

**City of Kyle Sidewalk Master Plan**

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## **A Word on KAYAC**

The Kyle Area Youth Advisory Council (KAYAC) is a volunteer committee which represents Kyle's youth and advises the Kyle City Council on the youth perspective.

## **Section 1: Introduction**

### ***1.1 Purpose***

A pressing issue affecting Kyle's youth is a lack of complete streets, or streets featuring sufficient sidewalks and sometimes bike paths; many streets in Kyle have no sidewalks, and many of the sidewalks that do exist require repair. This issue not only affects youth who cannot yet drive, but all Kyle's residents, since pedestrian pathways benefit people of all ages. In an effort to help alleviate this issue, KAYAC has assembled this Sidewalk Master Plan.

### ***1.2 Historical Context***

In 2005, Kyle's population was approximately eighteen thousand (18,000), and by 2016 has increased to approximately thirty-eight thousand (38,000); this exceptional growth has yielded an increased demand for infrastructure, including sidewalks; current projections of population growth indicate that demand for public services will continue to increase in the years to come. In 2014, the Kyle Economic Development Corporation (EDC) estimated that 7,000 more people will move into Kyle in the five years, increasing Kyle's population to over 40,000 by the year 2019. This estimate does not factor in Kyle's potential annexation of surrounding regions, which would yield a population greater than that projected by the Kyle EDC's estimate.

### ***1.3 Benefits of Sidewalks***

#### ***1.3.1 Environmental Benefits***

When an individual chooses to walk instead of drive, he reduces his carbon footprint. Incentivizing people to walk by providing the means to do so is in the best interest of the environment. This is because cars emit a lot of carbon dioxide; specifically, 95% to 99% of vehicle emissions consist of carbon dioxide. The Environmental Protection Agency (EPA) reports that the average vehicle emits 0.59 pounds of carbon dioxide per mile. This means every two miles that a person or group of people chooses to walk instead of drive represents over one (1) pound of carbon dioxide that is not emitted into the atmosphere.

#### ***1.3.2 Economic Benefits***

Choosing to walk instead of drive offers many economic benefits to individuals and society. Besides the monetary savings to individuals coming from fuel savings, there are also saving related to the health benefits discussed below. Additionally, there is a decreased opportunity cost

for those who do choose to spend time driving; this is because there will be less traffic, decreasing congestion and leading to less time spent waiting in traffic.

Walking is beneficial to businesses in numerous ways. First, property values tend to be higher in communities where walking is a prominent form of transportation. Secondly, there is a net increase in the amount of money residents spend on goods. This is because shoppers who walk to places of business like grocery stores tend to make smaller purchases, but also tend to make purchases more often. Walking also has a smaller range than driving; this sounds like a bad thing initially, but is actually beneficial in it promotes the support of local businesses.

### *1.3.3 Health Benefits*

Even though today's cars are cleaner than those of the past, car emissions can still be hazardous to personal health. Apart from the environmental effects, the particulates and chemicals found in emissions have been linked to asthma, bronchitis, pneumonia, and vulnerability to respiratory infection. When a resident of Kyle chooses to walk instead of drive, he also benefits from not sitting in traffic for long periods, meaning that he limits his exposure to the irritants in car emissions. Incentivizing walking would help improve the health of many residents of Kyle.

Another public health issue that walking helps alleviate is obesity, which has been highly problematic for the United States and is only projected to get worse. The Center for Disease Control recommends at least thirty (30) minutes of moderate intensity physical activity five (5) days a week. Walking counts as this type of physical activity and, if made more accessible and easily incorporated into resident's daily routines, could become a major part of increasing the long run health of Kyle's residents.

Walking has also been linked to improved cardiovascular health, decreased risk for high blood pressure, heart attacks, strokes, diabetes, arthritis, and osteoporosis, and decreased depression, anxiety, and stress.

### *1.4 Goals*

1. To establish a demographic base against which to compare public input.
2. To gather input and ideas from other sidewalk master plans and the residents of Kyle through research and outreach.
3. To set guidelines for the City of Kyle regarding design, renovation and maintenance, and connectivity.

## **Section 2: Demographics**

An important aspect of forming any public policy is understanding the demographic makeup of a community. Section 2 examines the historical growth of Kyle, reviews recent growth trends, and establishes a demographic base against which survey data can be compared.

### **2.1 Employment by Industry**

According to the *US Census Bureau's 2010-2014 American Community Survey 5 Year Population Estimate*, the most prominent industry in Kyle is the education, health care and social assistance industry with 26 percent of all residents over the age of 16 working in these fields. Other industries in Kyle include retail trade at 14 percent and professional, scientific, and management at 11 percent. There is a higher than average employment rate in the education, health care and social assistance industry, compared to the average in the state of Texas.

<b>Figure 2-6: Employment by Industry</b>			
<b>Employment Industry</b>	<b>City of Kyle</b>	<b>Hays County</b>	<b>State of Texas</b>
Agriculture, fishing, hunting, mining	0.8%	1.0%	2.9%
Construction	6.4%	7.8%	8.3%
Manufacturing	8.1%	6.7%	9.6%
Wholesale trade	2.6%	2.6%	3.2%
Retail trade	14.1%	14.0%	11.5%
Transportation, warehousing, utilities	5.5%	4.1%	5.6%
Information	2.3%	2.1%	2.1%
Finance, insurance, real estate	7.0%	5.8%	6.8%
Professional, scientific, management	11.1%	10.6%	10.6%
Education, health care, social assistance	26.6%	24.1%	21.2%
Arts, entertainment, accommodation, food services	5.3%	10.3%	8.3%
Other services except public administration	2.5%	4.7%	5.3%
Public administration	7.7%	6.1%	4.4%

*Source: US Census Bureau 2010-2014 American Community Survey 5 Year Population Estimate*

### **2.2 Community Response to Master Plan Objectives**

Residents of Kyle are likely to use new sidewalks and walking trails not only for personal fitness but also leisure. Notably, the high number of young families living in Kyle heightens demand for places where children can safely exercise and socialize with their peers. Such places exist in Kyle, but pedestrian pathways connecting these areas to residential areas are not always present. This makes recreational facilities inconvenient and difficult to access without driving, which is

especially problematic for those recreational areas including Lake Kyle that have limited parking. Insufficient options for on-foot travel incentivizes residents of Kyle to utilize recreational spaces outside of city limits. This situation is harmful in it represents lost potential commerce for those businesses situated around recreational areas and decreases the appeal of Kyle to current and potential residents.

