



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

December 23, 2016

Group Chairman's Factual Report

AIR TRAFFIC CONTROL

CEN16FA211

A. AIRCRAFT ACCIDENT

Location: Houston, Texas
Date: June 9, 2016
Time: 1309 central daylight time (CDT) / 1809 coordinated universal time
Airplane: N4252G, Cirrus SR-20

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B. AIR TRAFFIC CONTROL GROUP

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C. DETAILS OF THE INVESTIGATION

On June 9, 2016, about 1309 central daylight time, a Cirrus SR20 single-engine airplane, N4252G, was substantially damaged after it impacted terrain following a loss of control during initial climb at the William P. Hobby Airport (HOU), Houston, Texas. The pilot and the two passengers were fatally injured. The airplane was registered to and operated by Safe Aviation, LLC, Moore, Oklahoma, as a 14 *Code of Federal Regulations* Part 91 business flight. Visual meteorological conditions (VMC) prevailed and a visual flight rules (VFR) flight plan had been filed. The airplane had departed from University of Oklahoma Westheimer Airport (OUN), Norman, Oklahoma, about 1000 and was destined for HOU.

The air traffic control (ATC) group met at Houston Hobby air traffic control tower (HOU ATCT) on June 15, 2016. We received a briefing on the accident from Mr. Andre Harris, air traffic manager, and Ms. Natalie Shelton, HOU support specialist. Also attending the briefing were Mr. Nick Fuller, event investigation manager, and additional staff from HOU ATCT and the FAA Central Service Area quality control group. The ATC group then visited the tower cab to observe control positions and tower visibility, reviewed training records, and interviewed Brian Way, the on-the-job training instructor (OJTI) assigned to the local control (LC) position during the period leading up to, but not including, the accident.

The group returned to HOU ATCT on June 16 to continue data review and interviews. We spoke with James Kinkelaar, front line manager (FLM), Donte Harris, clearance delivery/flight data controller (CD/FD), and Chris Chambliss, ground controller (GC). On Friday, the group interviewed Todd Widmier, LC trainee, and (via telephone) Edgardo Colon, Houston Terminal Radar Approach Control (I90) Hobby Final controller. We then completed notes, discussed the results of our investigation with the air traffic manager and staff, and completed our work at the facility.

1.0 History of Flight

N4252G departed from University of Oklahoma Westheimer airport at 1110 CDT en route to HOU. The pilot contacted Houston Approach at 1227:48, reporting that she had received automated terminal information service (ATIS) information Hotel for HOU.¹ The controller instructed the pilot to descend to 5,000 feet and maintain VFR.² The flight received routine VFR handling and subsequently descended to 1,800 feet. At 1238:40, the controller told the pilot to expect a left base to the traffic pattern for runway 4 at HOU. Vectoring and traffic advisories continued, and at 1251:38, the controller advised the pilot, "...you're following a Boeing 737 about 1:00 and 5 miles - on a four mile final at 2,000, caution for wake turbulence." The pilot reported the other aircraft in sight. At 1252:20, the controller instructed the pilot to fly heading 095 to follow the traffic, issued another wake turbulence advisory, and transferred communications to HOU tower. The pilot acknowledged.

The pilot contacted the HOU tower LC position at 1252:47 and reported at 1,600 feet. The position was being worked by a trainee (LCT) and an instructor (LCI). The trainee missed the source of the call and thought it was a Southwest Airlines (SWA) flight. He responded as if the SWA pilot had called, then realized that it had actually been the pilot of N4252G. After resolving the confusion, the LCT controller transmitted, "Cirrus 4252G Hobby tower, you're number 2 following a 737 on a 3 mile final, caution wake turbulence, runway 4 cleared to land." The pilot read back the instructions correctly. The controller then asked where the aircraft would be parking, and the pilot responded, "We'll be parking at MillionAir, 4252G."

