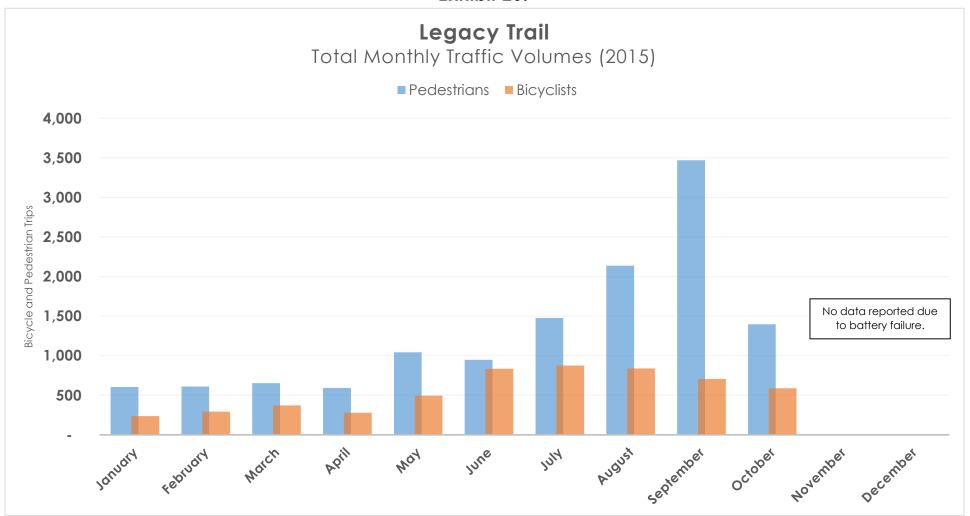
2015 Annual Traffic	
Pedestrians	82,208
Bicyclists	93,107
Total Traffic	175,314





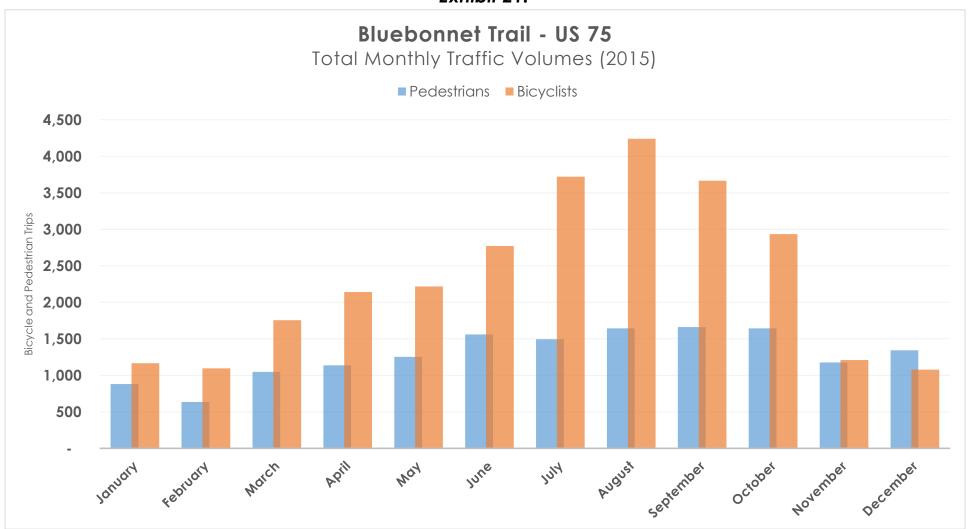
2015 Annual Traffic (partial year)	
Pedestrians	49,347
Bicyclists	52,553
Total Traffic	101,900