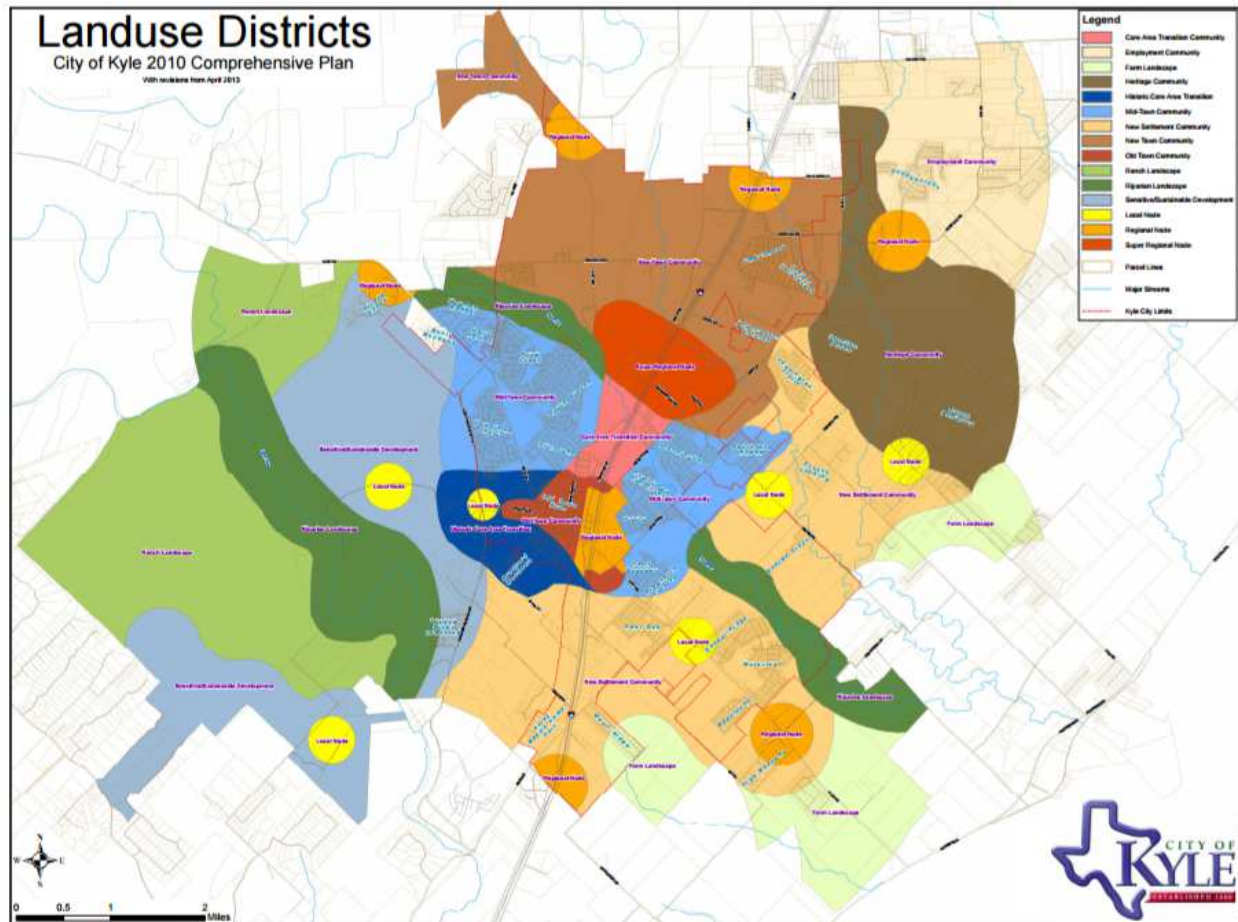
### 2.3 Age Characteristics

82.71% of Kyle residents reported they have school aged children younger than eighteen (18) living in their homes. This percentage includes those respondents aged eighteen (18) or younger. 2.24% of Kyle residents reported their children are not in school yet, and that their children will become school aged within the next 5 years.

Figure 2-2: Population by Age Group			
Age Group	City of Kyle	Hays County	State of Texas
Under 5	9.8%	6.4%	7.4%
5 - 9	9.9%	7.0%	7.6%
10 - 14	9.2%	6.8%	7.4%
15 - 19	7.6%	8.7%	7.3%
20 - 24	5.2%	13.1%	7.4%
25 - 29	8.1%	7.0%	7.3%
30 - 34	10.2%	6.6%	7.1%
35 - 39	8.5%	6.7%	6.8%
40 - 44	9.7%	6.1%	6.8%
45 - 49	6.1%	6.0%	6.6%
50 - 54	5.1%	6.0%	6.6%
55 - 59	3.4%	5.5%	5.8%
60 - 64	3.1%	4.9%	4.9%
65 - 69	1.8%	3.7%	3.7%
70 - 74	0.9%	2.1%	2.6%
75 - 79	0.3%	1.4%	1.9%
80 - 84	0.9%	1.2%	1.4%
85 and Over	0.3%	0.8%	1.3%

Source: US Census Bureau 2010-2014 American Community Survey 5 Year Population Estimate

## 2.4 Subdivision Growth



Kyle's current land use consists primarily of single family subdivisions and retail shopping plazas. Many apartment complexes have also been constructed in Kyle in recent years. Kyle was rezoned in its 2010 Comprehensive Plan, which established 15 distinct districts: Core Area Transition Community, Employment Community, Farm Landscape, Heritage Community, Historic Core Area Transition, Mid-Town Community, New Settlement Community, New Town Community, Old Town Community, Ranch Landscape, Riparian Landscape (for parks and public spaces, among other uses), Sensitive/Sustainable Development, Local Node, Regional Node, and Super Regional Node. Kyle's residential districts are halved by Interstate-35, and any pedestrian or biker trying to travel across I-35 can only do so via four (4) bridges that pass over the highway.



## 2.5 City Characteristics

The City of Kyle is located in Hays County, south of Austin. Kyle straddles Interstate Highway 35, and has the 45-Toll Road, FM 1626, SH 21 and FM 150 passing through it. Union Pacific uses the tracks passing through Kyle to move cargo from Mexico northward. Amtrak also uses these rails, with its closest stop in San Marcos, another city immediately adjacent to the south of Kyle.

Kyle both benefits from and is harmed by these busy thoroughfares. They allow Kyle to move people and goods in and out of the city easily, but they also create artificial barriers between groups of residents in the city. I-35 in particular is a substantial barrier between the east and west sides of Kyle. This division has also led some residents of Kyle to perceive socioeconomic differences between communities on different sides of the highway.

## 2.6 Race and Ethnicity

Demographically, Kyle is slightly different from the rest of Hays County. It has a higher population of African Americans and people who identify as “some other race”. Additionally,

Figure 2-3: Race and Ethnicity				
		City of Kyle	Hays County	State of Texas
Race	White	76.2%	83.4%	74.7%
	Black or African American	7.0%	3.5%	11.9%
	American Indian or Alaska Native	0.2%	0.3%	0.5%
	Asian	0.9%	1.4%	4.1%
	Native Hawaiian or Pacific Islander	0.0%	0.1%	0.1%
	Some other race	13.2%	8.7%	6.4%
	Two or more races	2.4%	2.8%	2.4%
Hispanic or Latino (of any race)		46.6%	36.4%	38.2%

Source: US Census Bureau 2010-2014 American Community Survey 5 Year Population Estimate

more residents of Kyle identify as Hispanic or Latino than do residents of Hays County.

## 2.7 Land Use

As a smaller town in close proximity to both a major highway and a major city, Kyle has become a bedroom community for Austin. Large swaths of Kyle are still rural, consisting of many ranches and farms. Parts of Kyle are also characterized as suburban. This is because of the prevalence of subdivisions in Kyle, where most residents of Kyle live. One of the oldest subdivisions in Kyle is Plum Creek, which was first developed in 1999, and which set a precedent for other Kyle divisions to preserve public and private space for recreational use.

### 2.8 Future Population Growth

The turn of the twentieth century saw significant growth in Kyle. Currently, Kyle's population of over 33,000 is over six (6) times greater than its population of 5,300 in the early 2000s. The Kyle EDC anticipates this growth will continue, with Kyle's population predicted to surpass 40,000 by

<b>Figure 2-1: City of Kyle, Historic and Future Population Growth</b>		
<b>Year</b>	<b>Population</b>	<b>% of Growth</b>
1980	2,093	-
1990	2,225	6%
2000	5,314	139%
2010	28,016	427%
2014	33,050	18%
2019	40,578	23%
2030	77,050	90%
2040	90,363	17%

*Source: 1980-2010 US Census Bureau; 2014-2019 Kyle EDC Estimates; 2030 Texas Water Development Board; 2040 Kyle 2010 Comprehensive Plan*

2020.

## Section 3: Existing Conditions and Community Input

### 3.1 Introduction

Section 3 serves as a research report. To determine what recommendations to make, KAYAC evaluated the condition of sidewalks around the City of Kyle, conducted a charrette meeting to gain an amount of detailed, personalized public input, and put out a survey to the public to gain a larger volume of more general data.

### 3.2 Existing Conditions

Kyle's sidewalks currently have a number of flaws. The first is absence, meaning that sidewalks simply are not present in areas where they are needed, including around schools. The second

