Urban Village by the Bay

ALBANY CALIFORNIA

CITY OF ALBANY
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28 December 2021 (Figures 1 and 4 vertical axis labels corrected 2 January)

MEMORANDUM

To: Albany City Council Members

From: Vice Mayor Jordan

Re: Active transportation safety continued

RECOMMENDATIONS

For information only.

BACKGROUND

On 20 December 2021 the Council considered an agenda item regarding active transportation safety with particular emphasis on people walking. The item posited this safety has deteriorated recently in a manner requiring immediate action. A selection of more recent collision data from the Statewide Integrated Traffic Records System (SWITRS) was attached to the report for that item.

To gain further insight, I downloaded and analyzed all the collision data from SWITRS involving people walking (coded as "pedestrians"), which covers 2009 through 2019 in full. I found such collisions have not increased in absolute number, as I presented at the December 20th Council meeting.

To understand if there has been a deterioration in safety for people walking in the time since that covered by SWITRS, I summed to calendar quarters the monthly number of the collisions with motorists reported by staff to the Transportation Commission from 2019 through October of this year. For the fourth quarter of 2021 the collisions for October were summed with collisions from then through December 20th provided to me by staff upon request. This analysis found the absolute number of collisions per quarter had returned to but not exceeded pre-pandemic, as shown in the meeting.

DISCUSSION

The analysis I presented in the previous meeting did not account for people biking. Figure 1 shows the average annual number of collisions over five years that involve people biking as well as walking. The reason for averaging over five years is explained below. Figure 1 suggests a slight decrease in the number of collisions for people walking and a decrease of about one third for people biking.