At 1253:51, the LCI controller transmitted, "Cirrus 4252G proceed direct to the numbers, you're going to be inside a 737 intercepting a 10 mile final." The pilot asked, "OK, you'd like me to proceed direct to the numbers, 4252G?" The LCI controller responded, "November 52G, what did approach tell you before?" The pilot answered, "Um, to left base runway 4 and follow the Boeing, 4252G." The LCI controller again instructed the pilot to, "...proceed direct the numbers for runway 4, direct to Hobby." At 1254:24, the Hobby Final controller called the LC controllers to ask that they have the Cirrus proceed direct to the numbers, and the LCI controller responded that the pilot had been directed to do so. At 1254:39, the LCT controller asked the pilot to maintain maximum forward speed and proceed direct to the numbers, advising her that there was a 737 on 9 mile final following the Cirrus that was overtaking it by 80 knots. The pilot responded that she would proceed direct to the numbers and keep her speed up.

At 1255:49, the LCT controller broadcast to all aircraft that HOU ATIS information India was current, altimeter 29.94. The pilot was not required to acknowledge the updated ATIS announcement and did not do so.

At 1255:59, SWA235 contacted HOU, reporting that they were on 5 mile final for runway 4. The LCT controller responded that they were number 2 following a Cirrus on 2 mile final, cleared the

¹ Information Hotel was broadcast after 1153 CDT, and reported HOU weather conditions as wind 100 degrees at 8 knots, visibility 10 miles, scattered clouds at 3,500 feet, broken ceiling at 18,000 feet.

² "Maintain VFR" is an instruction issued to pilots to remain in flight conditions suitable for visual flight rules (VFR).

pilot to land, and instructed him to slow to final approach speed. At 1256:19, the controller broadcast a wind check, 080 degrees at 13 knots (kts) gusting to 18 kt.

At 1256:58, the LCI controller called N4252G, and the pilot responded. The LCI controller then continued, "Yeah, I've got traffic behind you, just go around and fly runway heading for now, maintain VFR, and I'm going to put you back on the downwind for runway 35. The winds are 090 at 13 gusts 18 [kt]. Can you accept runway 35?" The pilot responded, "We're to go around and line up for runway 35 downwind." The LCI controller then told the pilot to fly runway heading for runway 4 "for right now." The pilot responded, "We'll fly runway heading for 4, 4252G." The LCI controller then cleared SWA235 to land.

At 1257:34, the LCI controller transmitted, "N52G when able go ahead and make a right downwind now for runway 35 and then we'll just go ahead and keep that right turn, runway 35 cleared to land." The pilot read back, "OK, make a right downwind for runway 35?" The LCI controller continued, "N52G yes and just keep the right turn all the way around, you're just going to roll right into the base for runway 35, cleared to land. I've got another 737 on 5 mile final to runway 4 and you're going to be in front of him." The pilot acknowledged with, "...turning around for runway 35." At 1258:10, the LCI controller said, "...just enter the downwind for runway 35," and the pilot acknowledged. At 1258:16, the LCI controller told the pilot that he would call the right base turn.

At 1258:48, the LCT controller provided a traffic advisory to the pilot of N4252G about another 737 inbound to runway 4, and the pilot reported the 737 in sight. The LCT controller instructed the pilot to make a right base to follow [pass behind] the 737, and again cleared the pilot to land on runway 35. The pilot read back, "we're going to make a right base following them...for runway 35, N4252G."

At 1259:20, the LCT controller told the pilot to "turn left heading 30 degrees." This was to resolve a perceived conflict between N52G and SWA235. The pilot read back, "turn left heading 30 degrees." At 1259:30, the LCI controller asked the pilot if she, "...wanted to follow the 737 to runway 4?" The pilot responded, "Yes, that would be great." The controller then told her to follow the 737 to runway 4 and cleared her to land. The pilot then asked, "Am I turning a right base now, 4252G?" The LCI controller continued, "N52G roger, just maneuver back for the straight-in, I don't know which way you're going now, so just turn back around to runway 35." The pilot replied, "Turning to 35, I'm so sorry for the confusion, 4252G." The LCI controller responded, "That's OK, we'll get it."

At 1300:13, the LCI controller asked the pilot which direction she was turning. She responded, "I thought I was turning a right base for 35, 4252G." The LCI controller continued, "...that's fine 52G, uh, just make it uh, you say you're in a right turn, keep it tight, I need you to make it tight." The pilot answered, "Keeping turn tight, 4252G."