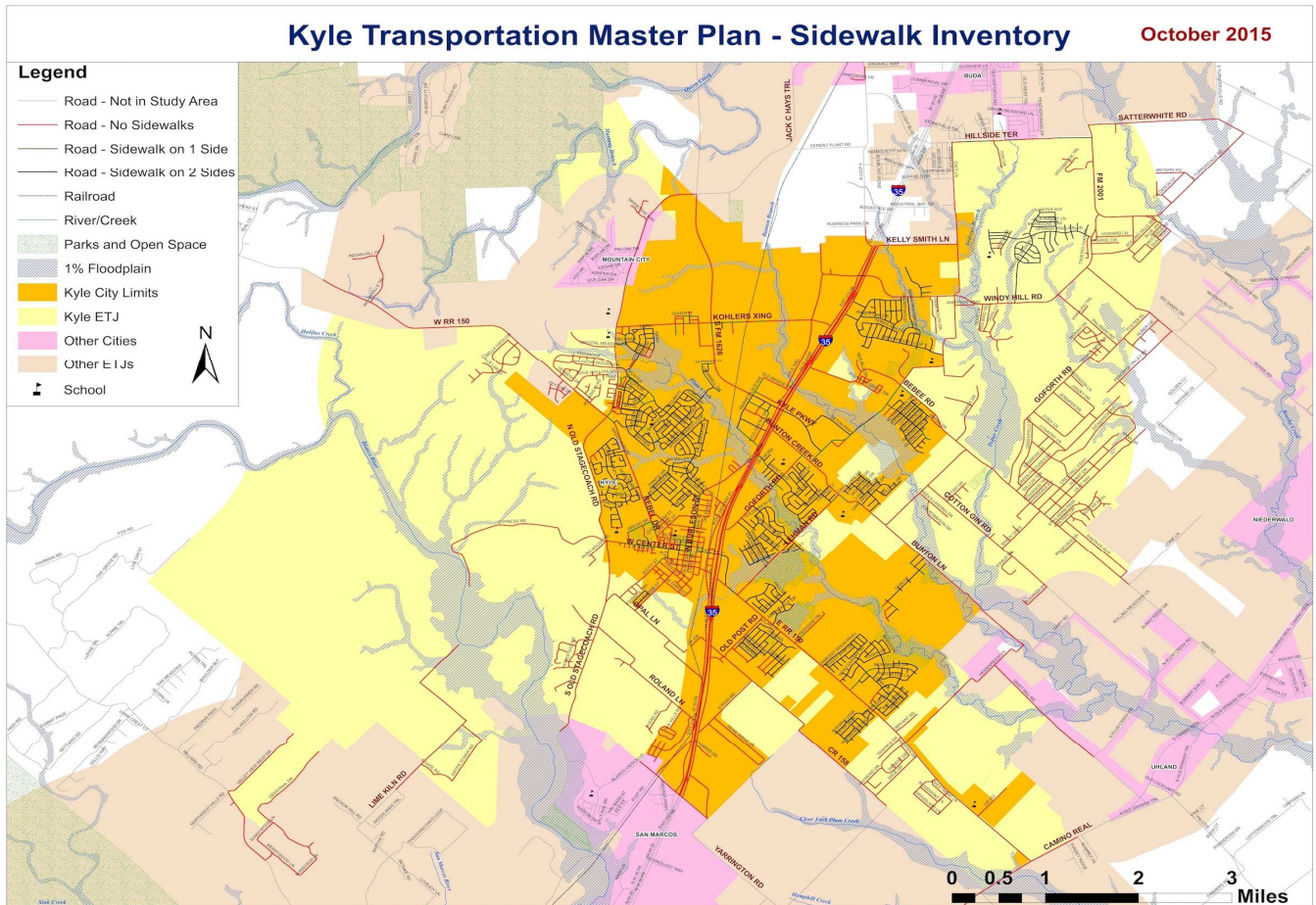
issue is discontinuity, where a sidewalk exists, but features gaps in pavement. Discontinuity is common in downtown Kyle, and becomes more apparent as one moves north or south of Center Street. A third issue with Kyle's existing sidewalks is the condition of disrepair; that is, sections of certain sidewalks are cracked, uneven, penetrated by vegetation, or too narrow, making them more difficult to pass over.



Discontinuity

These conditions present a number of problems. First and foremost, the absence of sidewalks, compounded with the development history of Kyle, make it incredibly difficult to transverse the city without a car. This restricts the movement of those who cannot or do not want to drive. Another issue of this ilk is the effect sidewalks in disrepair have on those confined to wheelchairs, since uneven, cracked sidewalks are liable to knock over wheel chairs, or at least keep them from moving. Also, noteworthy is the negative effect sidewalks in disrepair have on a city's aesthetic appeal, which can discourage some families from moving into a city. This is potentially problematic for Kyle, and at the very least should be taken into consideration if beautification ever becomes a major goal of Kyle's leadership.





Kyle Transportation Master Plan Map: A map of Kyle's existing transportation infrastructure (including lack of sidewalks)

### 3.3 Public Charrette Meeting

On the evening of November 10th, 2016, KAYAC hosted a sidewalk charette with the purpose of obtaining citizen's input on the condition of non-motorized transportation in Kyle. Those who attended were split into two groups and given map's to mark three types of locations: frequently visited places of business, roads in need of sidewalks, and areas where they had seen collisions, near-collisions, or otherwise dangerous interactions between pedestrians and automobiles.



At a later workshop, the information on the two maps was consolidated onto one. KAYAC noted that the information it had received from the charrette was valuable but insufficient to make any final determination on necessary action. KAYAC considered hosting another charrette, but chose not to do so; members decided to develop a survey because the number of citizens a survey would reach was greater than the expected turnout of another charrette. KAYAC decided it would be best to collect survey data and use it in conjunction with the information acquired in the charrette to develop a more thorough picture of Kyle's problems regarding sidewalks and bikeways.

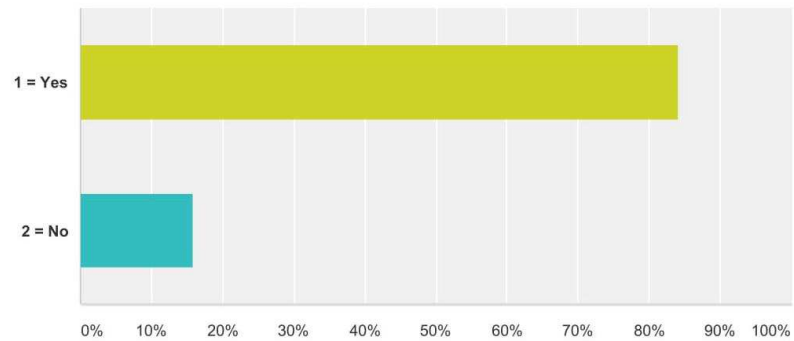
### ***3.4 Public Survey Results***

KAYAC released its sidewalk survey on January 19th, 2017, which sought to gain the same information as the charrette but from a larger audience. This survey was important to further development of this plan, as it provided essentially the same information that the charrette did, but in a much more efficient manner. A total of 882 Kyle residents submitted a response.

The sample of respondents was majority white and between the ages of 14-17 years. This sample is not representative of Kyle in both age and race. The plurality of Hays County residents are

### Q1 Do you live within the limits of the City of Kyle?

Answered: 233 Skipped: 0



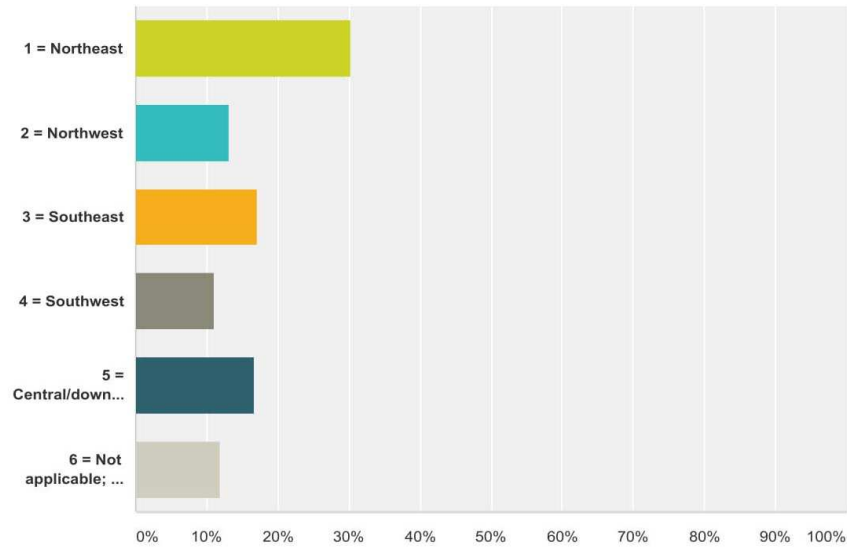
Answer Choices	Responses	
1 = Yes	84.12%	196
2 = No	15.88%	37
Total		233

aged between 20-24, and a large majority of Hays County residents identify as white.

The purpose of asking this question was to gauge how many respondents were residents of Kyle, Non-residents' responses were weighted equally to residents because any non-resident who had incentive to take this survey can be assumed to also have an interest in walkability in Kyle.

**Q2 In what area of town do you live? (Use Center Street at I-35 as the midway point of town)**

Answered: 228 Skipped: 5

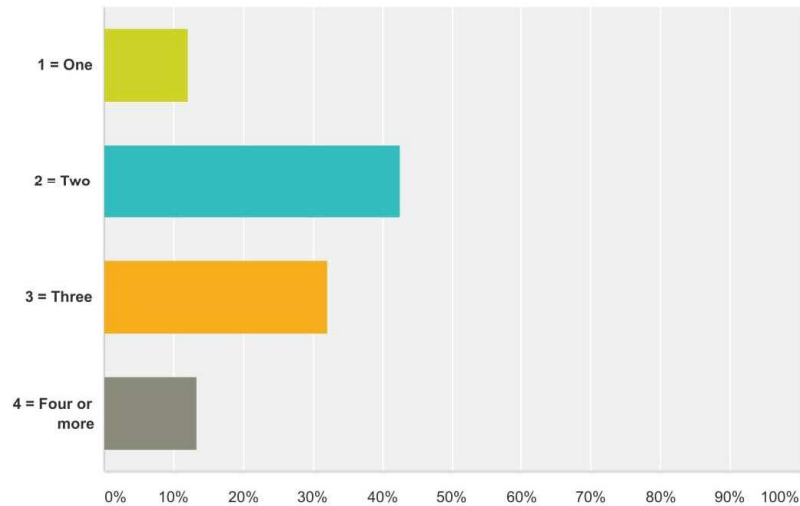


Answer Choices	Responses	
1 = Northeast	30.26%	69
2 = Northwest	13.16%	30
3 = Southeast	17.11%	39
4 = Southwest	10.96%	25
5 = Central/downtown	16.67%	38
6 = Not applicable; I don't live in Kyle (Skip to Q4)	11.84%	27
<b>Total</b>		<b>228</b>

The purpose of asking this question was to get a broad idea of where respondents lived. This data is complimented by the data for question 3.

