County of Essex

WWW.CWATS.CA

CWATS COUNTS

Active Transportation Monitoring Program 2018

Active Transportation

What is Active Transportation?

"Active transportation refers to all human-powered forms of transportation, in particular walking and cycling. It includes the use of mobility aids such as wheel chairs, and can also encompass other active transport variations such as in-line skating, skateboarding, cross-country skiing, and even kayaking. Active transportation can also be combined with other modes, such as public transit" (Transport Canada, 2011)

Benefits of AT

ENVIRONMENTAL BENEFITS

- Generates very little air pollution
- Less carbon intensive than cars
- Reduced energy consumption
- An important component to municipal greenhouse gas reduction plan

PUBLIC HEALTH AND SAFETY

- Encourages physical activity and therefore is a healthier mode of transportation
- A well-designed cycling infrastructure can greatly improve pedestrian and cyclist safety

ECONOMICAL BENEFITS

- The development and maintenance costs of AT infrastructure are far lower than other transportation infrastructure
- AT infrastructure can have positive local economic development impacts and produce individual cost savings

TRANSPORTATION BENEFITS

- A good municipal AT network improves connections to, and between, community destinations, which improves the broader transportation network
- AT decongests traffic throughout roadways

Resource: https://www.fcm.ca/Documents/tools/GMF/Transport_Canada/ActiveTranspoGuide_EN.pdf

AT Count Program

Overview

- In 2015, the County of Essex established a short term Active Transportation Count program that provides a snapshot in time for pedestrian/cyclist activity. Data on usage and demand is essential to build long term support for walking and cycling to improve conditions where possible.
- CWATS facilities connects all 7 municipalities of the County of Essex together and to the Trans Canada Trail (Great Trail).
- Purpose: Allows further development of the trail system, observe how the trails are currently being used as well as behavioral aspects of the AT users.
- Types of Infrastructure: Multi Use Trails (MUT), paved shoulder, signed route, bike lane, 1-way cycle path, 2-way cycle path.
- MUT and paved shoulders are the most common types of facilities CWATS has built to date.

Terminology

Definitions:

- Utilitarian Cyclists - those who ride a bicycle for utilitarian purposes such as going to work or school, running errands, going shopping or visiting friends
- Recreational Cyclists - those who ride a bicycle for recreation or fitness purposes
- Elite Cyclists – Advanced cyclists
- Non-Cyclists - those who do not ride a bicycle (including pedestrians, e-bikes, rollerblades, skateboards etc.)

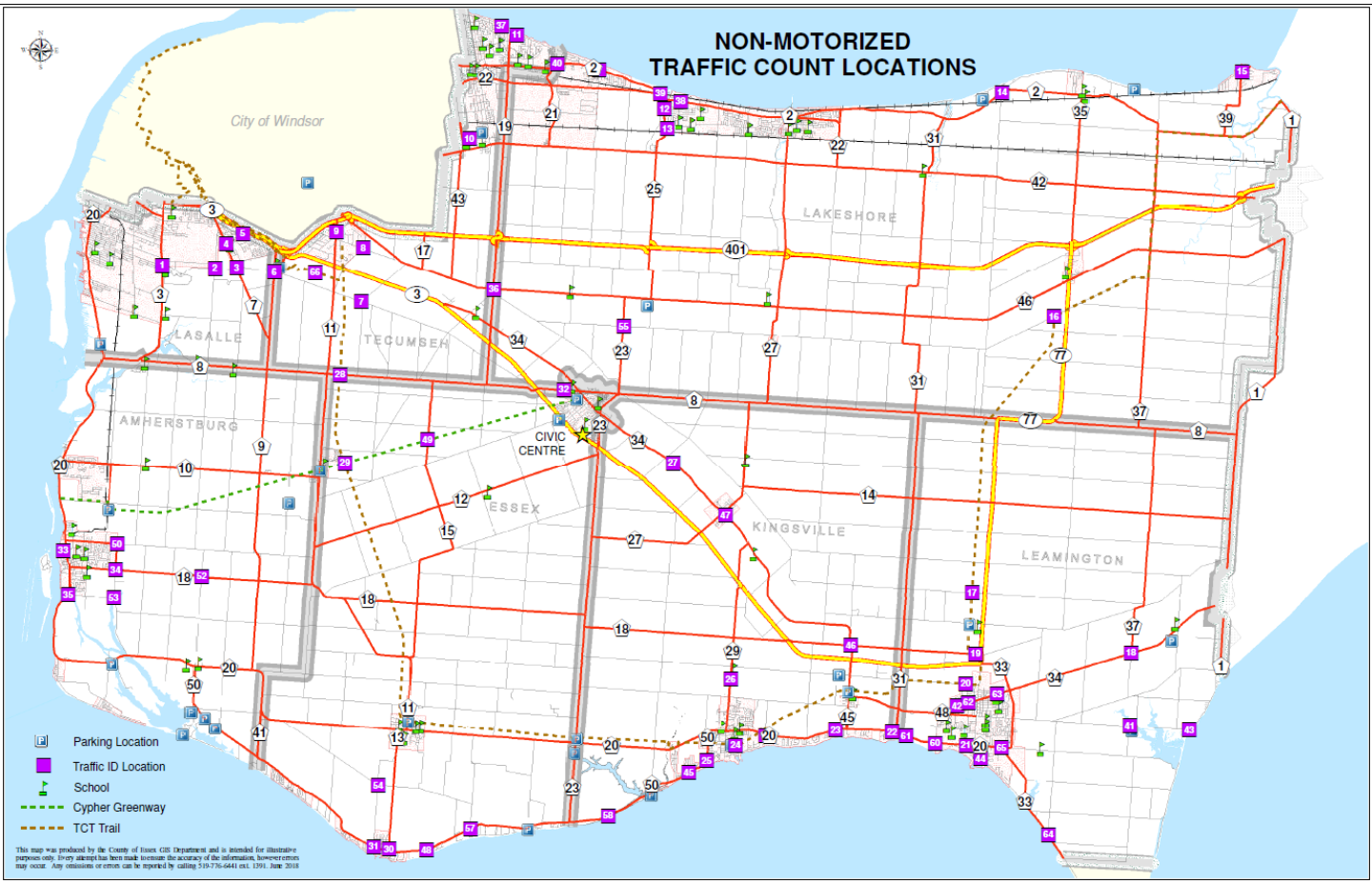
Reference:

https://www1.toronto.ca/city_of_toronto/transportation_services/cycling/files/pdf/decimareport.pdf