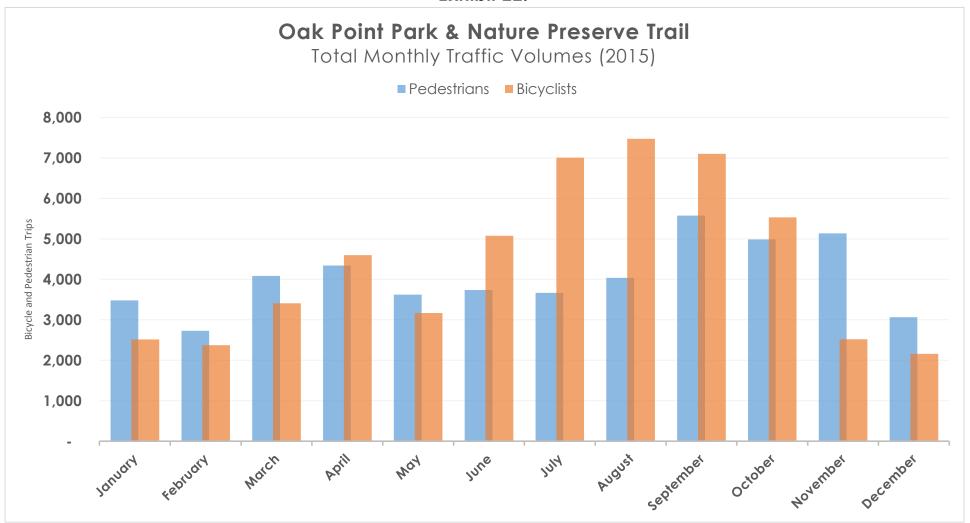
2015 Annual Traffic (partial year)	
Pedestrians	12,927
Bicyclists	5,514
Total Traffic	18,441





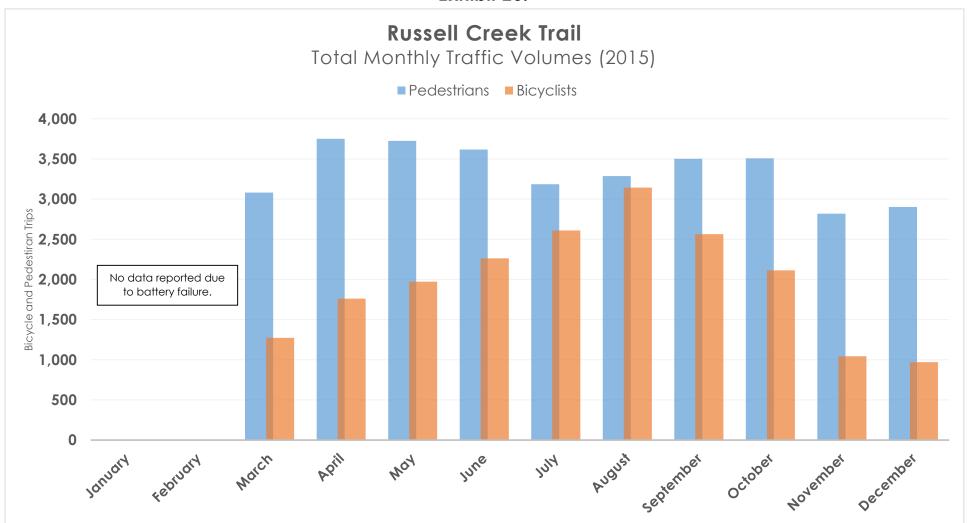
2015 Annual Traffic	
Pedestrians	15,476
Bicyclists	27,995
Total Traffic	43,471





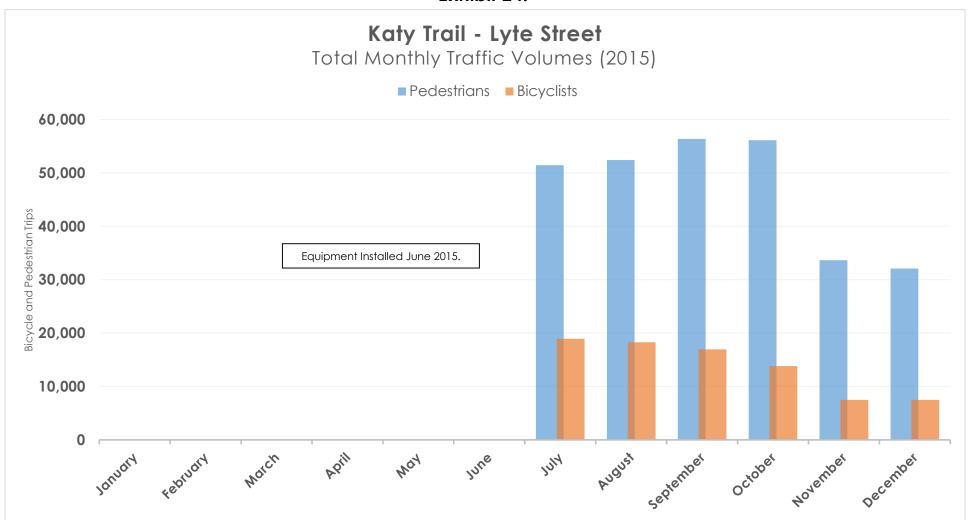
2015 Annual Traffic	
Pedestrians	48,460
Bicyclists	52,936
Total Traffic	101,396