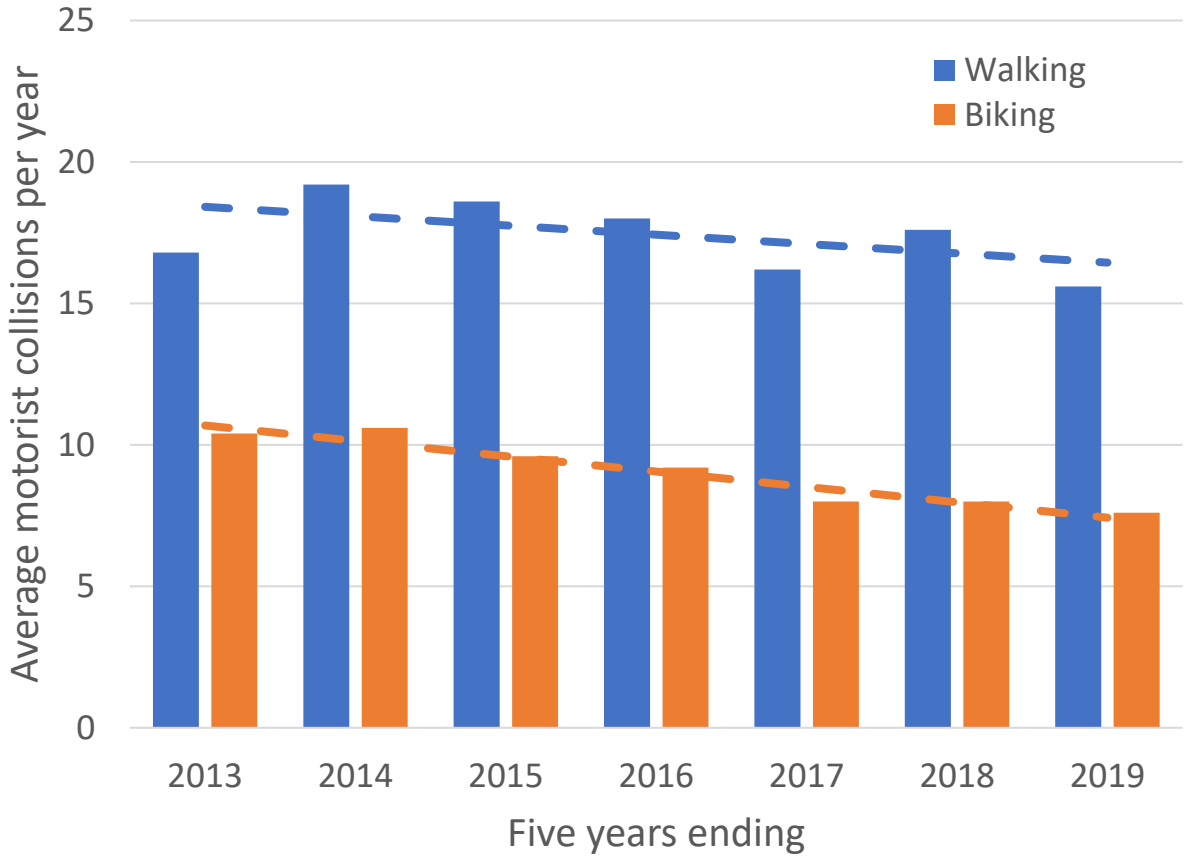

Figure 1. Five-year running average of collisions from SWITRS involving people using active transportation.

The previous analysis did not account for changes in the number of trips, if any, taken by active transportation over the period. For instance, if the number of these trips had declined while the number of absolute collisions had remained the same, risk to each person traveling by active transportation would have increased.

To estimate risk to each active transportation user, I downloaded work commute mode data for Albany for 2013 through 2019 from the five-year American Community Survey (ACS) run by the United State Census (the ACS does not provide one-year data for cities as small as Albany). These data estimate the number of people working and how many get to work by each of various modes, including walking and biking. I used these data because they are the only series of regular estimates I know regarding travel mode. Like for SWITRS, ACS data are not available for 2020.

Figure 2 shows the percent of workers commuting via various modes over the period. The shift away from modes involving cars was significant and substantial. The share of workers commuting alone by car has declined from about half to about 40%. Less apparent due to scaling, the share of both walking and biking increased by more than half. Because the data regard a rolling five-year period and the trends, it is likely the share of workers driving alone was lower and the share of people using active transportation higher in 2019 alone.