Research Methodology

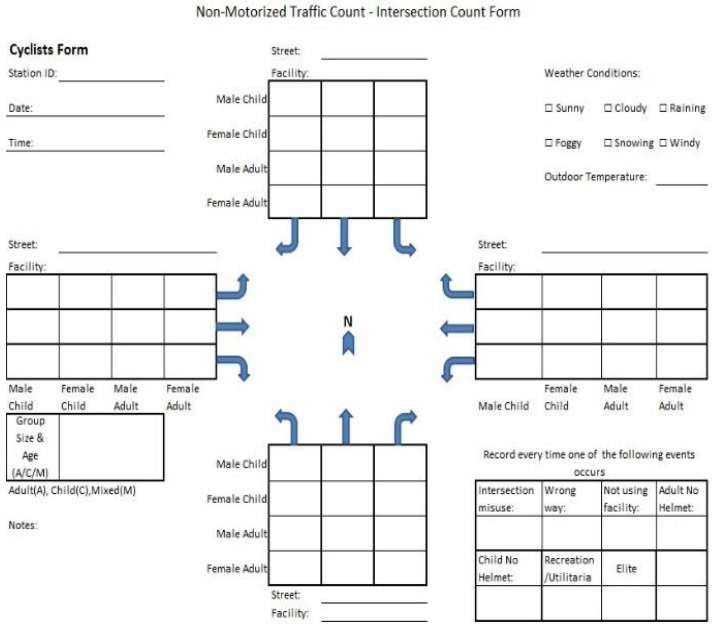
- The study aims to count active transportation users at all built locations, including new facilities that are planned in any given year.
- The study was conducted at 66 count locations in all 7 municipalities of the County of Essex.
- 11 new locations for 2018.
- Observe all forms of active transportation, direction of travel, appropriate usage, safety, age, gender.
- Timeline: June 29th 2018 – August 1st, 2018
- Time period: 1 - 2 hour counts per location
- Peak times: 9 –11 am

Count Locations Map



Intersection and Segment Count Forms

The raw data was gathered using the following forms and then put into a comprehensive Excel database. Two forms were used, one for segments and one for intersections.



Non-Motorized Traffic Count - Intersection Count Form

Cyclists Form

Station ID: _____

Date: _____

Time: _____

Street: _____

Facility: _____

Male Child			
Female Child			
Male Adult			
Female Adult			

Weather Conditions:

☐ Sunny ☐ Cloudy ☐ Raining

☐ Foggy ☐ Snowing ☐ Windy

Outdoor Temperature: _____

Street: _____

Facility: _____

Male Child	Female Child	Male Adult	Female Adult

N

Street: _____

Facility: _____

Male Child	Female Child	Male Adult	Female Adult

Group Size & Age (A/C/M)	

Adult(A), Child(C),Mixed(M)

Notes:

Male Child			
Female Child			
Male Adult			
Female Adult			

Street: _____

Facility: _____

Record every time one of the following events occurs

Intersection misuse:	Wrong way:	Not using facility:	Adult No Helmet:
Child No Helmet:	Recreation /Utilitaria	Elite	

Non-Motorized Traffic Count - Segment Count Form

Station ID: _____

Road Name: _____

Existing Facility: _____

Direction of Road: ☐ East-West ☐ North-South

Road Speed: _____

Date: _____

Time: _____

Weather Conditions: ☐ Sunny ☐ Cloudy ☐ Raining ☐ Snowing ☐ Foggy ☐ Windy

Outdoor Temperature: _____

Direction of travel: ☐ East ☐ North					
Activity	Child Male	Child Female	Adult Male	Adult Female	Group Size & Age (A/C/M)*
Walking/ Running					
Cyclists					
Rollerblades/ Skateboards					
wheelchair					
e-bike					
other					
Total					

Direction of travel: ☐ West ☐ South					
Activity	Child Male	Child Female	Adult Male	Adult Female	Group Size & Age (A/C/M)*
Walking/ Running					
Cyclists					
Rollerblades/ Skateboards					
wheelchair					
e-bike					
other					
Total					

Record every time one of the following events occurs:

Wrong way:	Not using facility:	Adult No Helmet:	Child No Helmet:

*take note of groups and mark the age of the users as Mixed(M),Adult(A), or Child(C)

For each user place in category:

Elite	Recreation / Utilitarian

Key Findings

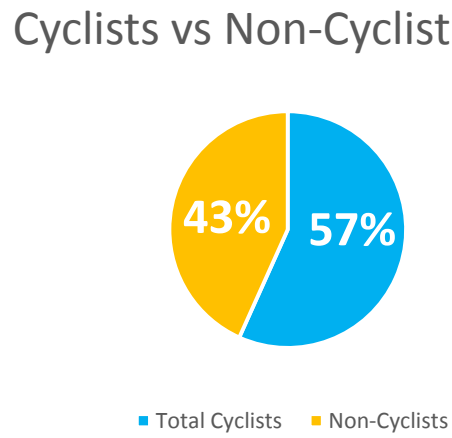
Overall Findings for AT Usage

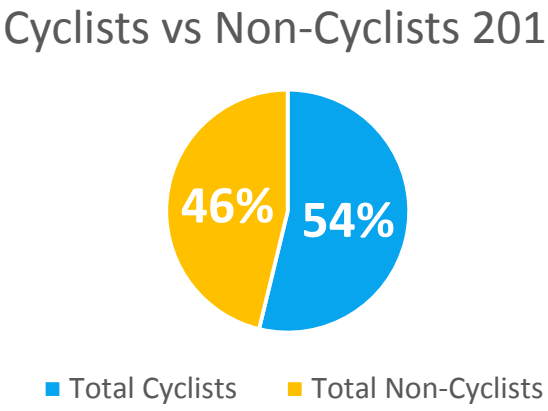
Total Cyclists	427
Total Non-Cyclists	328
Total Females	321
Total Males	437
Total Adults	640
Total Children	115
Recreational Users	722
Elite Users	33
Hours of Counts	102
Total AT Users	755
User/Hour	9.4

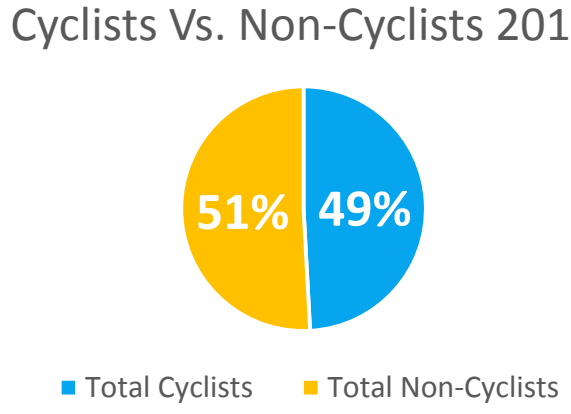
There were a total of 427 cyclists and 328 non-cyclists throughout Essex County during the count program in July 2018.

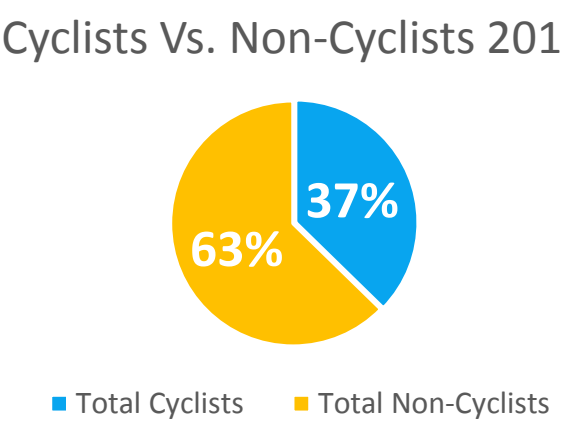
Comparison of Cyclists and Non-Cyclists

- A key finding of the Active Transportation count program has been a continued trend of increased cyclists.
- In 2017 and 2018, the number of cyclists has surpassed the number of non-cyclists.
- Of the total 755 users, 57% were cyclists and 43% were pedestrians .
- This demonstrates that cycling is increasingly more popular amongst Essex County residents as a legitimate mode of transportation .