**Q4 How many vehicles in working condition are available to your household?**

Answered: 233 Skipped: 0



Answer Choices	Responses
1 = One	12.02% 28
2 = Two	42.49% 99
3 = Three	32.19% 75
4 = Four or more	13.30% 31
Total	233

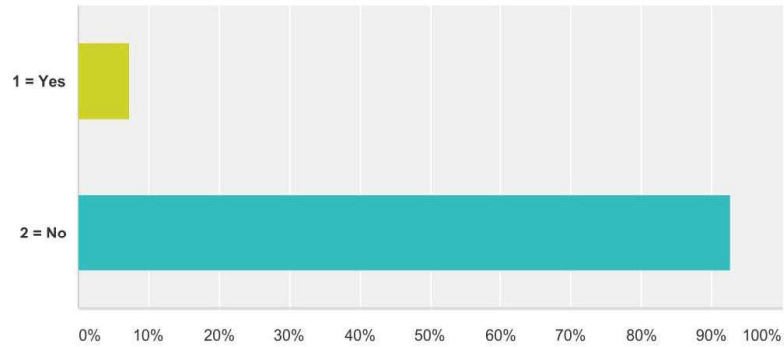
This data provides some idea as to how capable a household is of easily traversing Kyle. Making the simplifying assumption that there are about 2.58 people per household, and the simplifying assumption that all members of a household are of driving age, then the ratio of working vehicles to people in a household gives a rough index of household mobility. Calling “four or more” one value, the average number of cars per household, according to this sample, is 2.48 cars per household. This gives an average household mobility index of 0.961, almost 1. This index actually indicates once all members of a household are of driving age, they will all be mobile. However, this index may not be completely accurate because (1) the average household size of Kyle may be larger than the average of 2.58 people as calculated by the Census Bureau, and (2) almost all Kyle residents may have less than two cars per household.

This data gives the residents of Kyle an idea of how sidewalks can be used, should they be built. Fortunately, this data indicates the majority of Kyle residents are healthy enough to use sidewalks. The small percentage of respondents who reported having at least one family member



**Q5 Do you or a family member have a physical disability that prevents walking?**

Answered: 232 Skipped: 1

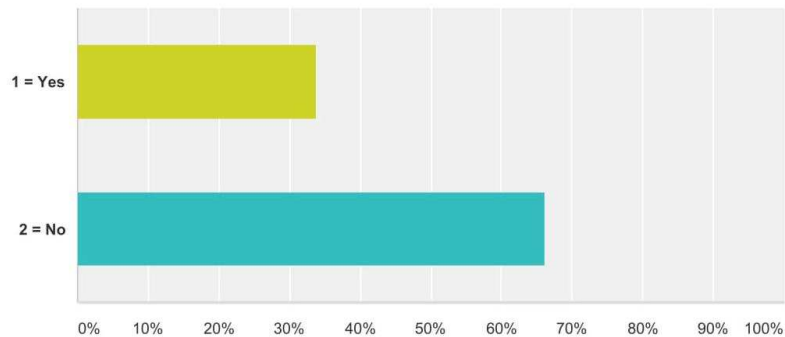


Answer Choices	Responses	
1 = Yes	7.33%	17
2 = No	92.67%	215
Total		232

who has a physical disability that prevents him from walking warrants special consideration for those with disabilities.

### Q6 Do you work in Kyle (within the city limits)?

Answered: 219 Skipped: 14

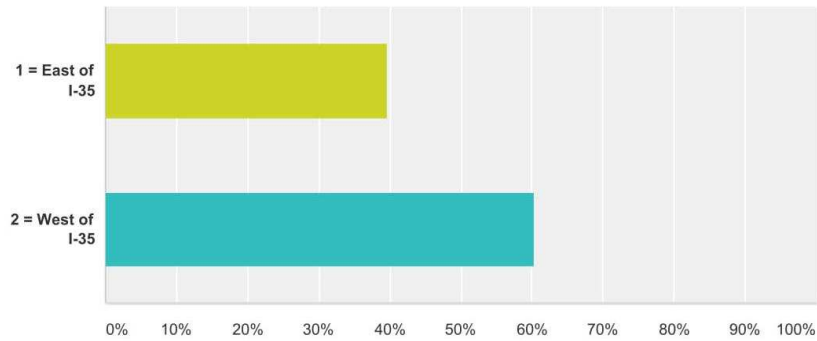


Answer Choices	Responses
1 = Yes	33.79% 74
2 = No	66.21% 145
Total	219

This question was asked to gauge what demand might exist for sidewalks for the purpose of walking to work. About two thirds of Kyle residents work outside of Kyle and are thus likely to drive to work. However, because (1) the sample was composed of many youths and (2) the answer “No” included not working, this data may be somewhat skewed towards “No”.

### Q7 Do you work east or west of Interstate-35?

Answered: 159 Skipped: 74

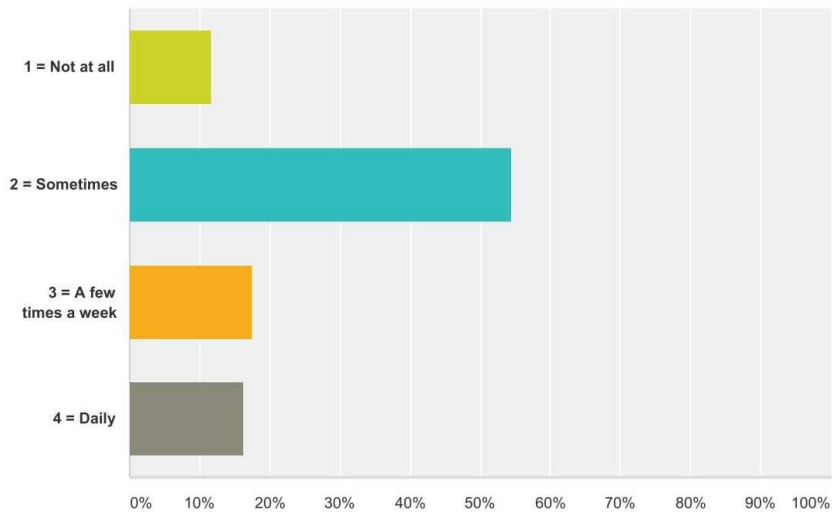


Answer Choices	Responses
1 = East of I-35	39.62% 63
2 = West of I-35	60.38% 96
Total	159

This data is made more valuable when compounded with that from question 2, since it indicates which side of I-35 employs more people with respect to where more people live.

**Q8 Do you walk for leisure or exercise?**

Answered: 222 Skipped: 11

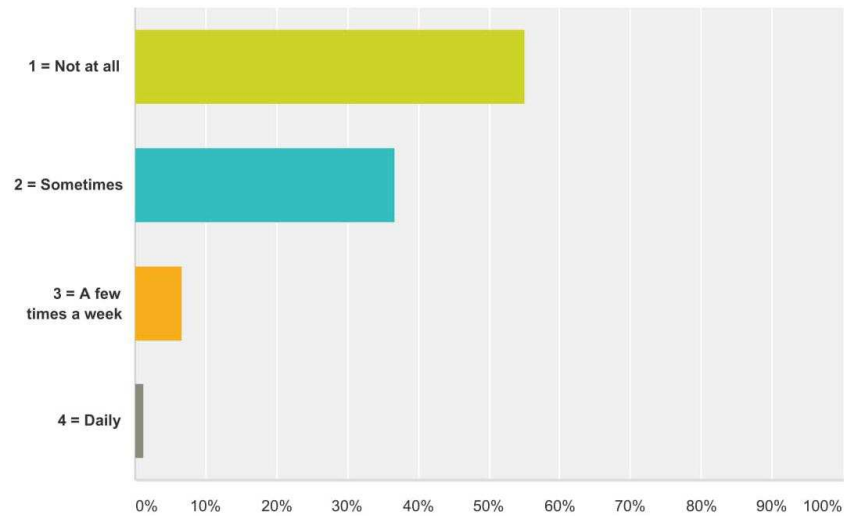


Answer Choices	Responses	
1 = Not at all	11.71%	26
2 = Sometimes	54.50%	121
3 = A few times a week	17.57%	39
4 = Daily	16.22%	36
Total		222

This data indicates a majority of Kyle residents walk for leisure or exercise sometimes. This data does not indicate whether this is a matter of preference or not, given insufficient adequate walking facilities in Kyle. As such, building sidewalks may increase the amount that people walk. In any case, this data yields the conclusion that sidewalks would see use if built.

