

RESEARCH REPORT ON BEACONS AT SXSW 2016

The 2016 South by Southwest Conference spanned ten days from March 11th through March 20th, with over 70,000 in attendance. In 2015, conference organizers deployed beacons to help improve the attendee experience. If you downloaded the SXSW app and enabled Bluetooth and location sharing, your app would send timely and relevant push notifications as it bumped into beacons around town.

In 2016, conference organizers again utilized beacons, but so did many other companies. Reveal Mobile's technology, which sits inside hundreds of news, weather, and sports apps across the country, collects location and beacon data for millions of devices and hundreds of thousands of beacons.

In this report we share what we learned about beacons deployed at SXSW. We also pose a few questions.

METHODOLOGY

For Reveal Mobile to detect a beacon at SXSW, a smartphone meets these criteria:

1. The phone had an app on it with our SDK inside. We reach millions of devices across the US currently.
2. The phone had Bluetooth and location sharing enabled.
3. The phone bumped a beacon in Austin, TX between March 11-March 20.



THE BEACON DATA YOU SEE ON THE FOLLOWING PAGES...

- The pins you see on the map represent device locations, not beacon locations. Beacons do not transmit lat/long coordinates, phones do. Therefore, the pin shows the last known location of a device when it bumped into the beacon. The Android and iOS operating systems generate the "last known" coordinates. We fetch this stored location from the OS everytime we bump into a beacon.
- Hot spots indicate very likely beacon locations. We'll dig into a few examples.
- We can't see all beacons, just those that broadcast the publicly available iBeacon or Eddystone formats. Any company that deploys beacons with proprietary Bluetooth signals are invisible to us.

THE POWER OF THE DATA

If you're an advertiser wanting to reach the SXSW audience, combining this beacon data with lat/long geofence data provides a highly accurate and valuable audience segment. Or maybe your startup launched at SXSW and you want everyone who attended to learn more about you. Devices bumping into these beacons deliver that audience.

The same logic holds if your app delivers ads. If your advertisers seek a tech savvy, business traveler crowd, you're armed with an audience segment that few others have.



BEACONS AT SXSW

QUESTIONS. ANSWERS. UNKNOWN.



TOP LEVEL STATS



**OFFICIAL SXSW
2016 BEACONS
DETECTED**

The makers of the SXSW app use beacons with a proprietary beacon signal, which means they're invisible to us and anyone else.



**ONE BEACON
ACCOUNTED FOR
63% OF BUMPS**

Clearly, something is weird with this statistic. Beacon UUID d77657c4-52a7-426f-b9d0-d71e10798c8a with a major/minor of 0, 0 received 63% of interactions at SXSW. THE UNKNOWN: A company can deploy multiple beacons with the same UUID, Major, Minor name, and it will appear that only a single beacon is present. This could be a single beacon, three beacons, or a hundred beacons.



**DEFAULT BEACON
UUIDS DETECTED**

We saw beacons broadcasting the factory-set UUID from TwoCanoes, Radius Networks, Roximity, Kontakt, and Estimote. Normally when a company chooses to deploy beacons, they'll change the default UUID to one of their own.



**DIFFERENT
BEACON
UUIDS**

We detected 56 unique beacon UUIDs, which loosely equates to 56 different companies deploying beacons in downtown Austin. Typically, a company chooses a UUID as its top level identifier for a beacon deployment.***
THE UNKNOWN: Did more than 56 companies deploy beacons, because some simply used the default UUID from the manufacturer?



**TOTAL BEACONS
EXCLUDING
"ROAMERS"**

In total, we saw 267 unique combinations of UUID, major, minor in Austin, TX during SXSW. What's a "roamer"? These are beacons that keep the same UUID, but rotate their major/minor values very frequently and appear across the United States. THE UNKNOWN: How many were temporary installations for SXSW or live in the area permanently?