At 1300:31, the controller provided a traffic alert to "OGA" about traffic 1 mile away at 900 feet, which was N4252G. That pilot reported that he was "looking," and the LCI controller continued, "N52G I need you to uh there you go, straight in to runway 35, cleared to land." The pilot read back, "Straight in to runway 35 and I don't believe I'm lined up for that." The LCI controller

acknowledged and instructed the pilot to, "...turn to the right and climb and maintain 1,600, right turn." The pilot acknowledged, and the LCI controller continued, "Yes, ma'am, heading about 040," which the pilot read back correctly.

At 1301:16, the LCI controller transmitted, "OK 52G, let's do this. Can you do a right turn back to join the straight-in to 35? Could you do it like that?" The pilot replied, "Yes, right turn back to 35, N4252G." The LCI controller instructed the pilot to make a right turn, "all the way around to runway 35," and again cleared the pilot to land. The pilot acknowledged.

At the same time, the Hobby Final controller was calling the tower to offer a space to put N4252G behind another aircraft, N4JJ, inbound on the runway 4 final. The LCI controller did not respond to that call.

At 1301:44, N4JJ contacted the tower on a visual approach to runway 4. The LCI controller told the pilot to reduce to minimum speed, and advised that he would be number 2 for the airport following a Cirrus on 1 mile final for runway 35. The pilot of N4JJ acknowledged the information.

At 1302:02, the LCI controller transmitted, "Cirrus 52G, OK, you're looking good just continue a right turn for runway 35. Do you see runway 35 still?" The pilot responded, "Yes, 35, 4252G have it in sight, continuing my roll around." The LCI controller continued, "Yes, ma'am, yeah you're good so you can start your descent to runway 35 there, and uh cleared to land on 35." The pilot replied, "Cleared to land on 35, 52G, thank you very much." The controller then provided a wind check, "...winds are 100 at 15 gusts to 20." The pilot responded, "OK, thank you, trying to lose altitude 4252G." The LCI controller continued, "No problem, little bit of wind off the right."

At 1303:01, the LCI controller transmitted, "N52G if you don't want to land – if that's too high, we can put you back around the downwind, don't force it if you can't." The pilot answered, "OK – we'll see, thank you, 4252G." At 1303:25, the LCI controller told her, "OK, I think you're too high, Cirrus 52G, you might be too high." The pilot replied, "OK – we'll go around then, N4252G." The LCI controller told the pilot to make right traffic for runway 35. The pilot replied, "Sounds perfect, right traffic runway 35, 4252G."

At 1304:38, the LCI controller cleared N4252G to land, stating, "...make right downwind to runway 35, and you are cleared to land – there will be no other traffic for runway 4 so this one will be easy." The pilot read back, "Making right traffic for downwind for runway 35, 4252G." The controller continued, N52G affirmative, and cleared to land on runway 35 via the right downwind and right base." The pilot then read back, "Thank you – right downwind, right base, 4252G."

At 1306:00, the LCI controller issued a traffic advisory to the pilot of N4252G, stating, "...there's a 737 on short final runway 4 touching down right in front of you so just caution wake turbulence right there at that intersection." The pilot responded, "OK, I've got that in sight, N4252G."

At 1307:03, the LCI controller asked if the pilot of N4252G had runway 35 in sight. The pilot answered that she did, and the controller provided a wind check, “090 at 13 gust 18, runway 35 again, cleared to land.” The pilot replied, “35 cleared to land trying to get [laugh] down again, 4252G.”

At 1307:49, a position relief briefing occurred on the LC position and a new controller took over.

At 1308:21, the pilot reported, “...going around, third time will be a charm.” The new controller responded, “OK, Cirrus 52G, just go ahead and make the left turn now to enter the downwind, midfield downwind for runway 4, if you can just keep it in a nice tight low pattern, I’m going to have traffic 4 miles behind you so I need you to just kind of keep it in tight if you could.” The pilot responded, “OK, this time will be runway 4, turning left, 4252G.” The controller continued, “And actually I might end up sequencing you behind that traffic, he’s on 4 miles a minute, um it is gonna be a bit tight with the one behind it so when you get on the downwind, stay on the downwind and advise me when you have that 737 in sight. We’ll either do 4 or we might swing you around to 35 uh uh ma’am, ma’am uh straighten up straighten up!”

There were no further contacts with the pilot. N4252G crashed northwest of the airport in a commercial parking lot, and the tower supervisor reported the accident to emergency services.