**Q9 Do you use a bicycle for leisure or exercise?**

Answered: 223 Skipped: 10

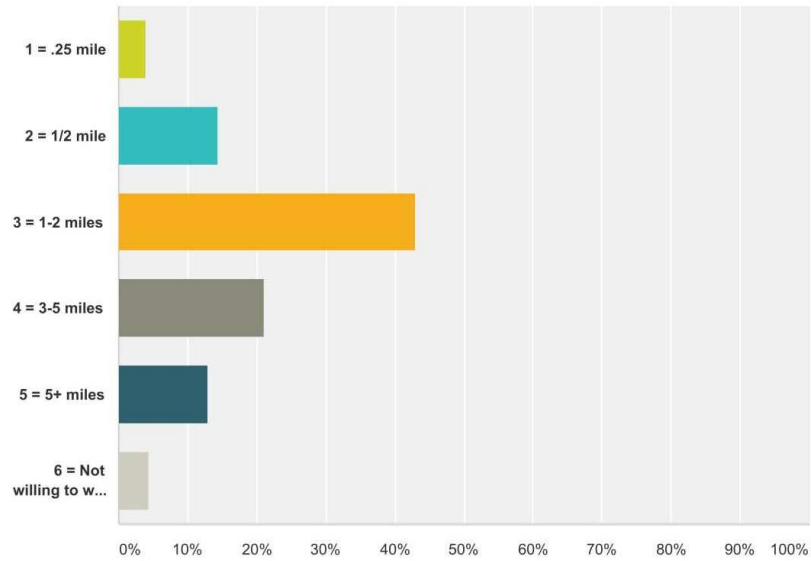


Answer Choices	Responses	
1 = Not at all	55.16%	123
2 = Sometimes	36.77%	82
3 = A few times a week	6.73%	15
4 = Daily	1.35%	3
Total		223

This question served the same purpose as question 8, but with regard to bicycles.

### Q10 How far are you willing to walk for exercise or leisure?

Answered: 223 Skipped: 10

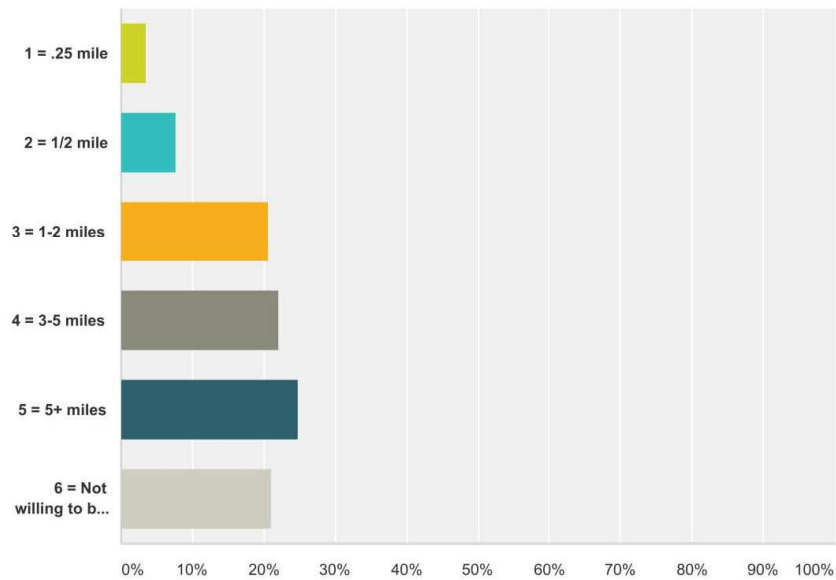


Answer Choices	Responses	
1 = .25 mile	4.04%	9
2 = 1/2 mile	14.35%	32
3 = 1-2 miles	43.05%	96
4 = 3-5 miles	21.08%	47
5 = 5+ miles	13.00%	29
6 = Not willing to walk for exercise or leisure	4.48%	10
<b>Total</b>		<b>223</b>

This question gauges the recreational demand for sidewalks, and indicates most residents of Kyle are willing to walk between one (1) and two (2) miles for recreational purposes.

### Q12 How far are you willing to bike for exercise or leisure?

Answered: 222 Skipped: 11

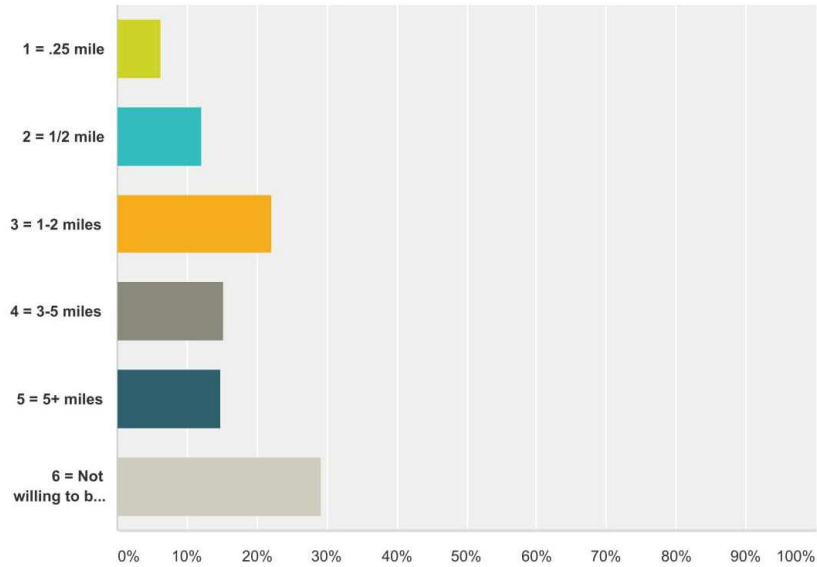


Answer Choices	Responses	
1 = .25 mile	3.60%	8
2 = 1/2 mile	7.66%	17
3 = 1-2 miles	20.72%	46
4 = 3-5 miles	22.07%	49
5 = 5+ miles	24.77%	55
6 = Not willing to bike for exercise or leisure	21.17%	47
<b>Total</b>		<b>222</b>

This question serves the same ends as question 10, but with respect to bicycles.

### Q13 How far are you willing to bike for things like shopping or other errands?

Answered: 222 Skipped: 11



Answer Choices	Responses	
1 = .25 mile	6.31%	14
2 = 1/2 mile	12.16%	27
3 = 1-2 miles	22.07%	49
4 = 3-5 miles	15.32%	34
5 = 5+ miles	14.86%	33
6 = Not willing to bike for exercise or leisure	29.28%	65
<b>Total</b>		<b>222</b>

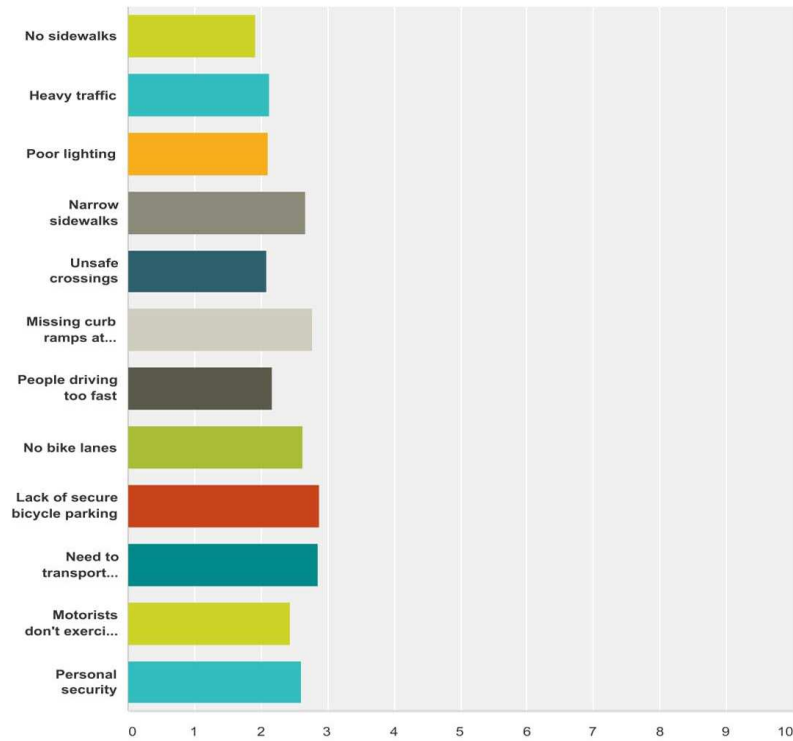


Residents of Kyle reported that insufficient secure bicycle parking, the need to transport

passengers and or cargo, missing curb ramps at intersections, and narrow sidewalks as the