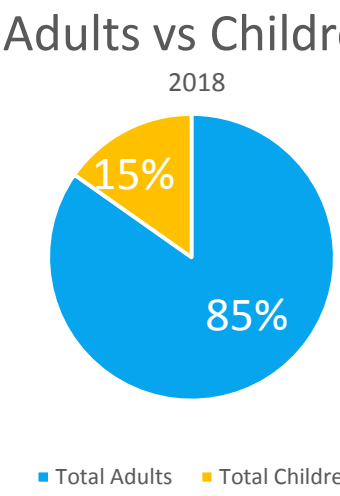


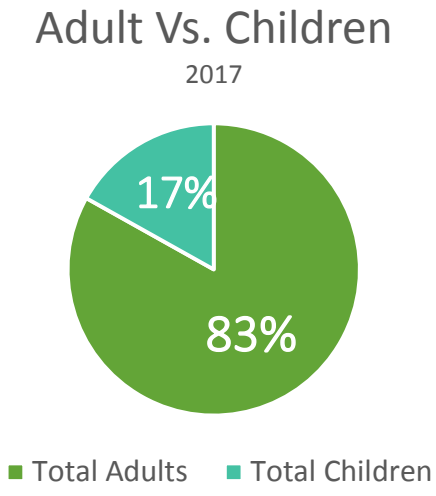


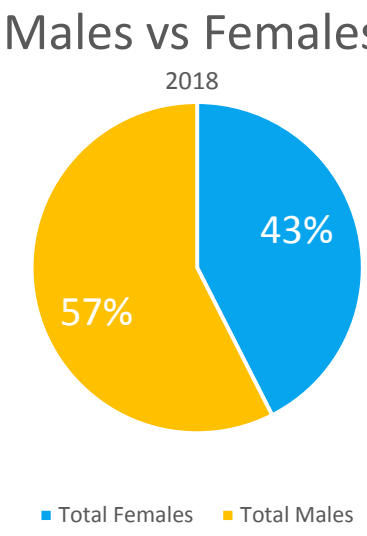


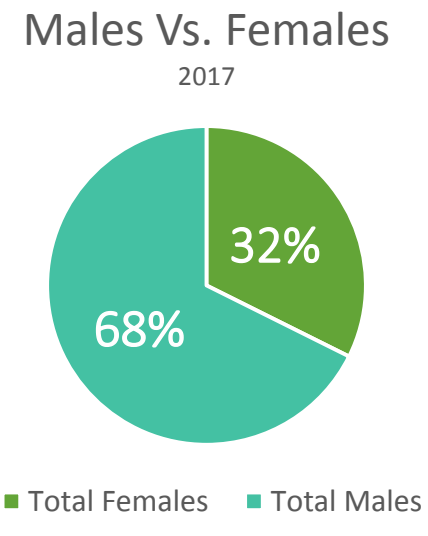
Demographic and Behavioural Findings

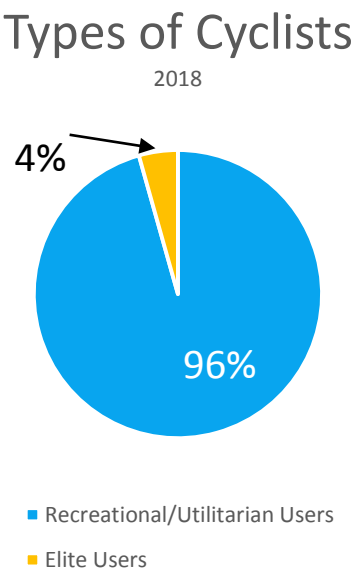
- The study also suggested that there are generally more male cyclists than females, 57% to 43% respectively. This is a large increase in female participation in comparison to findings from 2017.
- Adults use AT facilities more than children as AT users, 85% to 15%.
- There are more recreational/ utilitarian cyclists than elite cyclists.