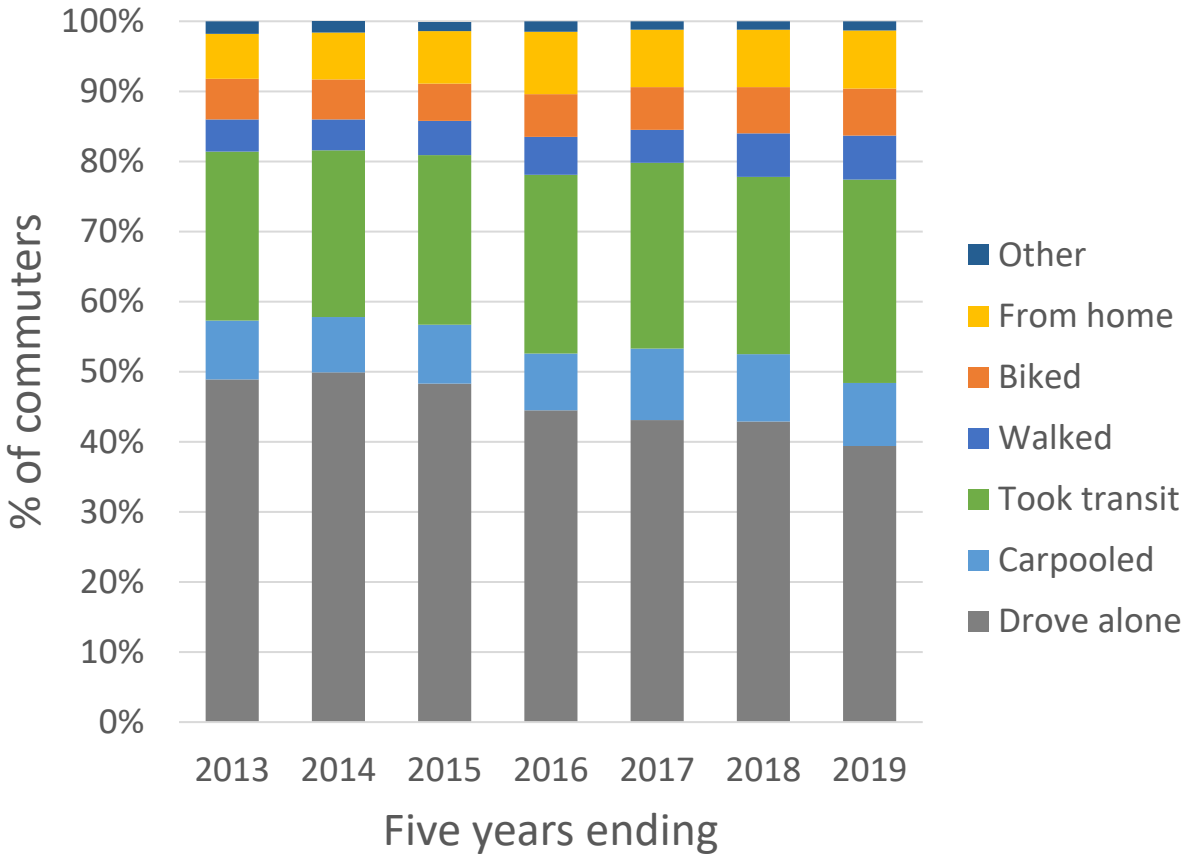

Figure 2. Five-year rolling commute mode shares from the American Community Survey.

Figure 3 shows the absolute number of workers using each commute mode estimated by the five-year ACS. Because the number of workers has increased, the relative number of workers commuting by active transportation has increased even more fractionally than the percent of workers doing so shown on Figure 2. The relative decrease in the number of workers driving alone was less than the decrease in the percent of workers doing so shown on Figure 2.