**Q14 Please rate whether any of the following factors hinder your ability to walk or bike around Kyle:**

Answered: 223 Skipped: 10

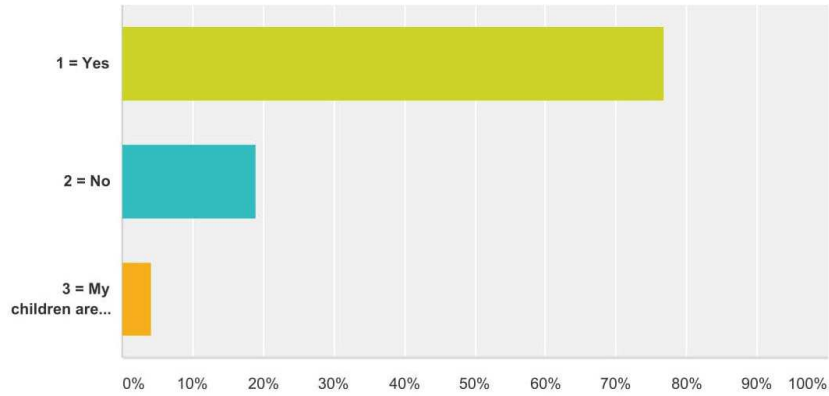


	1 = Big problem	2 = Moderate problem	3 = Minor problem	4 = Not a problem at all	9 = Not applicable	Total	Weighted Average
No sidewalks	49.10% 109	25.23% 56	15.32% 34	5.41% 12	4.95% 11	222	1.92
Heavy traffic	36.04% 80	33.33% 74	18.47% 41	6.31% 14	5.86% 13	222	2.13
Poor lighting	37.39% 83	31.53% 70	18.92% 42	6.76% 15	5.41% 12	222	2.11
Narrow sidewalks	21.27% 47	26.24% 58	27.15% 60	15.38% 34	9.95% 22	221	2.67
Unsafe crossings	44.14% 98	23.42% 52	19.37% 43	6.76% 15	6.31% 14	222	2.08
Missing curb ramps at intersections	20.55% 45	21.46% 47	31.05% 68	14.16% 31	12.79% 28	219	2.77
People driving too fast	37.73% 83	25.91% 57	21.82% 48	9.55% 21	5.00% 11	220	2.18
No bike lanes	30.00% 66	18.64% 41	22.27% 49	15.45% 34	13.64% 30	220	2.64
Lack of secure bicycle parking	17.81% 39	23.74% 52	25.57% 56	16.89% 37	15.98% 35	219	2.89
Need to transport passengers and/or cargo	18.72% 41	22.83% 50	26.94% 59	17.81% 39	13.70% 30	219	2.85
Motorists don't exercise caution	29.28% 65	27.48% 61	22.07% 49	12.61% 28	8.56% 19	222	2.44
Personal security	19.00% 42	28.51% 63	30.32% 67	15.84% 35	6.33% 14	221	2.62

biggest problems with Kyle's walking and biking facilities.

**Q15 Do you have school-aged children  
younger than 18 living in your household?  
(If you are under 18, the answer is yes)**

Answered: 221 Skipped: 12

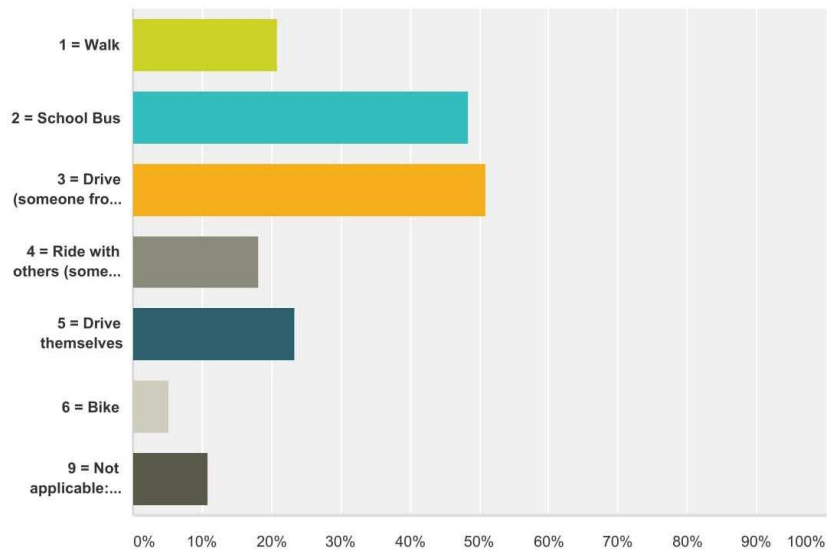


Answer Choices	Responses	
1 = Yes	76.92%	170
2 = No	19.00%	42
3 = My children are not in school yet (Skip Question 16)	4.07%	9
Total		221

This question was asked to get a general idea of how ‘young’ the City of Kyle is. The vast majority of respondents reported there were minors in the home.

**Q16 How do those school-aged children get to school? (Check all that apply)**

Answered: 192 Skipped: 41

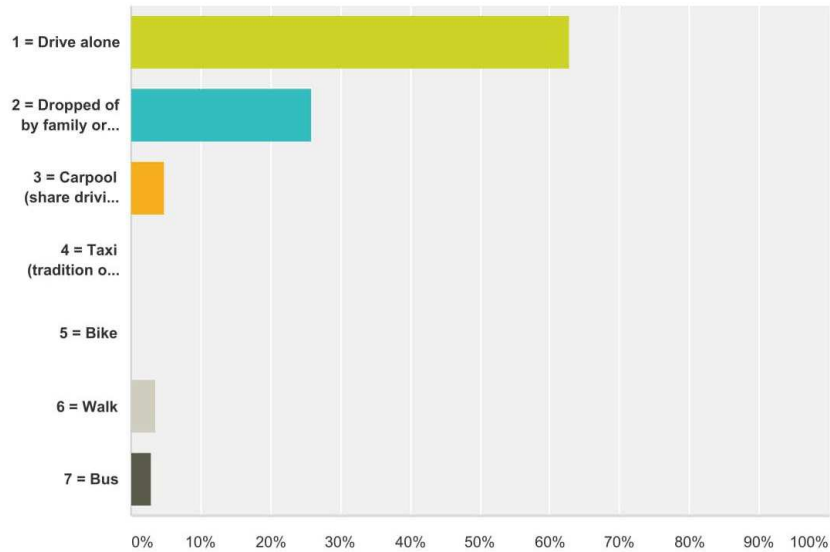


Answer Choices	Responses	
1 = Walk	20.83%	40
2 = School Bus	48.44%	93
3 = Drive (someone from the household drives them)	51.04%	98
4 = Ride with others (someone outside the household drives them)	18.23%	35
5 = Drive themselves	23.44%	45
6 = Bike	5.21%	10
9 = Not applicable: home schooled	10.94%	21
Total Respondents: 192		

This data is important, because it implies some of the hypotheses under which KAYAC was operating are at least partially true. A fairly small portion of respondents reported their students walk to school, and many students are driven to school. Given the existing bus service outside of the 2 mile radius around a school and the small number of students who live outside of a school's busing zone but attend that school nonetheless, it can be concluded a large portion of those students who are driven to school could walk if safe pedestrian pathways existed to incentivize parents to let their children walk.