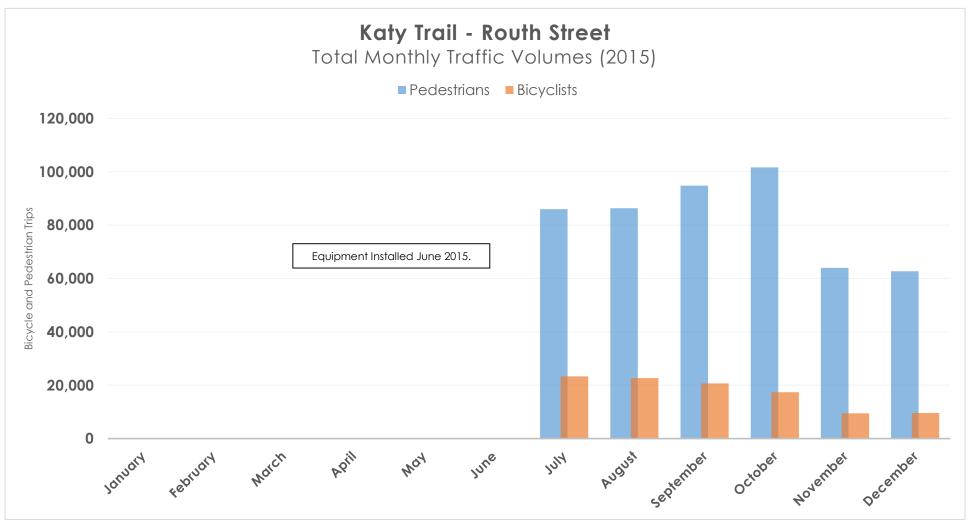
2015 Annual Traffic (partial year)	
Pedestrians	33,382
Bicyclists	19,713
Total Traffic	53,095





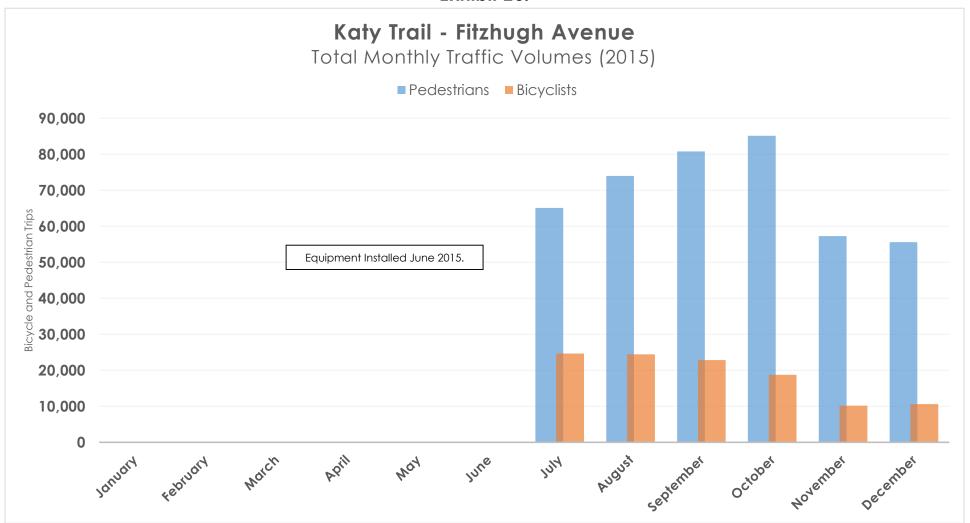
2015 Annual Traffic (partial year)	
Pedestrians	282,134
Bicyclists	83,018
Total Traffic	365,152





