Barton Springs Road Safety Pilot

Six-month Public Update (Published May 2024)

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Executive Summary

A car crash in April 2022 seriously injured 10 people on Barton Springs Road, highlighting this area for deeper analysis to improve safety for all roadway users in an active area and important connection to Zilker Park. This analysis showed a considerable history of collisions with people injured, which resulted in the Austin Transportation and Public Works Department (TPW) implementing the Barton Springs Road Safety Pilot project, with substantial completion in late August 2023. The safety pilot included a new lane configuration featuring one vehicle lane in each direction between Azie Morton Road and South Lamar Boulevard, safer pedestrian crossings, and physically separated bicycle lanes.

Data analysis using traditional tube counters and Dynamic Speed Display Devices **shows a significant reduction of 64-73% in high-risk speeding** (representing more than 470 fewer people driving 10 mph over the speed limit each day) compared to pre-pilot data. **Median speeds are 1-4 mph lower than pre-pilot project implementation**. While it is still early, **there have been two crashes with a crash report during the first six months of the pilot** (which were due to an illegally parked vehicle and an impaired driver, neither with serious injuries), while pre-pilot analysis would have predicted six crashes with a full crash report.

Travel times through the pilot area are very similar today compared to the same timeframe from one year ago, ranging from 2.8 minutes to 3.5 minutes to travel across the project limits. Three of the six travel periods studied on Barton Springs Road show a reduction of travel times, one is the same compared to the before period, and the remaining westbound and eastbound morning peak travel period saw an increase of only 4-8 seconds. As predicted from pre-project modeling, queue lengths at signalized intersections have slightly increased and the vast majority of drivers are getting through the signalized intersections during the same traffic signal cycle as before.

City staff collected motor vehicle volume data on one day in February 2024 and one day in May 2022. There were 5,600 fewer vehicles in Feb. 2024 than observed in May 2022. This variation could be attributed to several factors: continued variations in post-pandemic telework patterns, motor vehicle travel levels, some drivers possibly choosing alternative routes, better weather in May bringing more people to destinations around Zilker Park and Barton Springs, and other natural variations. Analysis of travel times through other nearby east-west corridors showed no indication of negative impacts.

TPW conducted a community-wide survey in February 2024 to gather feedback about the safety pilot. With 1,643 responses, **more than 70% of respondents indicated they support or somewhat support the pilot initiative, 3% were neutral, and 26% do not support or somewhat do not support the pilot**. Positive feedback included increased feelings of comfort and safety, while top concerns were motor vehicle congestion, merging issues, and the materials used for the protected bike lane.

Overall, results from the first six months are showing positive safety outcomes with minimal operational impacts. Data collection and analysis will continue for the rest of the pilot period, and staff will prepare a final public update towards the end of the 12-month pilot.

Evaluation of Effectiveness

This analysis of the pilot generally spans the 6-month period starting from August 21, 2023, to February 16, 2024; the two weekends of the Austin City Limits festival have been removed from some aspects of the analysis as travel patterns are significantly impacted by the event and associated detours. Multiple sources of data, such as motor vehicle travel times, speeds, and volumes, offer robust insight into operations at all hours of the day beyond any individual's subjective experience.

Travel Time Analysis

Staff utilized INRIX Roadway Analytics data to analyze the impact of this project on travel times along Barton Springs Road between Lou Neff Road and Dawson Road, and along Azie Morton Road and Kinney Avenue. This data provides a rich and robust travel time and speed dataset aggregated from connected vehicles traveling along the City's roadway segments.

The graphs below show the average weekday travel times for Barton Springs Road eastbound and westbound before and after pilot conditions. The period of analysis for after the project implementation is 8/21/2023 to 2/16/2024, and the before period is 8/21/2022 to 2/16/2023.