**Q17 If you are employed outside the home,  
what is your primary means of getting to  
work?**

Answered: 170 Skipped: 63

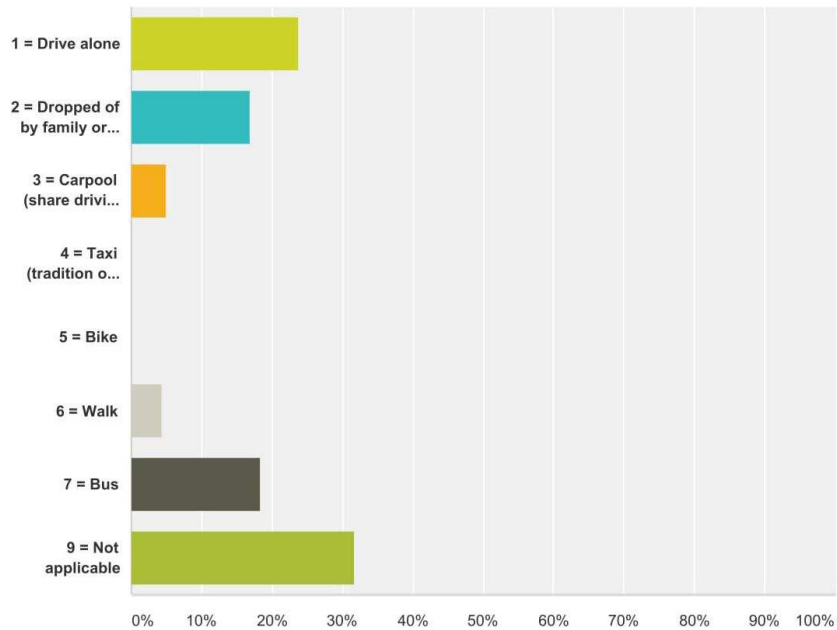


Answer Choices	Responses
1 = Drive alone	62.94% 107
2 = Dropped of by family or friend	25.88% 44
3 = Carpool (share driving with others)	4.71% 8
4 = Taxi (tradition or Uber, etc.)	0.00% 0
5 = Bike	0.00% 0
6 = Walk	3.53% 6
7 = Bus	2.94% 5
<b>Total</b>	<b>170</b>

This question served to see how working residents of Kyle get to work. A large portion of respondents reported driving to work alone. This makes sense because two thirds of the city's residents reported *not* working in Kyle city limits.

**Q18 If you attend school and are age 16 or older, what is your primary means of getting there?**

Answered: 202 Skipped: 31

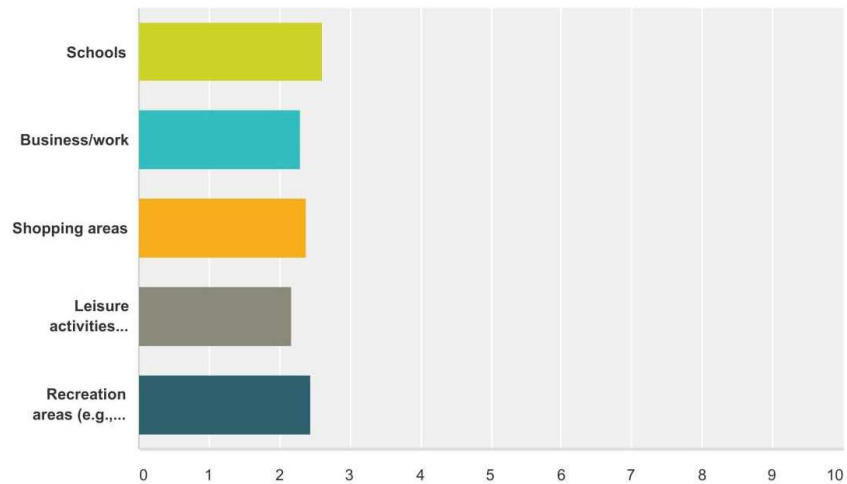


Answer Choices	Responses
1 = Drive alone	23.76% 48
2 = Dropped of by family or friend	16.83% 34
3 = Carpool (share driving with others)	4.95% 10
4 = Taxi (tradition or Uber, etc.)	0.00% 0
5 = Bike	0.00% 0
6 = Walk	4.46% 9
7 = Bus	18.32% 37
9 = Not applicable	31.68% 64
<b>Total</b>	<b>202</b>

This question served the same ends as question 16.

**Q19 Please rate the connectivity of your neighborhood, even if you live outside the Kyle city limits, with the following as it relates to your life. (Meaning, how connected is your neighborhood for each of these items.) Use the following scale: 1 = Very Poor 2 = Somewhat Poor 3 = Somewhat good 4 = Very good**

Answered: 212 Skipped: 21



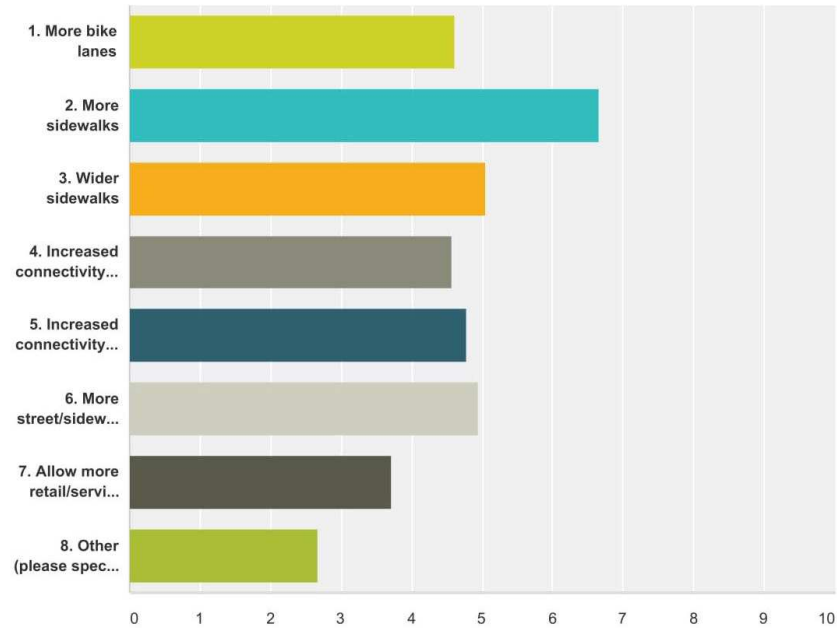
	1 = Very poor	2 = Somewhat poor	3 = Somewhat good	4 = Very good	Total	Weighted Average
Schools	17.06% 36	24.64% 52	39.34% 83	18.96% 40	211	2.60
Business/work	27.09% 55	27.59% 56	34.98% 71	10.34% 21	203	2.29
Shopping areas	25.24% 53	24.29% 51	38.57% 81	11.90% 25	210	2.37
Leisure activities (e.g., movies, shopping)	31.10% 65	29.67% 62	29.67% 62	9.57% 20	209	2.18
Recreation areas (e.g., parks, sports complexes)	21.53% 45	27.27% 57	36.36% 76	14.83% 31	209	2.44

This question indicates residents feel that their residences are disconnected from the rest of the City of Kyle with regard to walking.



**Q20 If the city were to prioritize probable pedestrian mobility infrastructure changes and upgrades, which would you want to see completed first? Rank in order of your preference.**

Answered: 196 Skipped: 37

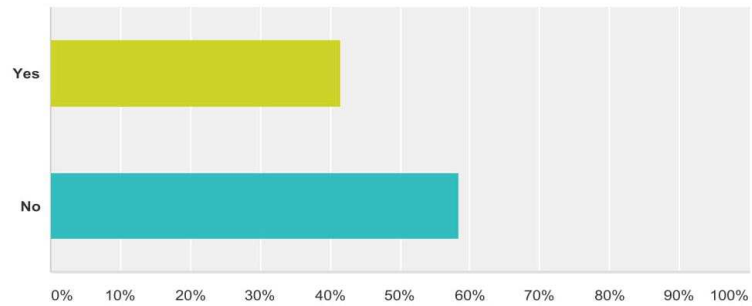


	1	2	3	4	5	6	7	8	Total	Score
1. More bike lanes	11.63% 20	12.21% 21	19.19% 33	11.05% 19	9.30% 16	9.88% 17	18.60% 32	8.14% 14	172	4.61
2. More sidewalks	50.56% 91	18.89% 34	8.89% 16	6.11% 11	7.22% 13	3.89% 7	1.11% 2	3.33% 6	180	6.67
3. Wider sidewalks	3.41% 6	23.30% 41	22.16% 39	17.05% 30	10.23% 18	11.93% 21	9.09% 16	2.84% 5	176	5.06
4. Increased connectivity between neighborhoods	5.08% 9	10.73% 19	16.38% 29	18.08% 32	21.47% 38	15.82% 28	7.91% 14	4.52% 8	177	4.58
5. Increased connectivity with activity centers	8.05% 14	12.64% 22	14.37% 25	17.82% 31	20.69% 36	17.24% 30	7.47% 13	1.72% 3	174	4.79
6. More street/sidewalk lighting	11.24% 20	15.17% 27	14.04% 25	19.10% 34	14.04% 25	13.48% 24	8.43% 15	4.49% 8	178	4.94
7. Allow more retail/service uses in existing neighborhoods	8.09% 14	8.09% 14	8.09% 14	6.94% 12	9.83% 17	16.76% 29	34.10% 59	8.09% 14	173	3.71
8. Other (please specify in Q20 below)	13.83% 13	3.19% 3	1.06% 1	4.26% 4	3.19% 3	5.32% 5	8.51% 8	60.64% 57	94	2.67

This data provides the demands of respondents. The three most demanded changes to Kyle's sidewalks were (1) more sidewalks, (2) wider sidewalks, and (3) more streets and sidewalk lighting.