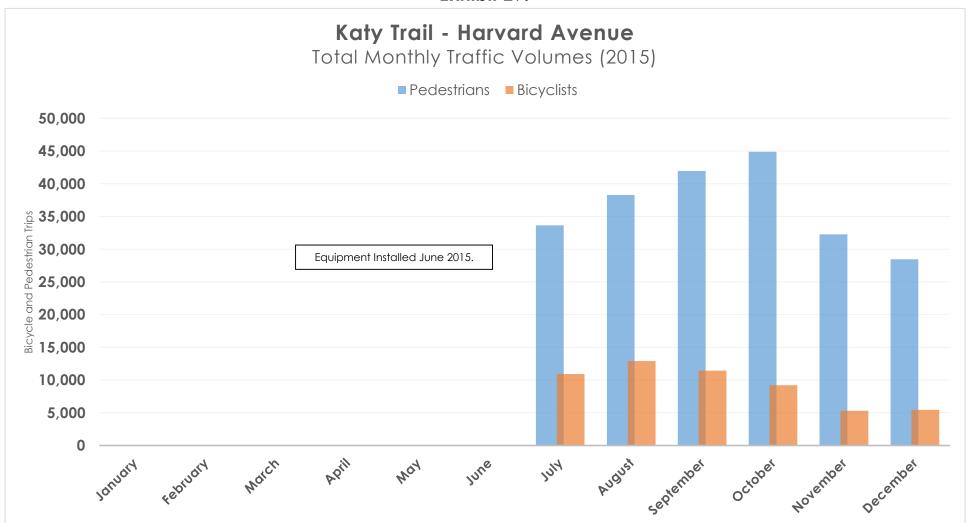
2015 Annual Traffic (partial year)	
Pedestrians	495,477
Bicyclists	102,983
Total Traffic	598,460





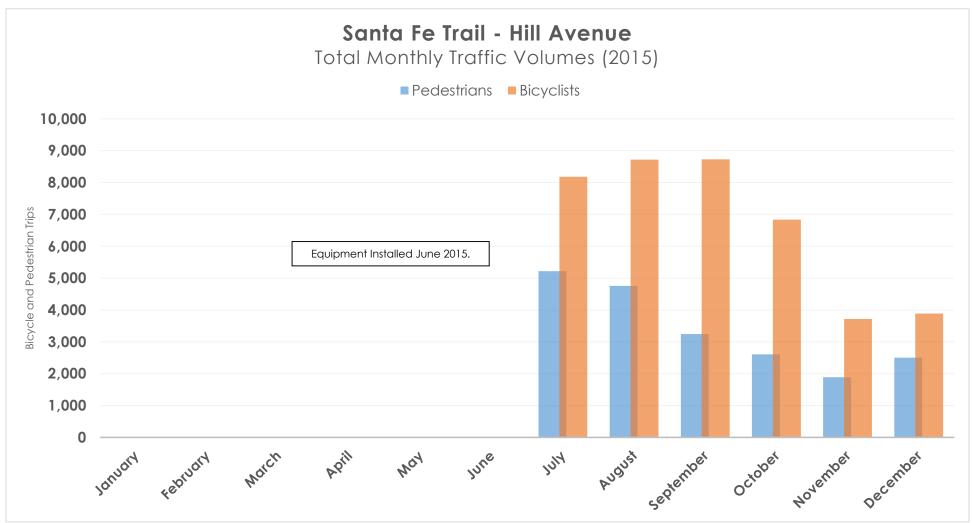
2015 Annual Traffic (partial year)	
Pedestrians	417,890
Bicyclists	111,497
Total Traffic	529,387