**TOTAL BEACONS
INCLUDING
"ROAMERS"**

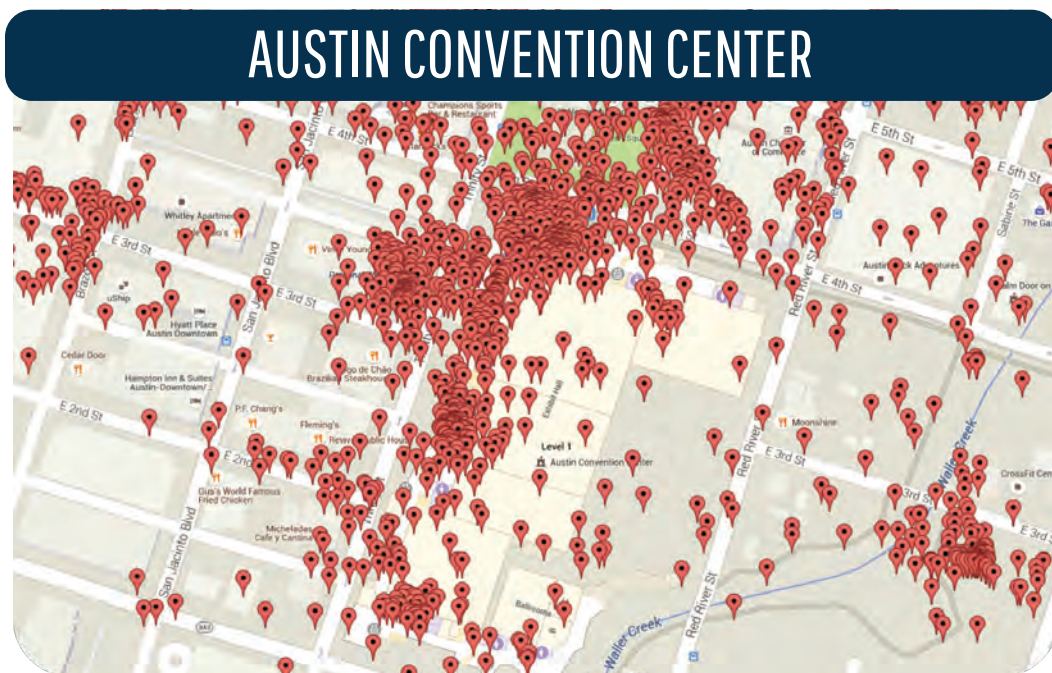
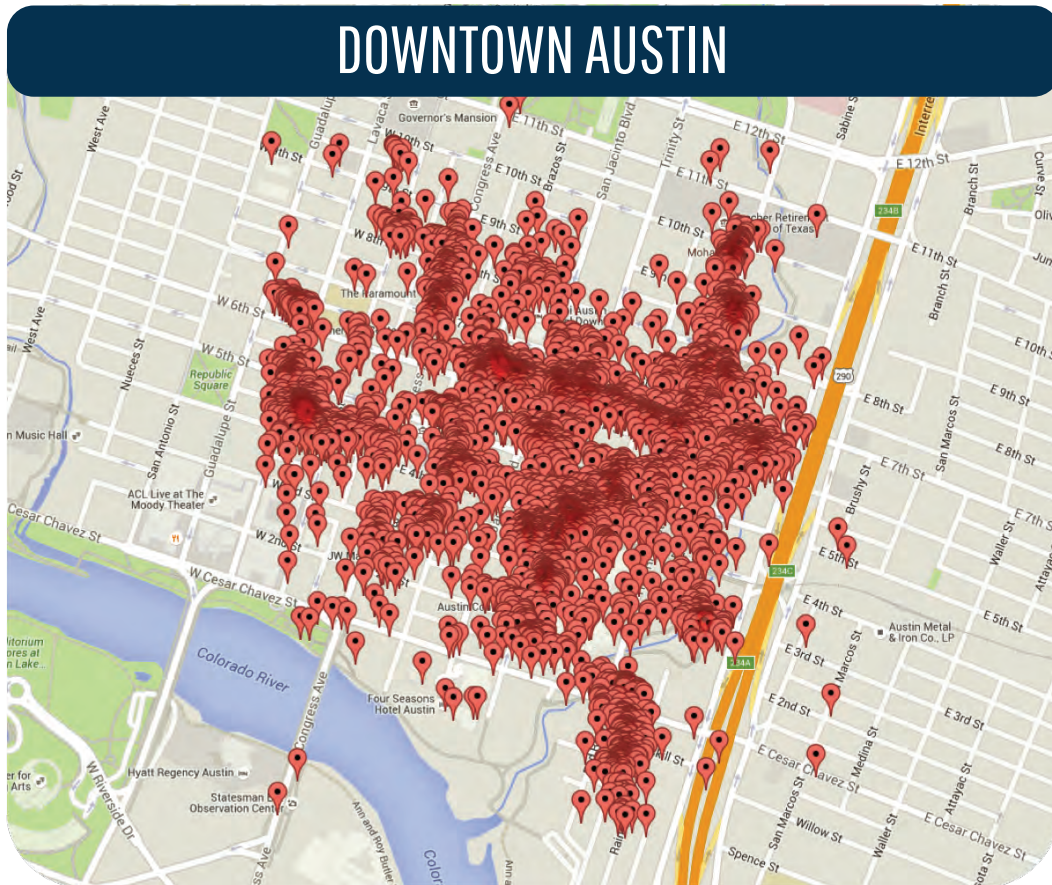
Including the roaming beacons, SXSW attendees bumped into 1,667 beacons during the conference. THE UNKNOWN: We've got theories on what these roamers are, but not enough evidence to say definitively. Do you know? Email us.

*** Beacons following the iBeacon protocol broadcast their signal as a series of letters and numbers in three distinct groups. Here's a fictional example of how a company will name their beacons:
UUID = 520497b2-ac2b-b2c1-b127-4eb147b722d5 = SXSW Organizers
Major = 413 = Convention Center
Minor = 15 = Main Entrance

BEACONS AT SXSW QUESTIONS. ANSWERS. UNKNOWN.