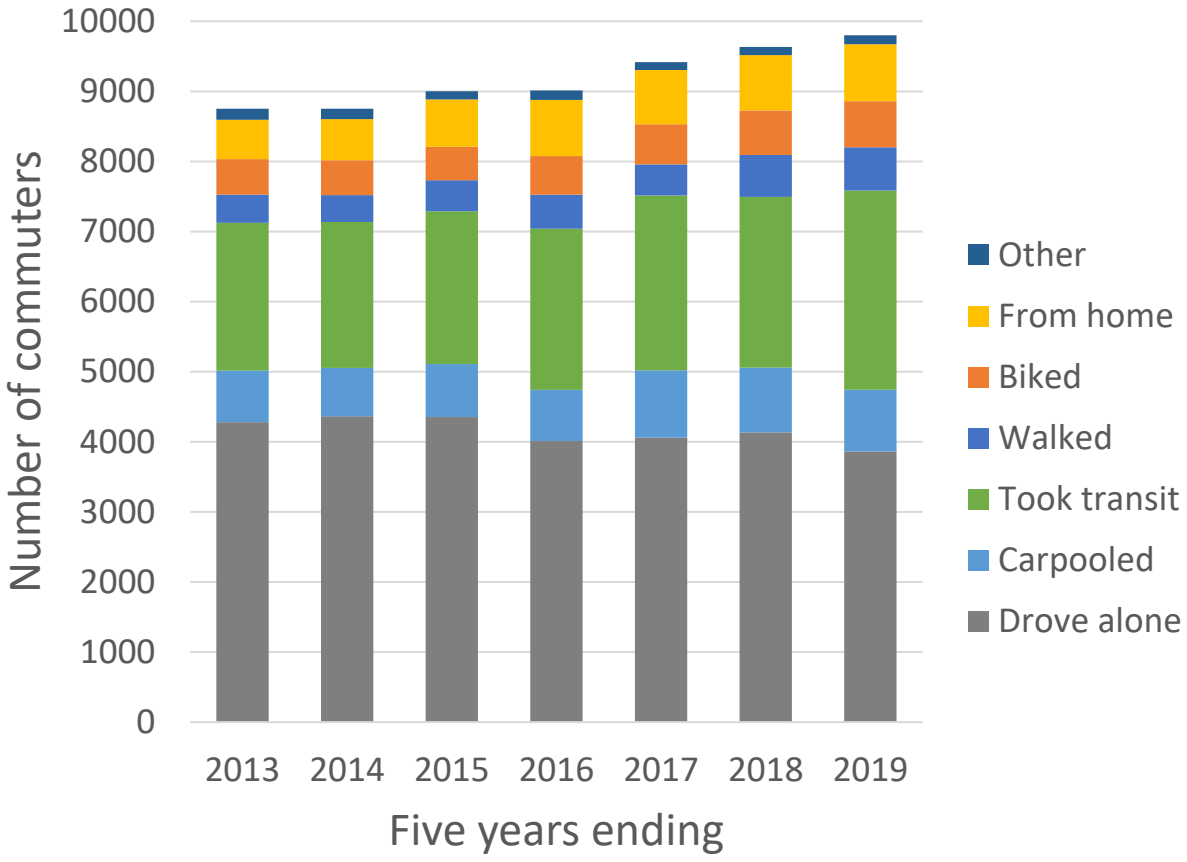

Figure 3. Five-year rolling number of commuters by mode from the American Community Survey.

Figure 4 baselines the average number of collisions per year to that for 2009-2013, setting this value to one. It then normalizes the number of collisions in subsequent years by the relative change in the number of people commuting by each active transportation mode. This provides the relative change over time in the probability of a particular person using active transportation being involved in a collision with a motorist.

Due to the increase in the number of people walking and biking and the constant to declining absolute number of such collisions shown in Figure 1, the collision probability has declined by about half for each person walking and biking over the period. The declines are significant, meaning unlikely to be due to random variation, and substantial.

While the cause of this decline is not provided by this analysis, the City's completion of active transportation safety projects likely contributed. During this period safe routes to school improvements were made to the intersections of Buchanan with Jackson and Marin with Santa Fe. The Buchanan cycling path and lane were constructed. The active transportation crossing signal of San Pablo at Dartmouth was installed and the cycletrack on a portion of San Pablo was completed. Most of the cycling routes in Albany were painted.