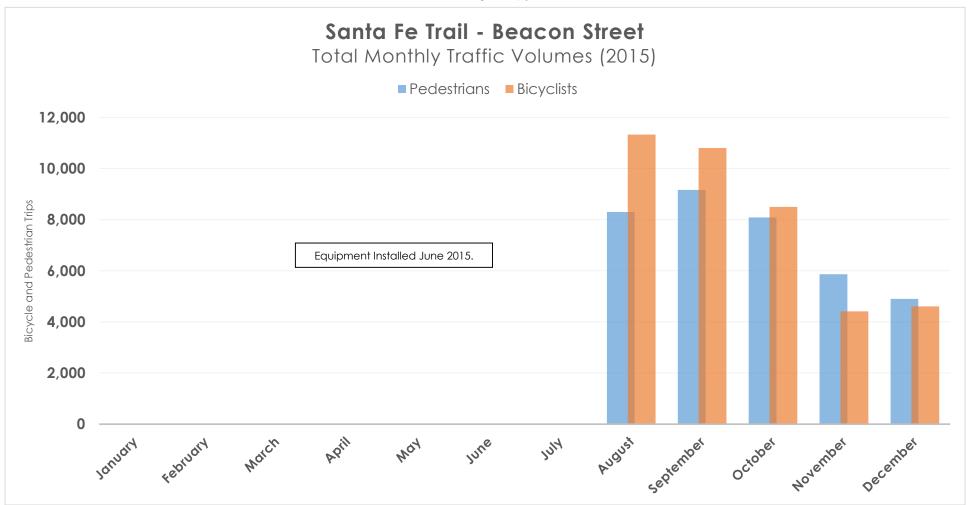
2015 Annual Traffic (partial year)	
Pedestrians	219,553
Bicyclists	55,239
Total Traffic	274,792





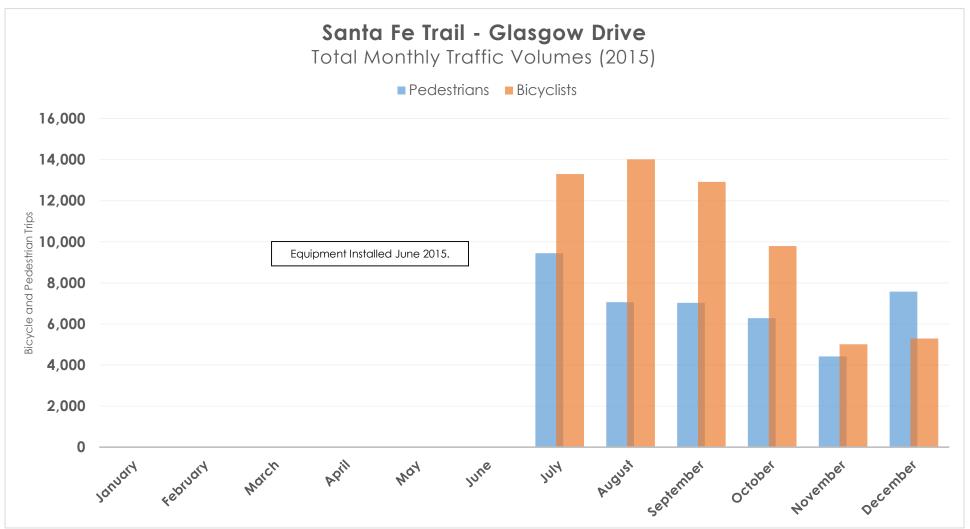
2015 Annual Traffic (partial year)	
Pedestrians	20,215
Bicyclists	40,069
Total Traffic	60,284