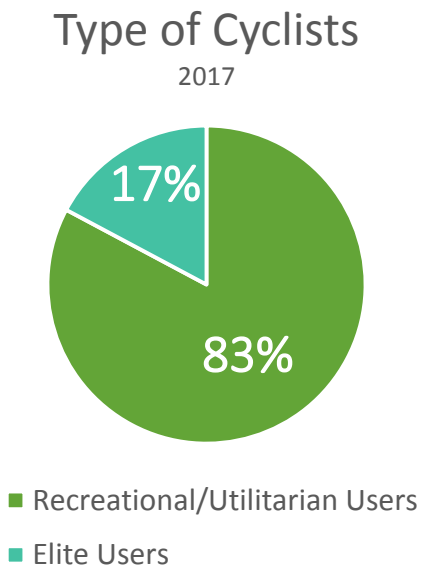






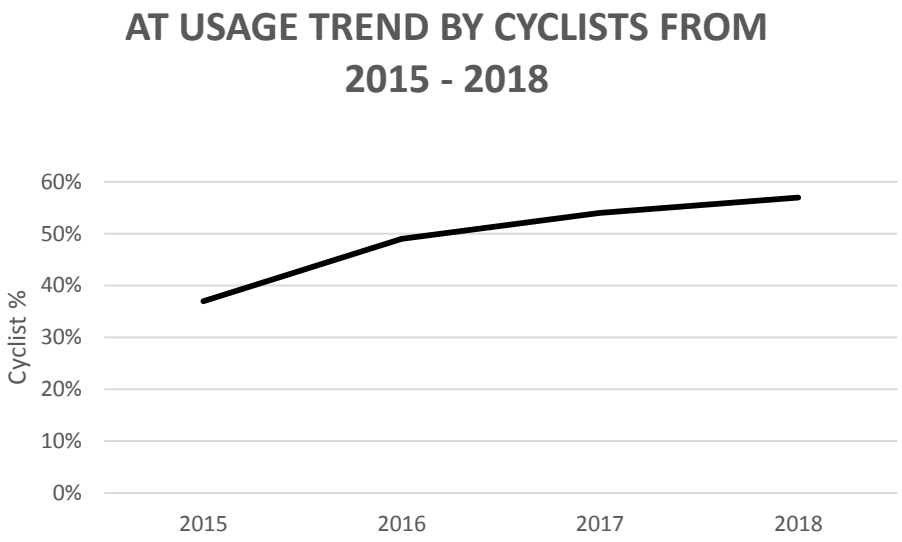


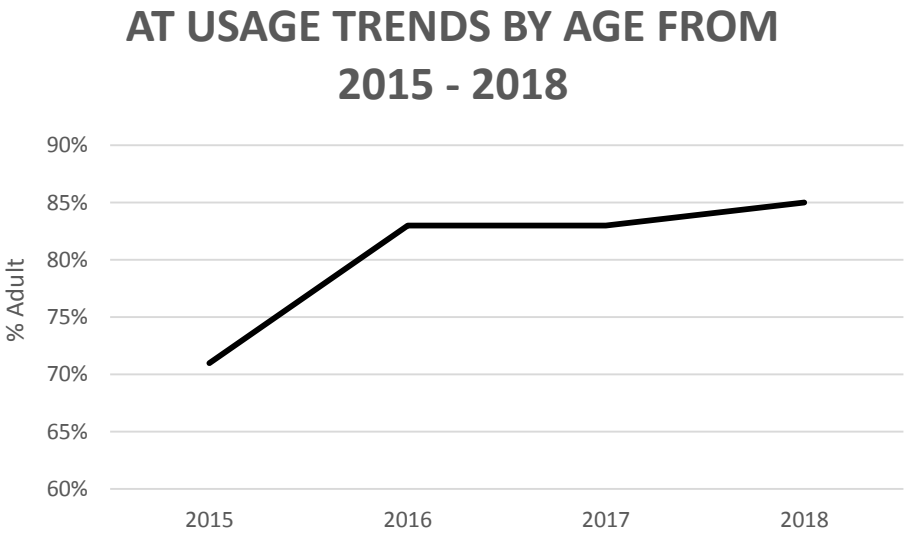


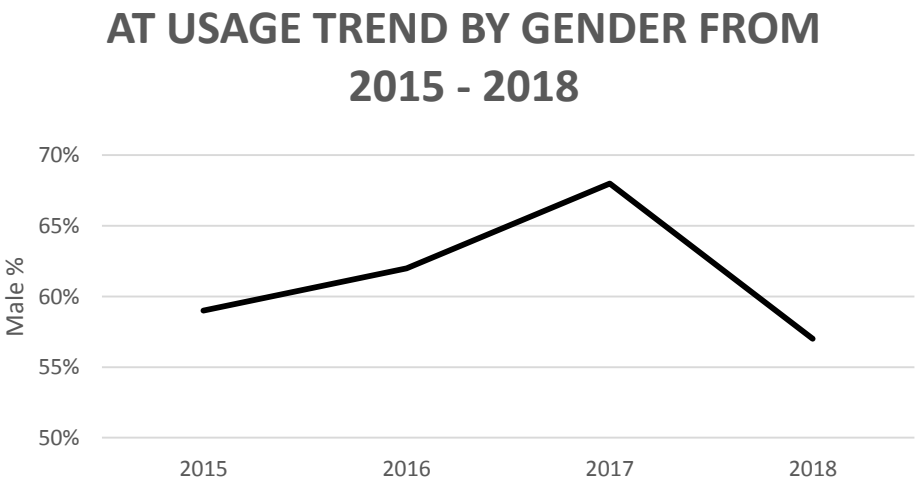


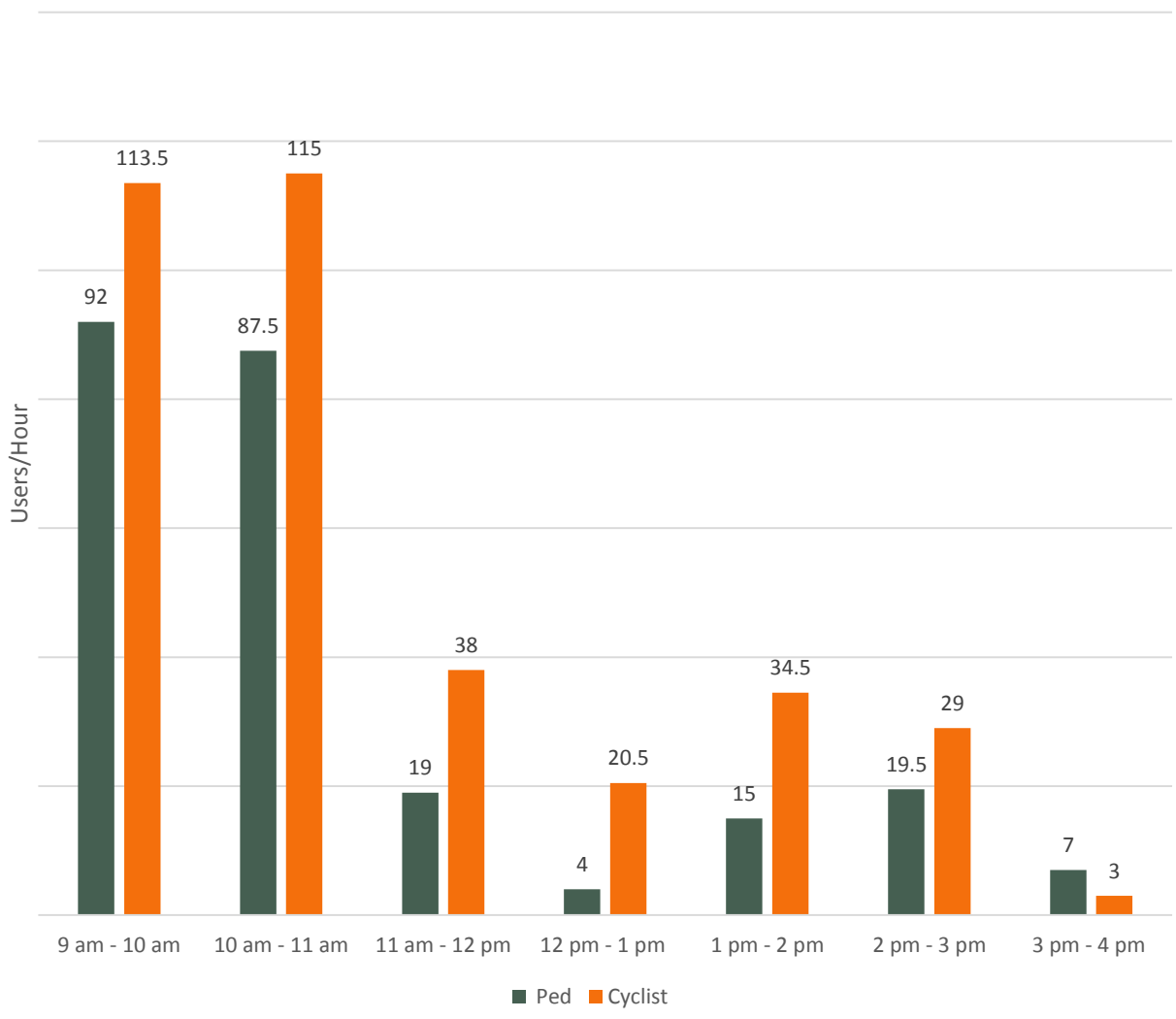
Demographic and Behavioural Findings: Overall Trends

- The general trend in AT usage from 2015 to 2018 showed an increase in the number of cyclists.
- In 2017 and 2018, the number of cyclists surpassed the number of pedestrians.
- Age and gender trends show that there are slightly more male users that females in the County of Essex.