### Q22 Are you of Hispanic or Latino descent?

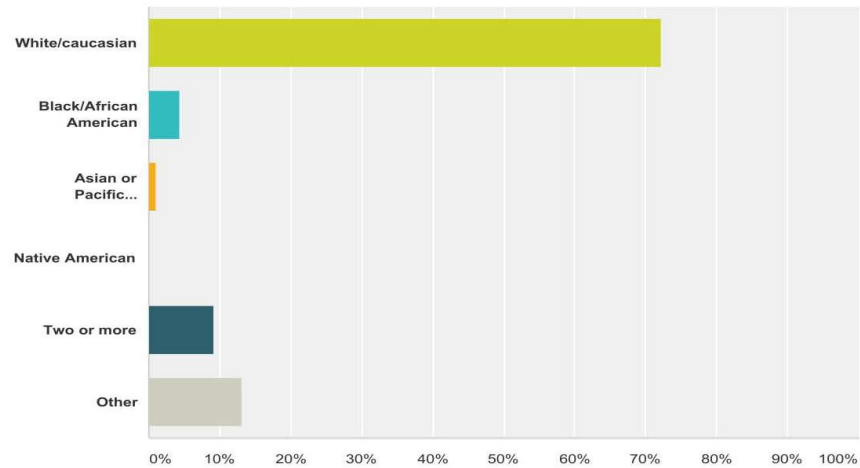
Answered: 207 Skipped: 26



Answer Choices	Responses
Yes	41.55% 86
No	58.45% 121
Total	207

### Q23 What is your race?

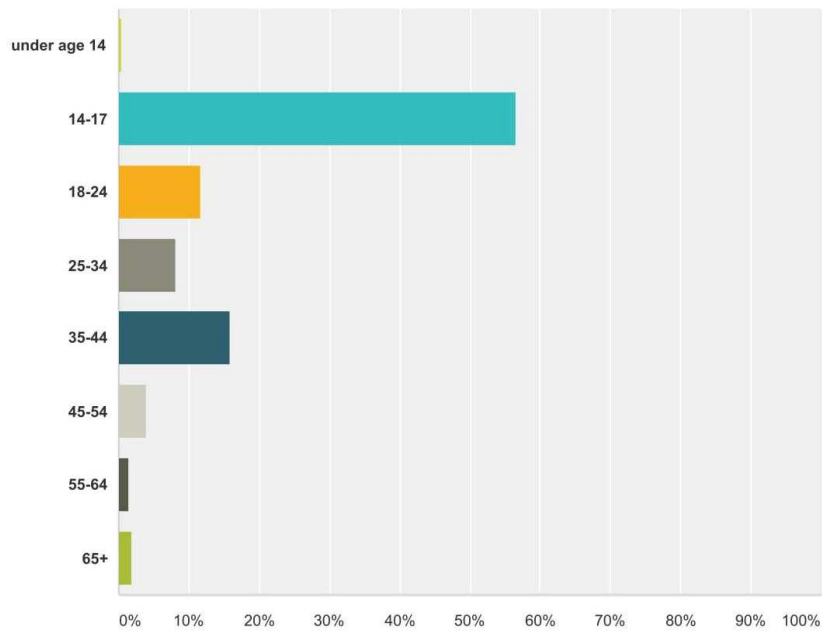
Answered: 205 Skipped: 28



Answer Choices	Responses
White/caucasian	72.20% 148
Black/African American	4.39% 9
Asian or Pacific Islander	0.98% 2
Native American	0.00% 0
Two or more	9.27% 19
Other	13.17% 27
Total	205

### Q24 What is your age range?

Answered: 207 Skipped: 26



Answer Choices	Responses
under age 14	0.48% 1
14-17	56.52% 117
18-24	11.59% 24
25-34	8.21% 17
35-44	15.94% 33
45-54	3.86% 8
55-64	1.45% 3
65+	1.93% 4
<b>Total</b>	<b>207</b>

## Part 4: Plan Recommendations

### 4.1 Introduction

KAYAC has created a series of recommendations to promote the expansion and development of Kyle's sidewalks and trails. In addition to addressing deficiencies in the existing infrastructure, these recommendations are intended to work with the Master Plan goals from Section 1, and begin gradual development of sidewalks and trails over the next ten (10) to fifteen (15) years.

### 4.2 Sidewalk Design

#### *4.2.1 Considerations for Disabled Persons in Kyle*

Approximately 7.03% of the sample reported some sort of physical disability. Of this sample, many expressed that improved connectivity in Kyle's pedestrian pathways would aid them in their daily lives. Per ADA regulations, there must be curb ramps at intersections, and sidewalks need to be at least five (5) feet wide to facilitate wheelchair use.

#### *4.2.2 Balancing Style and Cost*

The only stylistic element which sidewalks may need is a 3 to 5 foot wide beauty strip. This also doubles as a safety feature by acting as a buffer between foot traffic and car traffic. Sidewalks should be 5 to 6 feet wide for two reasons: (1) it will allow people to walk side by side comfortably, and (2) it will allow people using wheelchairs to safely use sidewalks. Trees and vegetation are not suggested for many reasons. First, maintaining new trees will be of notable expense to the city. Secondly, trees in particular can damage sidewalks as they grow; trees can be planted in such a way that they do not damage sidewalks, but this process costs extra. Thirdly and finally, vegetation has the potential to decrease visibility, especially if it is planted in the beauty strip. This could increase collisions between pedestrians and cars.

#### *4.2.3 Considerations for Lighting*

43.79% of respondents reported that poor lighting was a problematic for Kyle's sidewalks. This is a valid concern because poor lighting increases the risk of car-pedestrian collisions, even if a sidewalk is present. Additionally, good lighting is important to increasing the safety of sidewalks at night, since good lighting makes it easier for one pedestrian to see when another approaches.

The UNC Highway Safety Research Center outlined the average costs of installing lighting, reporting that "underpass lighting can range from \$350 to \$3,400 each, and crosswalk lighting can range from approximately \$10,750 to \$42,000 per crosswalk." Sidewalks 5 feet in width have an average lighting installation cost of \$4,880 per location, with a maximum cost of \$13,900. Despite these costs, installation of adequate lighting is still recommended because of their importance in making sidewalks desirable.

### ***4.3 Existing Sidewalk Renovations & Maintenance***

Given the existing conditions established in Sec. 3.2 and the survey results indicating residents' dissatisfaction with current sidewalk conditions, increased maintenance on the city's part is necessary. This type of action places a sustained strain on the city's budget, which is unfavorable to the public. To address this problem, KAYAC suggests the city encourages private property owners in addition to housing developers to maintain and/or expand their surrounding sidewalks and paths by offering subsidies. These subsidies can be anything from tax breaks to partial reimbursement depending on the level of expansion or maintenance deemed appropriate by the city to help finance initial expansion and improvement. After these much needed improvements,

the city may benefit from increased tax revenue from businesses that benefit from increased connectivity with their surrounding community as shown in Section 4.4.

#### ***4.4 Community Connectivity***

There are a good deal of sidewalks inside of many of the subdivisions in the city, but connectivity is lacking between subdivisions, commercial areas, and schools.

##### ***4.4.1 Subdivision-to-School Connectivity***

KAYAC prioritizes connections between schools and residential areas above the other two types of connections on the grounds of safety. The policy of Hays CISD is to provide bus service to students outside of a radius of two (2) miles around a school, except for if students do not have safe passage to school. In practice, there are difficulties providing bus service to students within this 2 mile radius, meaning that many children in this radius do not have bus service. This is especially problematic around the high schools. Around Lehman High School, for example, some students living on Lehman Road are not bussed to school, despite Lehman Road's total lack of sidewalks and its passing over Plum Creek, mandating pedestrian students to either walk through running water or passing over the bridge and wading a collision. Many students drive to school on their own or get a ride in this situation, but this solution also presents problems regarding congestion; that is, the lack of sidewalks around Lehman High School incentivizes parents and students on Lehman Road to drive to school, which increases traffic and, indirectly, the risk of a collision. The time wasted in traffic increases for more residents of Kyle and leads to more pollution from idling cars. The general circumstances around this situation exist in other areas of the City of Kyle, including around Hays High School, Barton Middle School, and Wallace Middle School. It is with regard to the safety of Kyle's youth that KAYAC recommends prioritizing repairs for and construction of sidewalks around Kyle's public schools.

##### ***4.4.2 Subdivision-to-Commercial Area Connectivity***

Secondary to creating safe and accessible Subdivision Connectivity as mentioned in section 4.4.1, KAYAC feels that improving Subdivision to Commercial connectivity such as places of work and shopping centers.