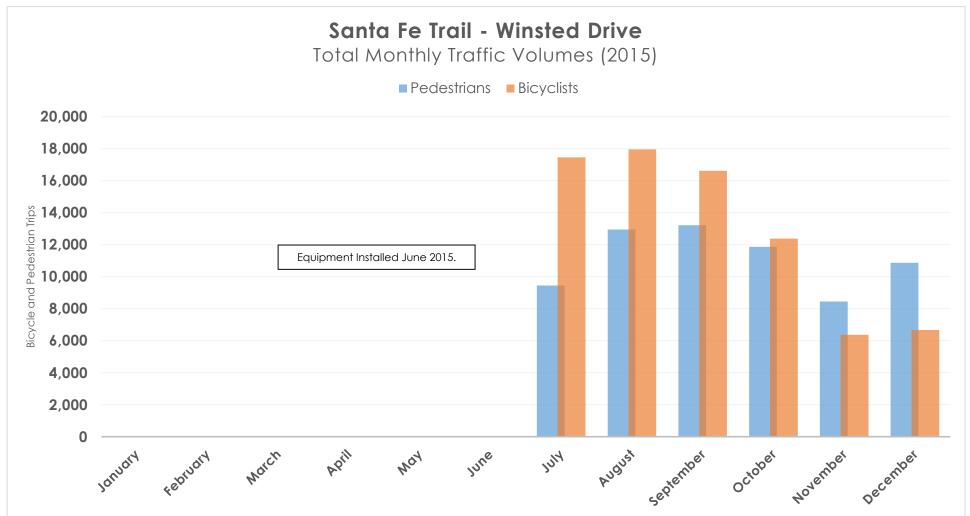
2015 Annual Traffic (partial year)	
Pedestrians	36,318
Bicyclists	39,654
Total Traffic	75,972





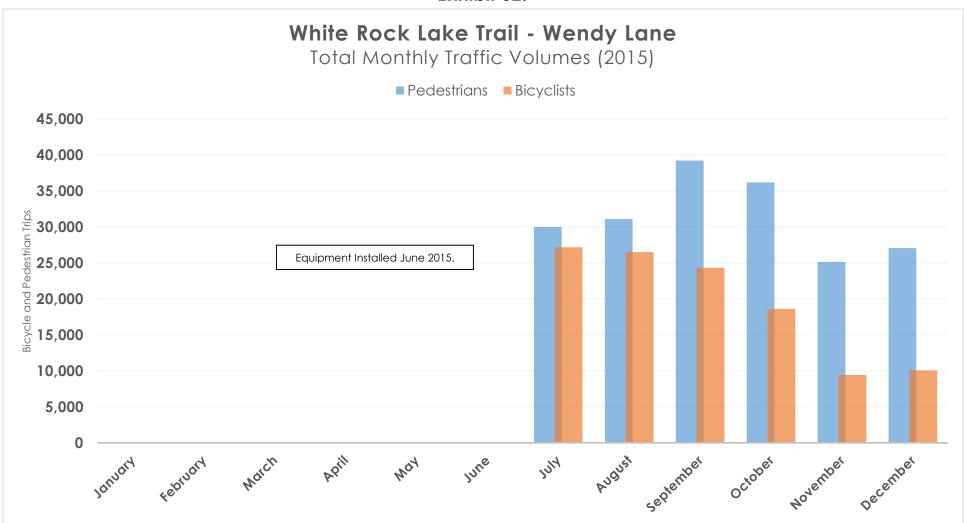
2015 Annual Traffic (partial year)	
Pedestrians	41,800
Bicyclists	60,318
Total Traffic	102,118





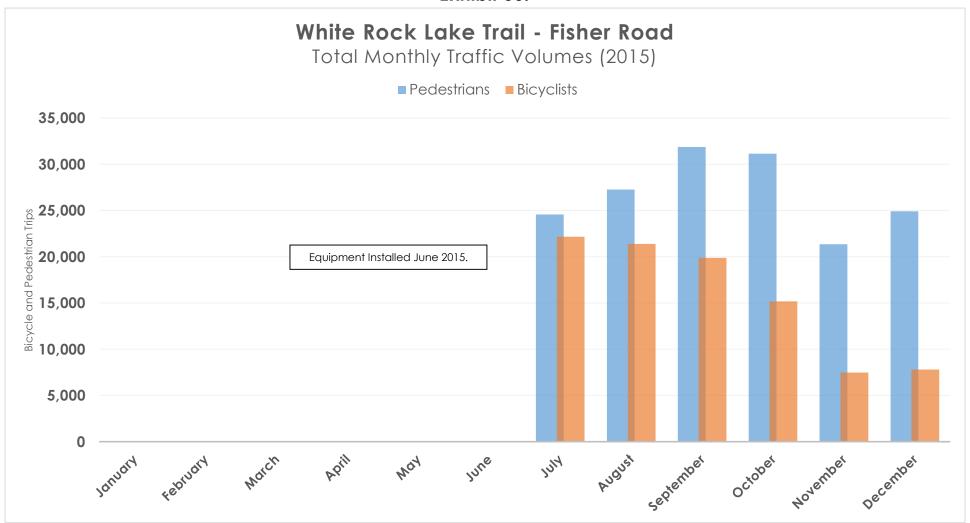
2015 Annual Traffic (partial year)	
Pedestrians	66,799
Bicyclists	77,432
Total Traffic	144,231