VISUALIZING THE DATA

In the images below, we show the last known lat/long of devices when they bumped into a d77657 beacon mentioned on the previous page. You'll notice hotspots around E. 6th Street, the convention center, and two other locations.

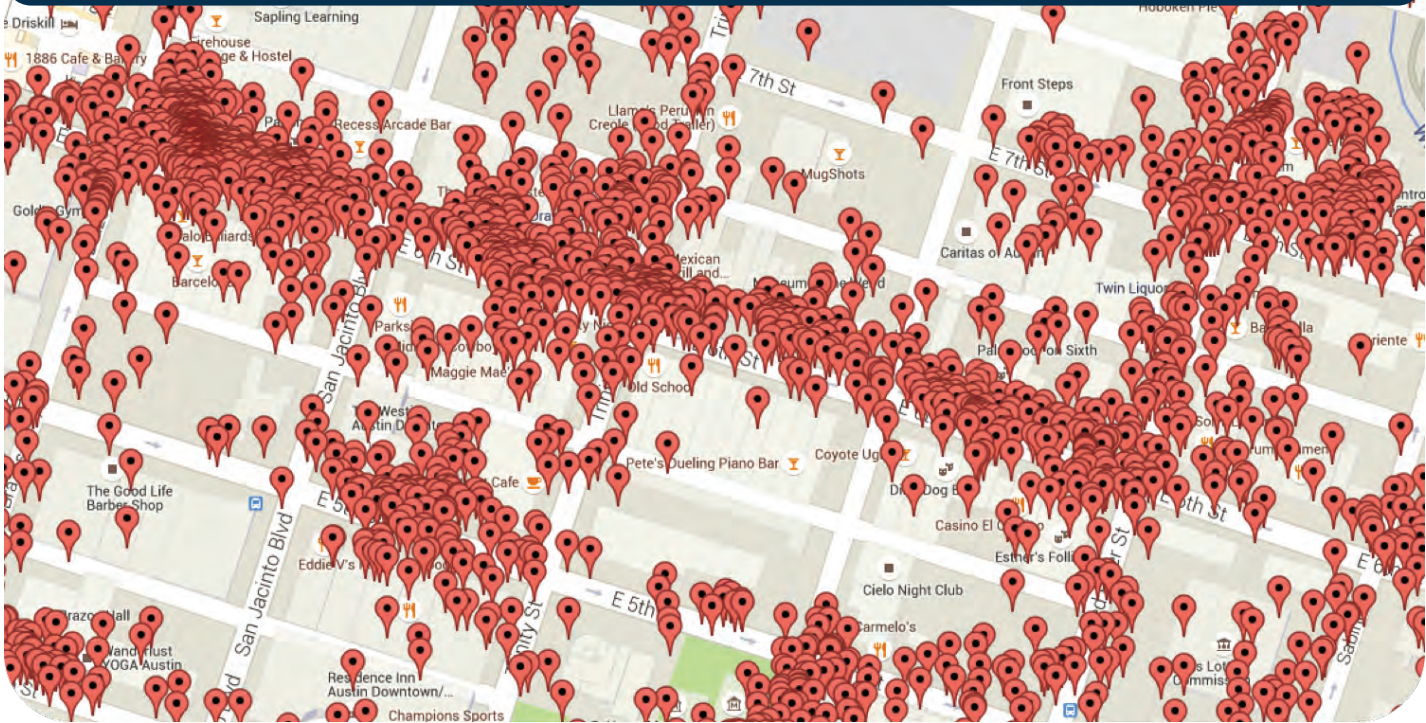


BEACONS AT SXSW

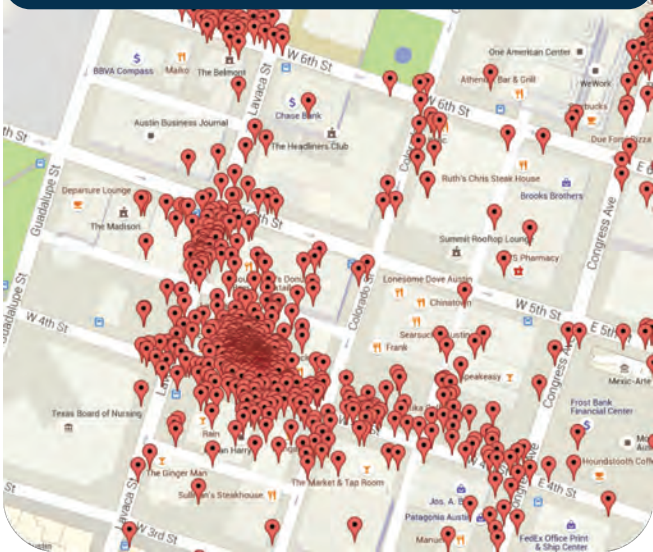
QUESTIONS. ANSWERS. UNKNOWN.



6th STREET



VENUE: FADO OR TRULUCKS



INTERCONTINENTAL HOTEL