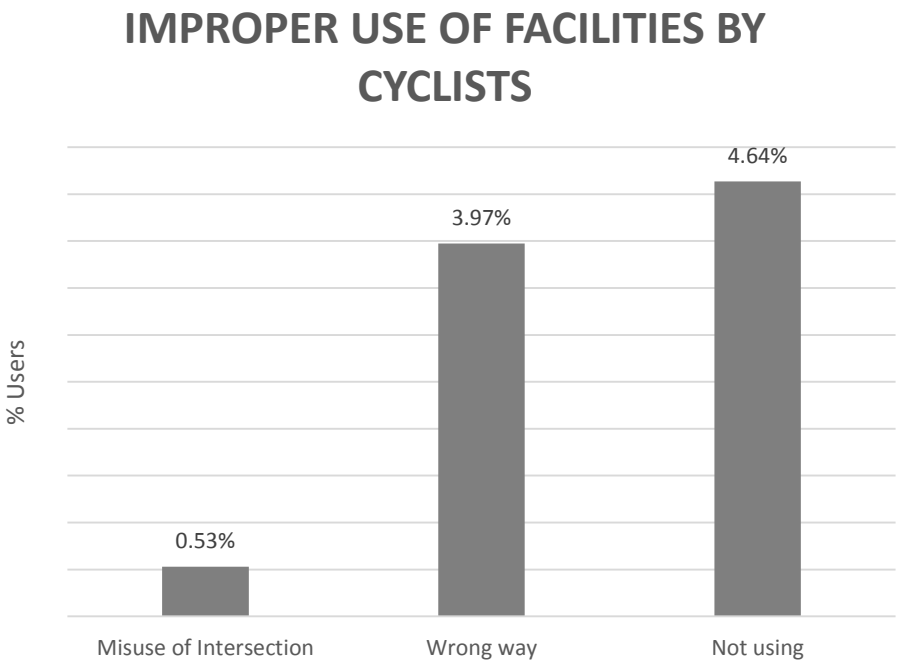


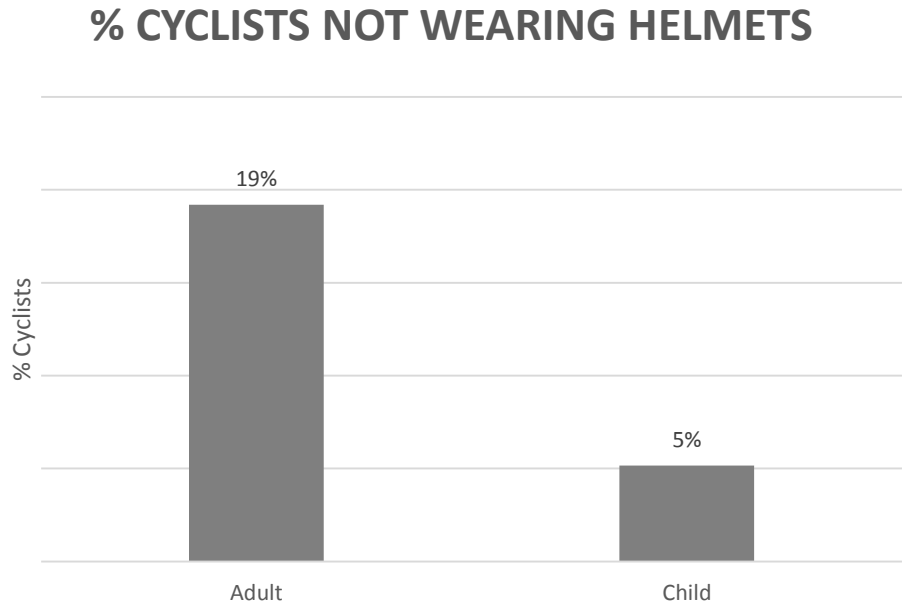
Demographic and Behavioural Factors: Time of Usage

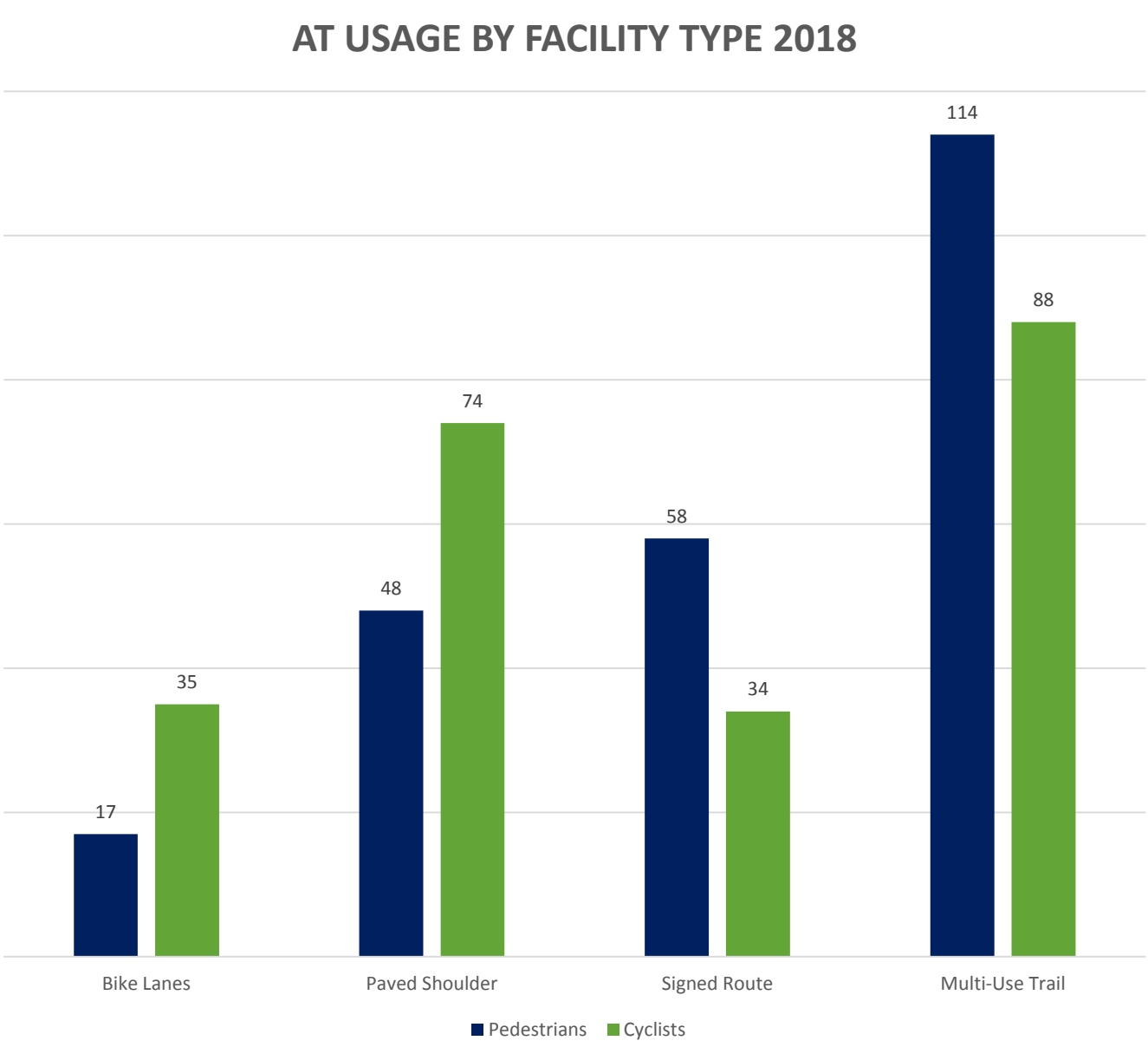
- CWATS facilities were most used during the morning hours ; 9:00 am to 11:00 am by all AT users.
- These findings however may not provide an accurate representation of AT usage throughout the day and week because different sites were counted at different times of the day on different days of the week.

Demographic and Behavioural Findings: Safety Factors

- The majority of CWATS users properly use AT facilities.
- 24% of cyclists did not wear helmets in 2018 compared to 51% in 2017.
- This may be an opportunity to increase education on road and bike safety.