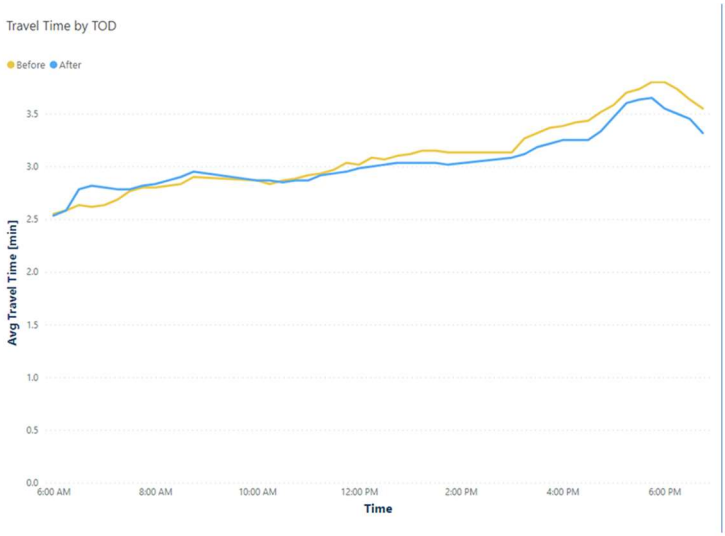

Figure 1: Barton Springs Rd Eastbound Comparison (Weekday)

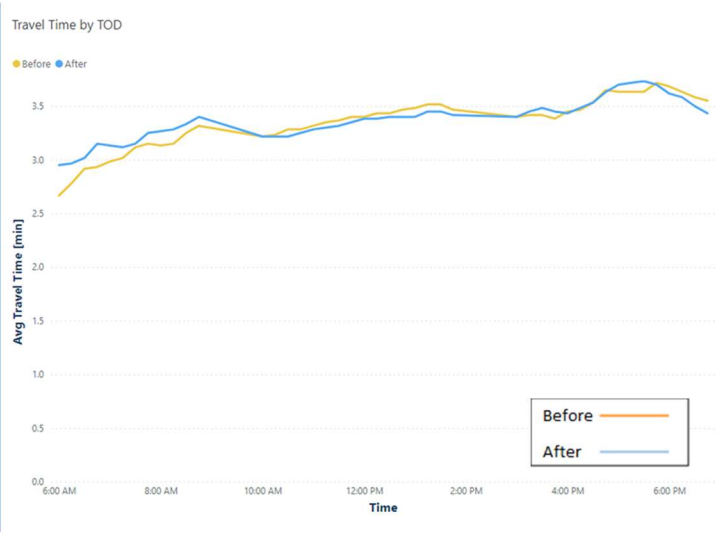

Figure 2: Barton Springs Rd Westbound Comparison (Weekday)

	Eastbound Travel Times				Westbound Travel Times			
	Before (Seconds)	After (Seconds)	Change (Seconds)	% Change	Before (Seconds)	After (Seconds)	Change (Seconds)	% Change
6AM-9AM	163	167	+4	+2.5%	182	190	+8	+4.4%
11AM-1PM	180	177	-3	-1.7%	203	200	-3	-1.5%
3PM-7PM	210	200	-10	-4.8%	212	212	0	0.0%

Generally, travel times for Barton Springs Road after the implementation of this project remain very similar to the same period a year prior. Three of the six travel periods studied on Barton Springs Road show a slight reduction in travel times. One period remained the same. The slight increases to travel times were in the westbound and eastbound directions during the morning peak period with an increase of four to eight seconds. Weekend operations along Barton Springs Road have also improved.

Azie Morton Road and Kinney Avenue northbound directions approaching the signals at Barton Springs Road showed similar results, with reductions to travel times in four of the six periods. Azie Morton Road had no change in travel time for the morning peak hours, and a decrease of five seconds in the evening peak hours. Kinney Avenue had no change in travel time in the morning peak, and a decrease of five seconds in the evening peak. Azie Morton Road saw a travel time increase of one second during the mid-day period while Kinney Avenue saw a reduction of six seconds in the mid-day period. The largest difference in travel time northbound along Azie Morton is around 8:45am with an increase of eight seconds as compared to that same fifteen-minute during the before period.