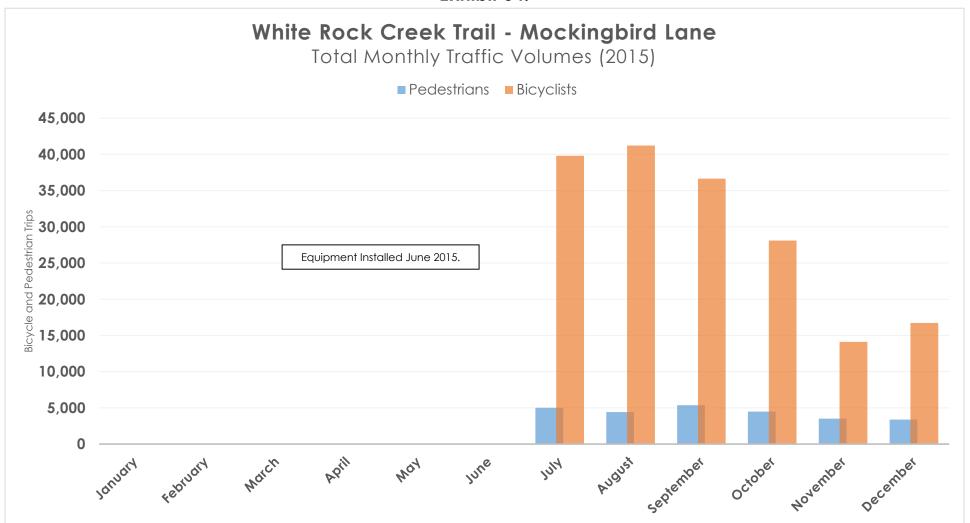
2015 Annual Traffic (partial year)	
Pedestrians	188,745
Bicyclists	116,093
Total Traffic	304,838





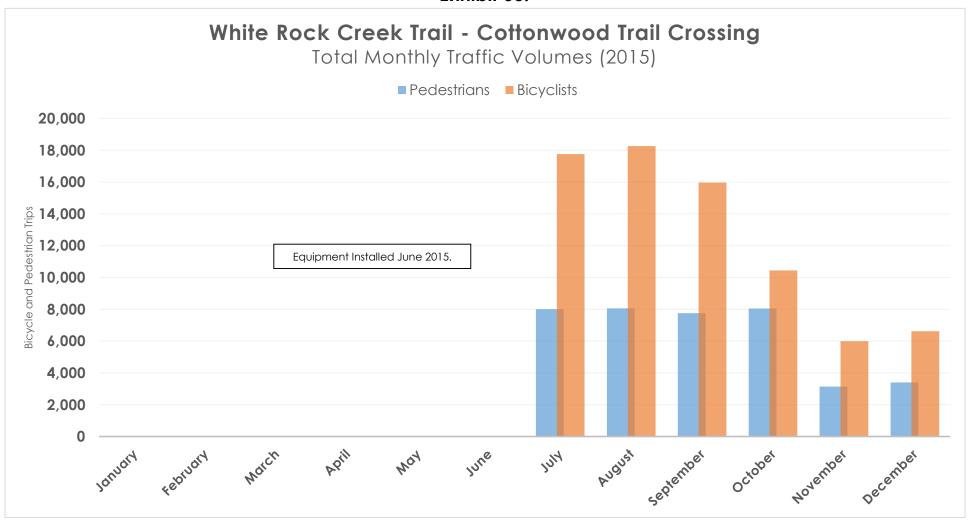
2015 Annual Traffic (partial year)	
Pedestrians	161,127
Bicyclists	93,910
Total Traffic	255,037