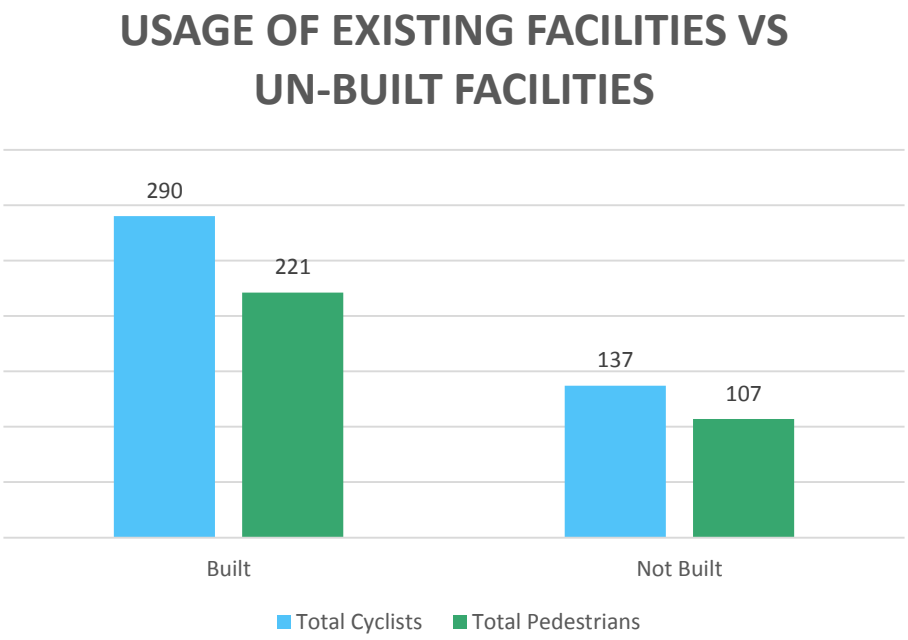


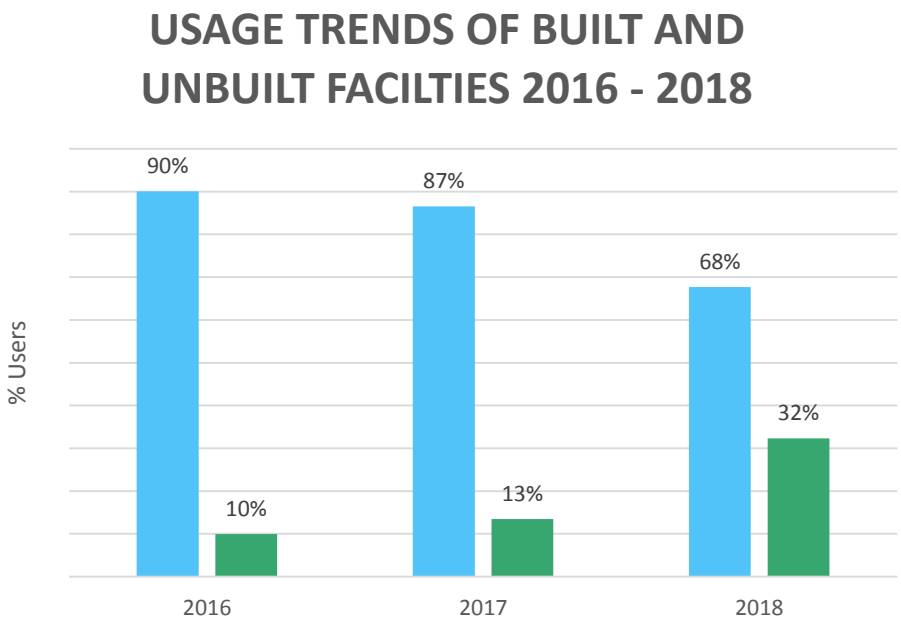
Findings Based on Facility Type

- There were 4 major types of CWATS facilities: multi use trails (MUT), paved shoulders, bike lanes and signed routes
- Multi – used trails have the highest number of both cyclists and pedestrians.
- General usage trend suggests that MUT are used the most by both cyclists and pedestrians.

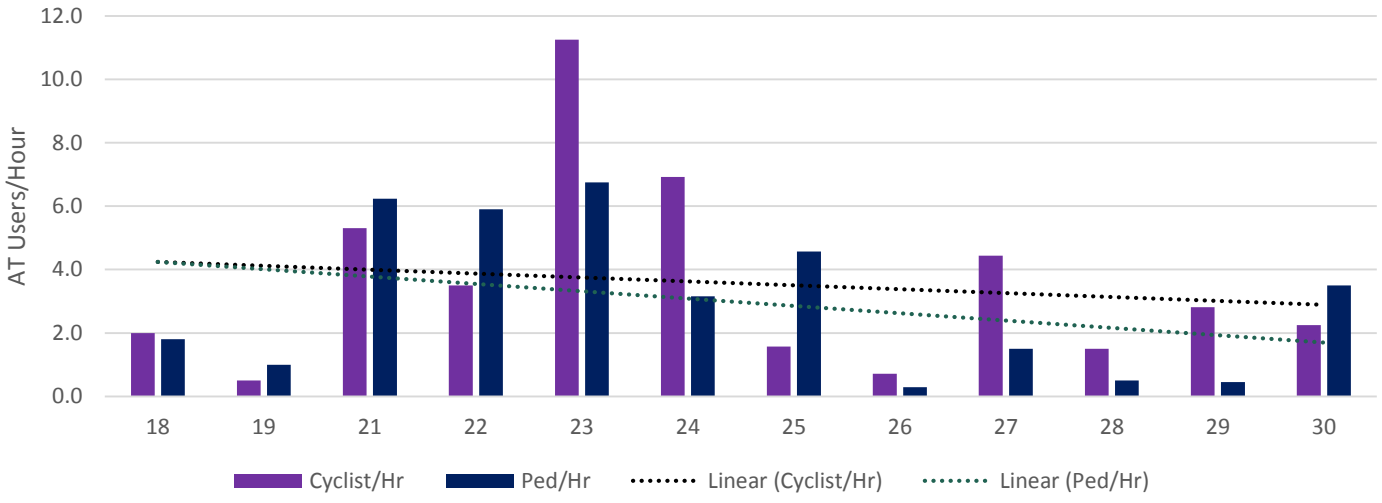
Findings Based on Facility Type

- There was 68% ridership in areas where facilities were already built, compared to 32% ridership in non-built areas
- This trend is different than past years, although most of the unbuilt facilities are connections to built facilities
- These findings may suggest that users have a certain perception of safety and level of confidence when using the facilities. The more that is available to them and the more protected they feel, the more likely it is that they will utilize the facilities. Although, many users will travel on unbuilt facilities if it leads them to their destination.