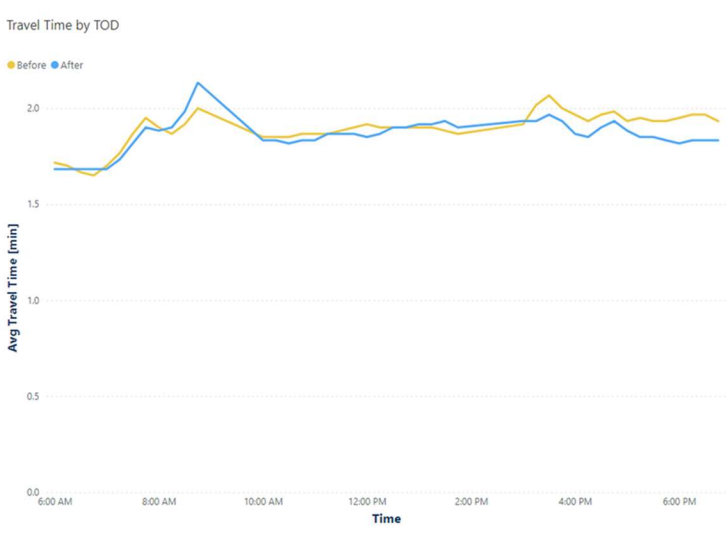

Figure 3: Azie Morton Rd Northbound Comparison (Weekday)

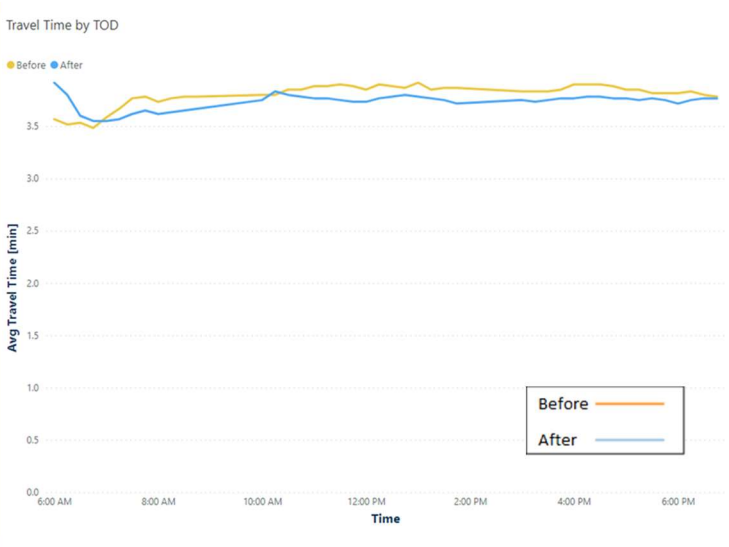

Figure 4: Kinney Ave Northbound Comparison (Weekday)

As noted in more detail in the following section, these travel time results can be attributed to achieving a project goal of more consistent and reduced speeds for safer mobility as opposed to a change in frequency of stops for drivers. Traffic signal cycles usually last 120 seconds or more for the Azie Morton Road and Kinney Avenue intersections with Barton Springs Road, so data showing a maximum increase of eight seconds confirms the vast majority of drivers are making it through these intersections within the same signal cycle as they were in the past.

Additionally, the City studied alternative routes to Barton Springs during the same period to see if delays along those routes may have increased due to traffic potentially re-routing to Cesar Chavez or West Fifth and West Sixth streets between Mopac and South Lamar Boulevard. All of the corridors showed a travel time improvement for each peak period. These findings suggest that this project has not adversely affected

motor vehicle travel times in a significant manner along the project corridor or the nearest adjacent alternative west-east routes into downtown.