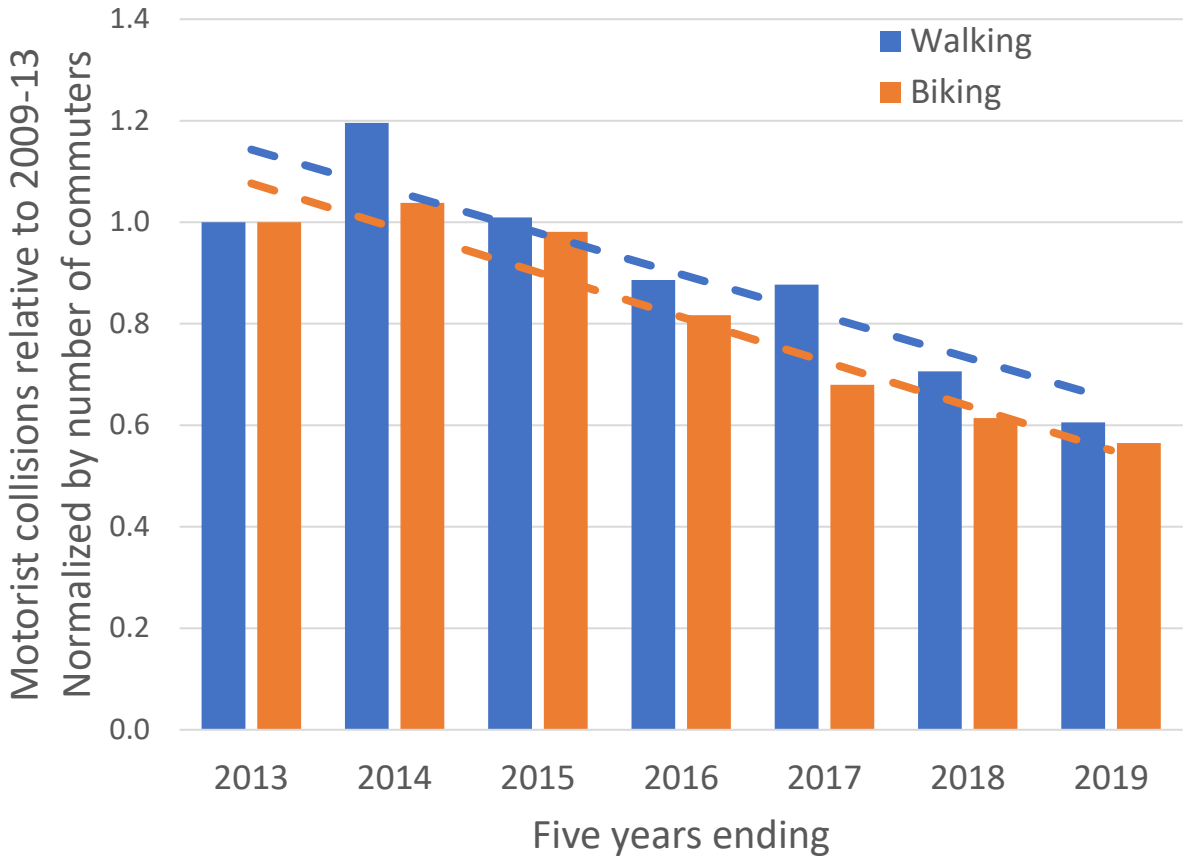

Figure 4. Five-year average number of collisions per year.

The outcomes suggest Albany is on the right track with regard to improving active transportation safety. The imminent improvement of the crossings of Solano and Marin for active transportation users of the Greenway and Masonic, which have the most such crossings anywhere in the City, is the next major step in this process. More than 5% of the collisions between these users and motorists recorded in SWITRS occurred at these two intersections.

SUSTAINABILITY CONSIDERATIONS

The indicator for attainment of Goal 4 of the Active Transportation Plan is increasing the share of trips taken by active transportation to 15%. At the time this Plan was drafted (2011, with adoption in 2012) the share of work commutes taken by these modes averaged 10.1% over 2007-2011.

Figure 2 indicates the share of work commutes taken by these modes reached 13.0% on average over 2014-2019. Considering the trend and the time lag, and that research finds work commutes are the least likely of all trip types to be completed by biking and walking, Albany almost certainly attained the indicator specified in the Active Transportation Plan. Attainment of this indicator also supports Albany's greenhouse pollution reduction goals.

Albany's Climate Action and Adaptation Plan (CAAP) set the Phase 1 metric for addressing transportation greenhouse pollution as reducing motor vehicle miles traveled by 25%. The CAAP was adopted at the end of 2019. It is too early to judge if Albany is successfully moving to attaining this metric. Figure 2 indicates the increasing active transportation mode share has played a role in keeping vehicle miles traveled constant prior to adoption of the CAAP despite a 14% increase in the number of workers over the prior decade estimated by the ACS. Research finds safety and perception of safety is a significant variable in people choosing whether to use active transportation. Consequently, to the extent active transportation safety in Albany has increased it has contributed to increasing the use of active transportation here.

SOCIAL EQUITY AND INCLUSIVITY CONSIDERATIONS

The ACS estimates households with the lowest income have the largest share of workers commuting by active transportation nationally.[1] Presuming this is true for the portion of the East Bay in which Albany is located, the increased safety of active transportation in Albany increases equity.

CITY COUNCIL STRATEGIC PLAN INITIATIVES

This report goes to Goal 1, Objective 3 of the Strategic Plan, which is to promote active transportation and safety.

FINANCIAL CONSIDERATIONS

As this report is for information only, there are no financial considerations.

[1] Table 3 of https://www2.census.gov/library/publications/2014/acs/acs-25.pdf