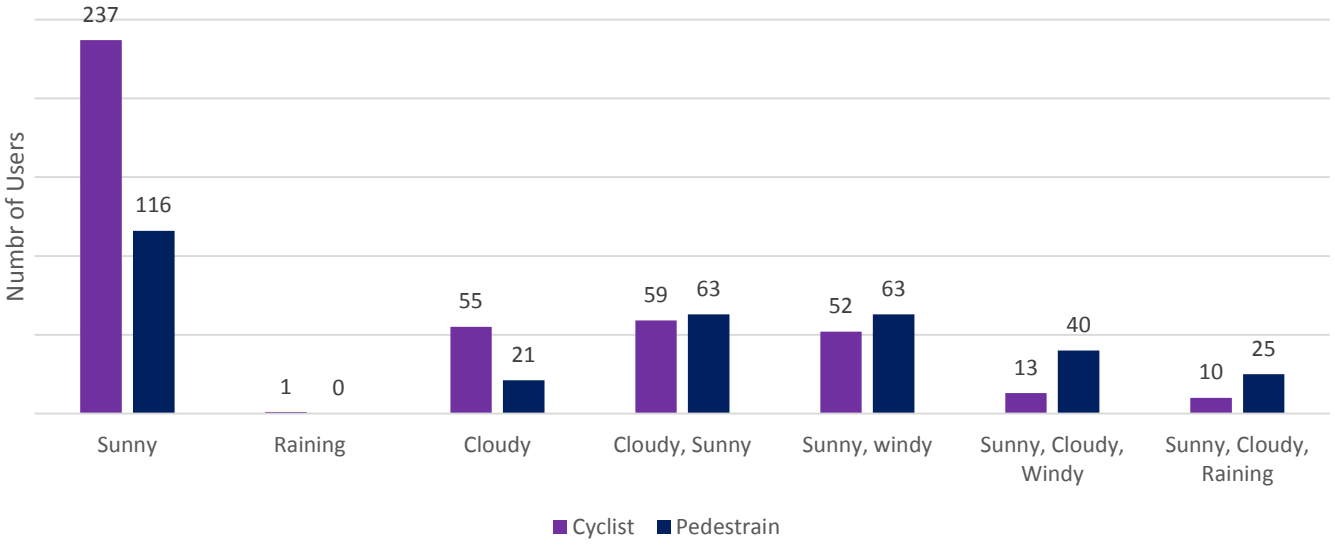




IMPACT OF TEMPERATURE ON AT USAGE

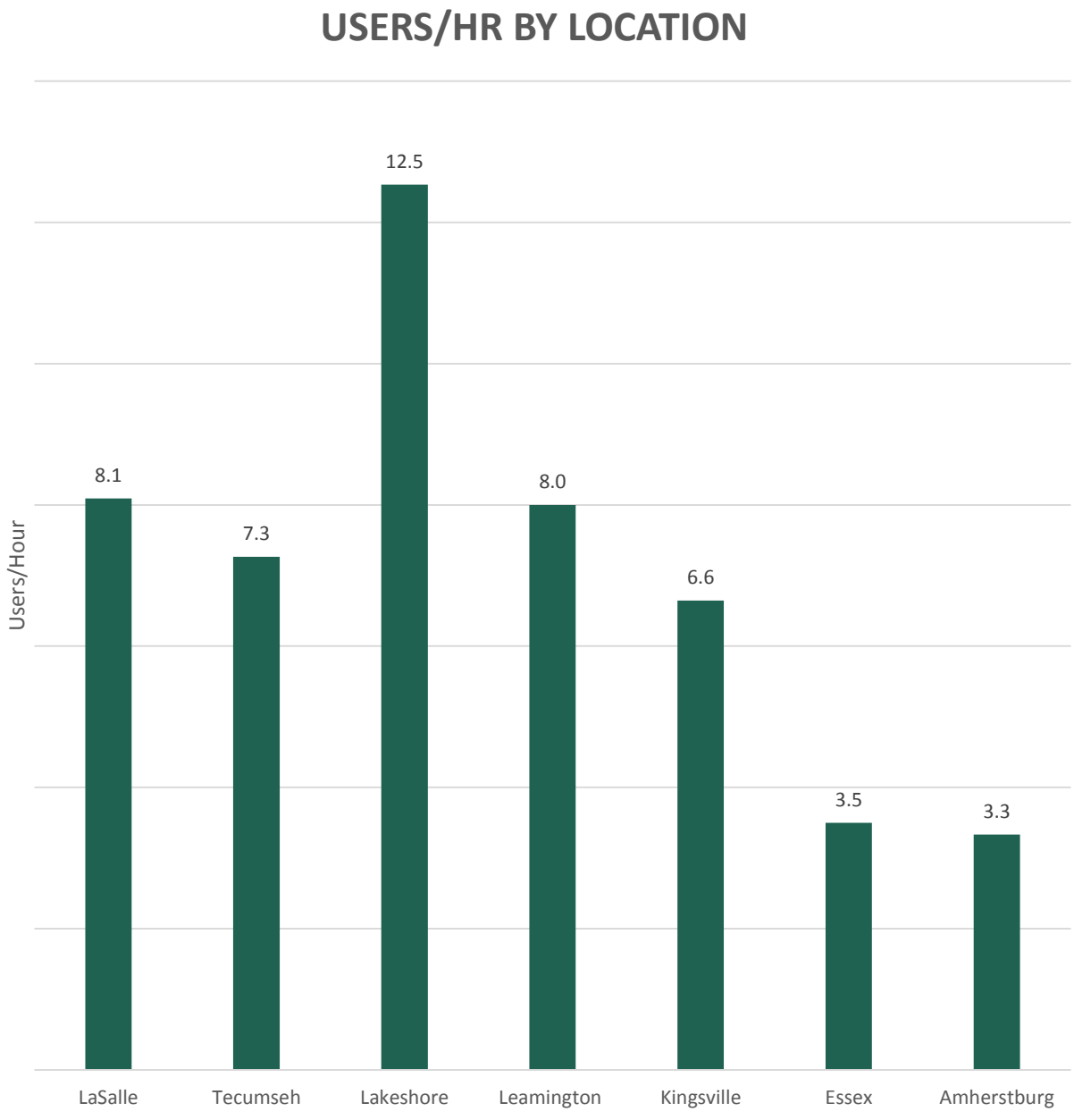


IMPACT OF WEATHER ON AT USAGE



Meteorological Findings

- AT users were most likely to utilize the CWATS facilities on sunny days with a temperature range of 21°C to 25°C.
- Temperatures below and above that range show the numbers decrease significantly.
- Cyclists were most likely to be using the facilities when the temperature was around 23 °C and sunny.



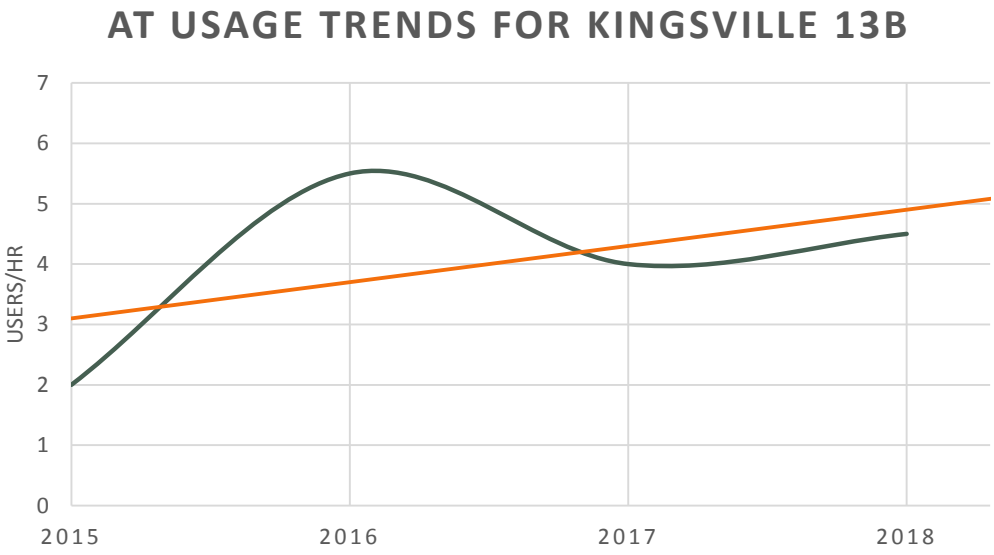
Variation by Location

- The Town of Lakeshore had the highest number of active transportation users at 12.5 users/hr. In 2017, the Town of Lakeshore scored the lowest AT usage at 3.9 users/hour.