Vehicle Speeds

The data reflect that high-risk speeding following project installation is significantly less frequent than previous conditions. A key objective of the pilot is to reduce the prevalence of high-risk speeding, which is a leading cause of motor vehicle-related injuries and fatalities in Austin. The 2022 crash which seriously injured 10 people on Barton Springs Road, for example, involved a driver who admitted to driving over 50 mph. The posted speed limit was reduced to 30 mph from 35 mph in December 2022.

Speed data collected from traditional motor vehicle tube counters over a 24-hour period in Feb. 2024 shows that the number of vehicles travelling over 40 mph declined 64% compared with data collected before the pilot project. This represents 474 fewer people each day who are driving 10 mph or more over the 30 mph posted speed limit (see Figure 5 below). The data also showed that median speeds have decreased 3% and 13% (1 and 4 mph) in the westbound and eastbound directions, respectively, even while overall travel time through the corridor remains consistent.

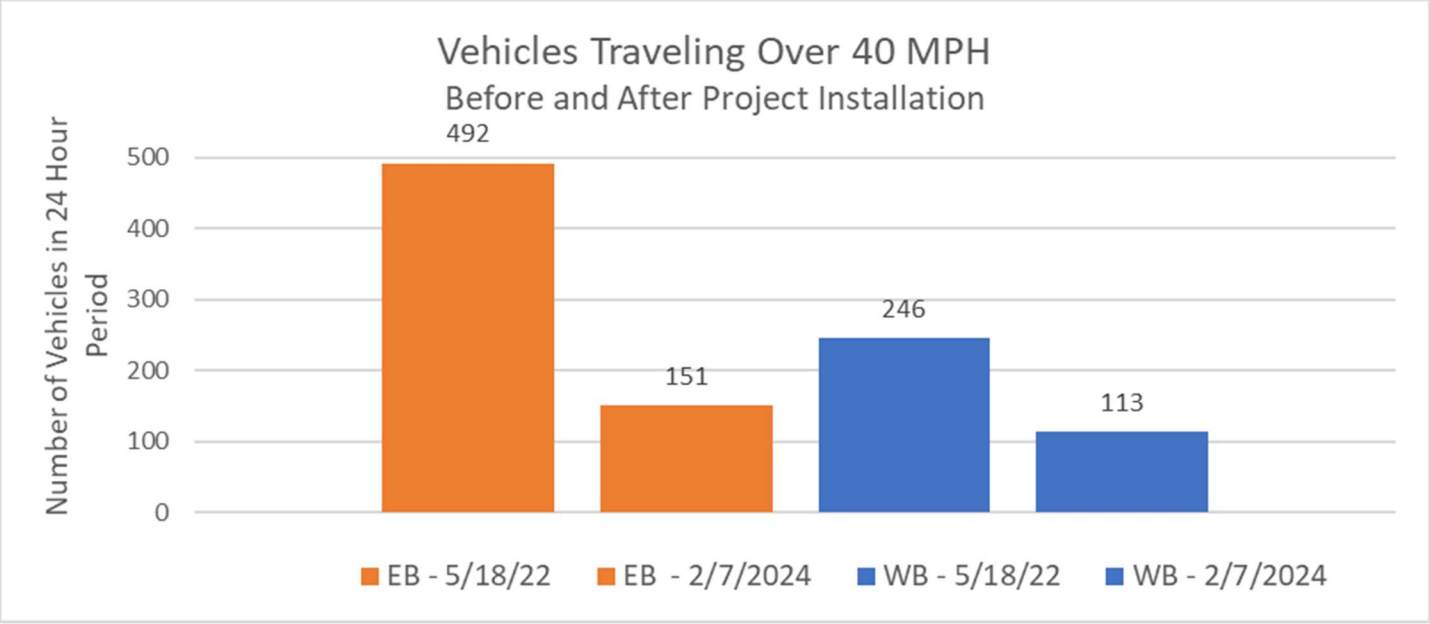

Figure 5: Comparison of vehicles traveling over 40 mph before and after project implementation