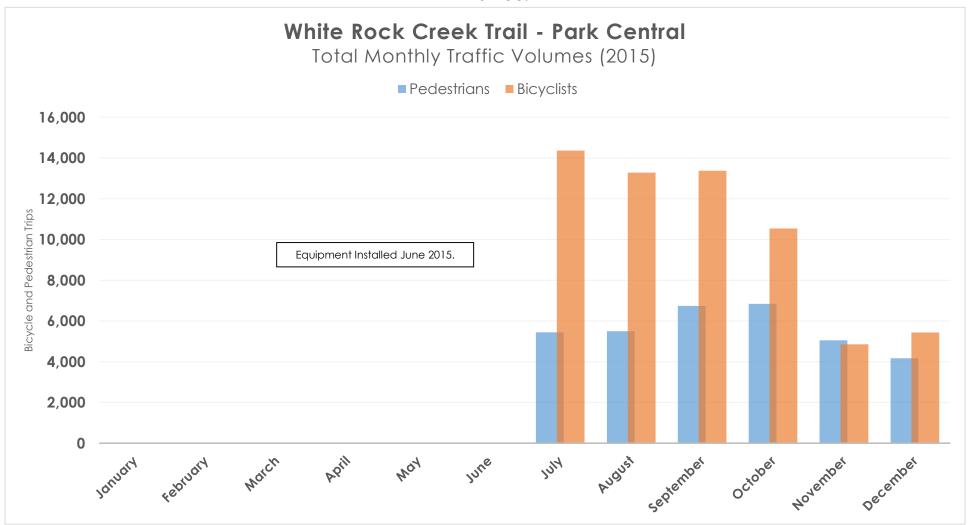
2015 Annual Traffic (partial year)	
Pedestrians	26,163
Bicyclists	176,596
Total Traffic	202,759





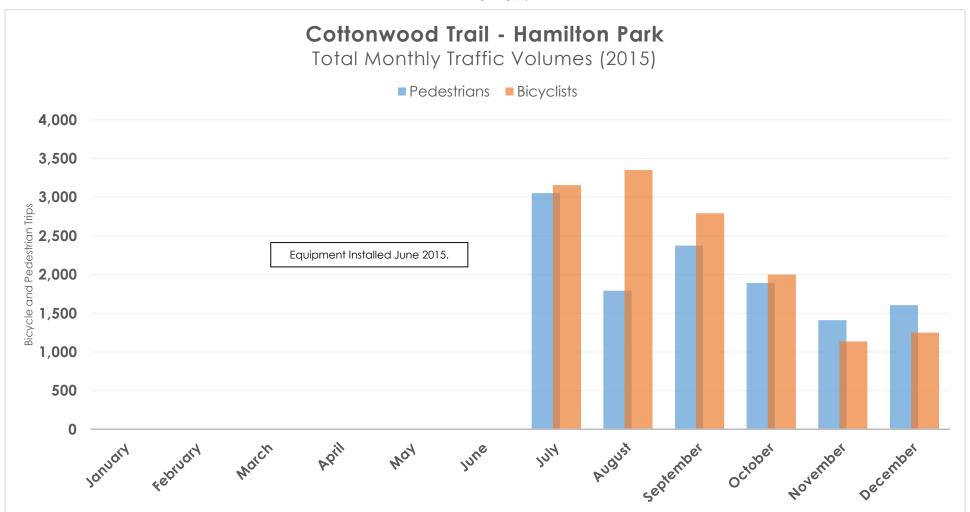
2015 Annual Traffic (partial year)	
Pedestrians	38,433
Bicyclists	75,029
Total Traffic	113,462





2015 Annual Traffic (partial year)	
Pedestrians	33,745
Bicyclists	61,861
Total Traffic	95,606





2015 Annual Traffic (partial year)	
Pedestrians	12,124
Bicyclists	13,681
Total Traffic	25,805