Top 5 CWATS Facilities for Cyclists in 2018

CWATS ID	Location	Facility Type	Pedestrians	Cyclists	Total Users
Lake-11	County Rd 2 at East Pike Creek	Paved Shoulder	28	47	**75**
Leam-9	County Rd 34 & Lutsch	Bike Lane	37	18	**55**
Lake-16,Lake-37	County Rd 25 at County Rd 22	Paved Shoulder, Multi-Use Trail	10	30	**40**
Lake-11AB	County Rd 2 at Patillo	Paved Shoulder, Multi-Use Trail	7	30	**37**
Tec-7	Riverside Dr E.	Multi-Use Trail, Bike Lane, Signed Route	10	27	**37**

Project Usage Highlights: Kingsville 13b 1-Way Cycle Track



- This facility, built in 2016, separates vehicles from cyclists and pedestrians with a physical curb barrier.
- Counts taken from 2015 to 2018
- 2016 had higher count averages
  - Temperature variation could be a major factor: 27°C in 2016 compared to 23°C in 2017 and 19°C in 2018
  - Students on summer vacation may also be a factor
  - Peaks and dips in the curve is dependent on weather, time, and duration of count.
- Overall, there is an increasing trend of AT usage at Kingsville 13B.

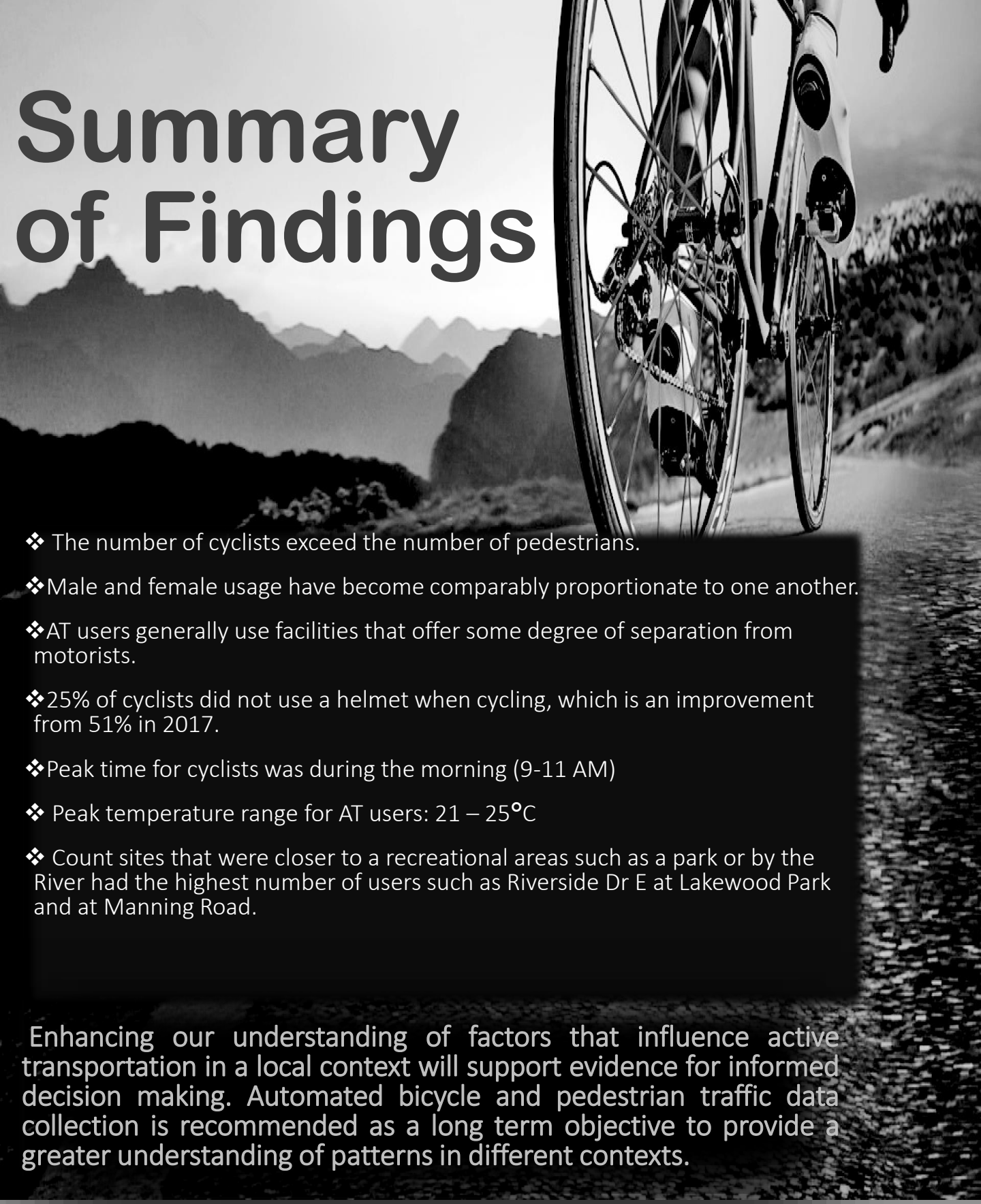
Location of Interest

- Riverside Drive at Manning Road
  - CWATS ID #’s 11 & 37 were counted one after another with high volume at both locations
  - Local attractions such as Lakeside Park, Beach, Lakewood Club, Ice Cream Stands attract many users through active transportation
  - To encourage use of alternative modes to travel, communities should build supportive infrastructure to influence the choice of walking and cycling

Reference website: http://www.cyclingscotland.org/wp-content/uploads/2015/03/Annual-Cycling-Monitoring-Report-2015-v2.0.pdf

Possible Barriers for AT

Summary of Findings



- The number of cyclists exceed the number of pedestrians.
- Male and female usage have become comparably proportionate to one another.
- AT users generally use facilities that offer some degree of separation from motorists.
- 25% of cyclists did not use a helmet when cycling, which is an improvement from 51% in 2017.
- Peak time for cyclists was during the morning (9-11 AM)
- Peak temperature range for AT users: 21 – 25°C
- Count sites that were closer to a recreational areas such as a park or by the River had the highest number of users such as Riverside Dr E at Lakewood Park and at Manning Road.

Enhancing our understanding of factors that influence active transportation in a local context will support evidence for informed decision making. Automated bicycle and pedestrian traffic data collection is recommended as a long term objective to provide a greater understanding of patterns in different contexts.

Reference Websites

http://www.cwats.ca/en/about-cwats.asp

https://www1.toronto.ca/city_of_toronto/transportation_services/cycling/files/pdf/decimareport.pdf

http://www.raqsb.mto.gov.on.ca/techpubs/eps.nsf/0/825810eb3ddd203385257d4a0063d934/$FILE/Ontario%20Traffic%20Manual%20-%20Book%2018.pdf

https://www.canada.ca/en/transport-canada.html

https://www.fcm.ca/Documents/tools/GMF/Transport_Canada/ActiveTranspoGuide_EN.pdf

http://www.cyclingscotland.org/wp-content/uploads/2015/03/Annual-Cycling-Monitoring-Report-2015-v2.0.pdf