Staff also continue to monitor vehicle speeds collected from two dynamic speed display devices (DSDDs) installed on Barton Springs Road. This data source differs from the single day tube count data above by providing a long duration source of speed data. This data shows that following project installation, the average number of daily vehicles travelling over 40 mph declined 73% compared with prior conditions, while the average number of daily vehicles travelling over 45 mph declined 75%. Data for the before period was from 1/12/23 to 5/3/23 and the after period was from 8/21/23 to 2/16/24, excluding major holidays and the Austin City Limits musical festival.

Crashes

Based on available data as of March 4, 2024, there were two reported crashes within the project limits in the six months since project installation. Using five years of pre-pilot crash data, we would have expected six crashes in a six-month period. One recent crash involved a driver who illegally parked in the bike lane in the 1900 block of Barton Springs Road to drop off a passenger, who then opened their door and injured a person riding their bike in the bike lane. The area where this driver parked illegally now has physical devices installed which should help to prevent future illegal parking. Another crash involved an intoxicated driver rear-ending other stopped cars, however no serious injuries occurred, likely due to the low operating speed. Staff will continue to monitor crash trends for the remainder of the pilot.

Queuing

Due to the removal of travel lanes along Barton Springs Road, queue lengths have generally increased as expected, with volumes forming one queue instead of two. While queue lengths have increased, travel times (as shown above) have not increased significantly and have improved during most parts of the day due to optimized signal timing. So, although traffic may be perceived by some as 'worse' due to longer queues than before, corridor travel time performance remains similar to conditions before the project was implemented while also achieving safer speeds.

Traffic Volumes

Traffic data collected following project implementation shows that fewer drivers may be using Barton Springs Road compared to prior conditions. Data collected in May 2022 showed 22,600 vehicles in both directions combined over a 24-hour period, while data collected in February 2024 counted 17,000 vehicles per day. Most of the reductions in volumes occurred during midday, PM peak, and evening hours, while AM peak periods were similar for the two days of data collection pre- and post-pilot.

It is not uncommon for there to be variations in traffic volumes associated with seasonal travel patterns, weather, special events, crashes causing delays on major roadways or freeways nearby, or larger trends such as evolving telework dynamics. The traffic volume changes might also be associated with some drivers choosing other roadways instead of traveling on Barton Springs Road to avoid a real or perceived risk of increased delay.

Evaluation of Effectiveness Takeaways

Travel times through the Barton Springs Pilot corridor are generally the same as the period one year ago, with some times of day slightly faster and some times of day slightly slower. Other central city east-west corridors did not see negative impacts on travel times during peak times, even while volumes seem to be lower on Barton Springs Road during the pilot compared to a prior data collection result. The changes made during the pilot have unequivocally improved safety for all travelers, as high-end speeding is down substantially, and we are seeing a significant reduction in reported crash frequency.

Survey Responses

City staff conducted a survey in February 2024 to understand people's experiences of the pilot project after the first six months and received 1,643 responses. Over 70% of respondents indicated they support or somewhat support the pilot initiative, 3% were neutral, and 26% do not support or somewhat do not support the pilot. Two-thirds of respondents said they are comfortable or somewhat comfortable while traveling on Barton Springs Road today with the new safety improvements. Positive feedback included increased feelings of comfort and safety while traveling on Barton Springs Road for people walking, biking, and driving. Top concerns mentioned motor vehicle congestion, merging issues, and the materials used for the protected bike lane. A summary report and appendix containing all public comments are available on the project webpage.

Next Steps

TPW completed the installation of the last remaining elements of the pilot project, and adjustments based on feedback from the community, early this year following the Austin City Limits Festival and Trail of Lights. City staff will continue to monitor operations, review safety performance, and collect additional data for analysis over the spring and summer months. City staff anticipate providing a final update on the performance of the pilot in fall 2024.