

## Description

All B-cycle users must pay an access fee and a usage fee. The access fee allows users to access the bicycles. Once a bicycle is checked out for more than 30 minutes, users are charged a usage fee of \$4 per 30-minute increment of time, up to \$75 per day. B-cycle pricing is designed for commuting and short trips, but a number of visitors are using the bicycles to tour around town. This project will analyze the locations of B-cycle stations, create a travel time matrix between all stations, and come up with short-distance routes tourists can use to see the city without incurring additional charges for the bike use.

## Methodology

**B-cycle time matrix:** I performed an Origin-Destination (OD) Cost Matrix Analysis using the ArcGIS Network Analyst extension to determine the time for travel between all B-cycle stations. I used an average bike speed of 9 mph in this analysis. Once I had those results, I compared the modeled times with actual travel times from B-cycle data. The modeled times were very close to the actual times.

**Tourism Routes:** I identified several “must see” tourist attractions in the downtown area, and grouped them to create themed tours of Austin. The tourist routes have themes of “Austin Art and Music,” “Austin History,” and “Keep Austin Weird.” Once all tour stops were identified, I used the ArcGIS Network Analyst extension to create travel routes for each tour. The nearest B-cycle station to each attraction was identified so tourists can know where to check bikes in and out when visiting each location.

## Results

The longest travel time between any two B-cycle stations is 29 minutes. This means that a person can travel between any two of the B-cycle stations in less than 30 minutes, and thus not incur a usage fee for the trip. The tour routes have a suggested path to follow. However, using the time matrix, a person could design his or her own route between attractions, and could even combine attractions from different tours.

Time Matrix showing bicycle travel times between select B-cycle stations.

Station	1	2	3	4	5	6	7	8	9	10
10	11	4	4	8	11	9	8	8	9	
9	4	9	8	4	6	6	2	5		
8	6	5	5	7	9	2	5			
7	5	7	7	3	6	6				
6	8	5	5	7	9					
5	9	11	11	6						
4	7	6	5							
3	10	1								
2	10									
1										

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Data Sources: City of Austin, Austin B-cycle

## Proposed Austin Art and Music Tour

**Blanton Art Museum**  
200 East Martin Luther King Jr Blvd  
Tues-Fri 10am-5pm  
Sat 11am-5pm, Sun 1pm-5pm  
**Closest B-cycle Station: 13**  
Check out a bike and ride to station 20

**Texas Music Museum**  
1109 East 11th Street  
Mon-Fri 9am-4:30pm, Closed Sat-Sun  
**Closest B-cycle Station: 20**  
Check out a bike and travel to station 38

**Wild About Music**  
209 East 6th Street  
Mon-Thurs 10am-9pm  
Fri-Sat 10am-10pm, Sun 10am-6pm  
**Closest B-cycle Stations: 38, 31**  
Check out a bike at either station 38 or 31  
Travel to Congress Ave, then head south.

**Austin Guitars**  
· “Sixth String” - 6th and Congress  
**Closest B-cycle Station: 7**  
· “Vibrancy” - 4th and Congress  
**Closest B-cycle Station: 4**  
· “Twinkle, Twinkle Lone Star” - 2nd and Congress  
**Closest B-cycle Station: 2**  
Check out a bike and travel across the Congress Ave bridge toward Auditorium Shores and Butler Park.

**Stevie Ray Vaughn Statue**  
Located along the Ann and Roy Butler Hike and Bike Trail that follows Town Lake.  
**Closest B-cycle stations: 22, 30**  
Cross the Lamar Bridge and travel east toward the Moody Theater.

**Moody Theater**  
310 Willie Nelson Blvd  
Mon-Wed 8am-6pm, Thurs-Fri 8am-12am  
Sat 11am-12am, Closed Sun  
**Closest B-cycle station: 15**  
Check out a bike and travel to Austin Music Hall

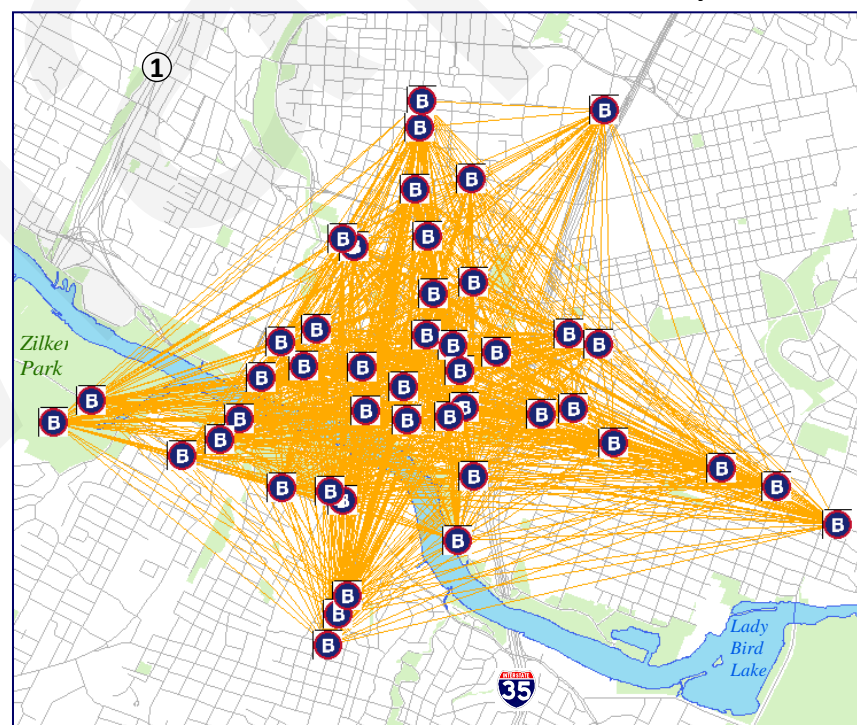
**Austin Music Hall**  
208 Nuces  
**Closest B-cycle stations: 3, 15, 29**  
Hours vary depending on what shows are scheduled. Continue travelling to Waterloo Records. Drop bike at either station 5 or 41.

**Waterloo Records**  
600A North Lamar Blvd  
**Closest B-cycle stations: 5, 41**  
Mon-Sat 10am-11pm, Sun 11am-11pm

Waterloo Records is located on 6th Street. From here, walk east along Sixth Street and enjoy an evening on the town.

**Sixth Street District**  
6th Street between Red River and West Streets  
**Closest B-cycle stations: 38, 41**

Results of the OD Cost Matrix Analysis



# AUSTIN B cycle

## Station Time Matrix and Tourism Routes