2.0 Radar Data and Graphics

Radar data for this accident was obtained from the I90 Standard Terminal Automation Replacement System (STARS) and from the Harris Opsvue radar replay system licensed to the NTSB. Figure 1 is an overview of the accident aircraft’s ground track in the vicinity of HOU, and figures 2 through 12 are views of the aircraft’s maneuvers in the immediate area of the airport with annotations from the communications transcript.

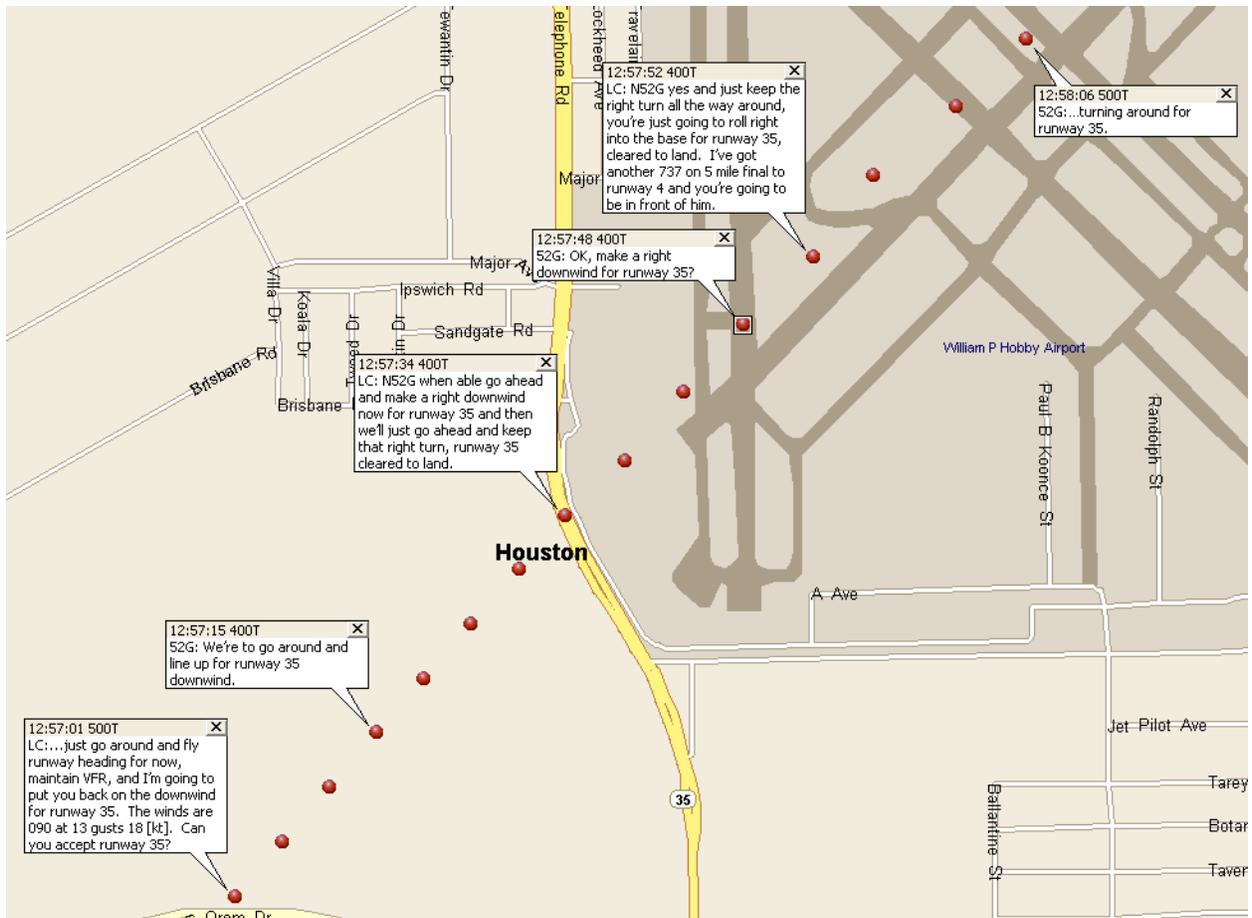


Figure 2 – Initial approach to runway 4 and ATC-directed go-around.

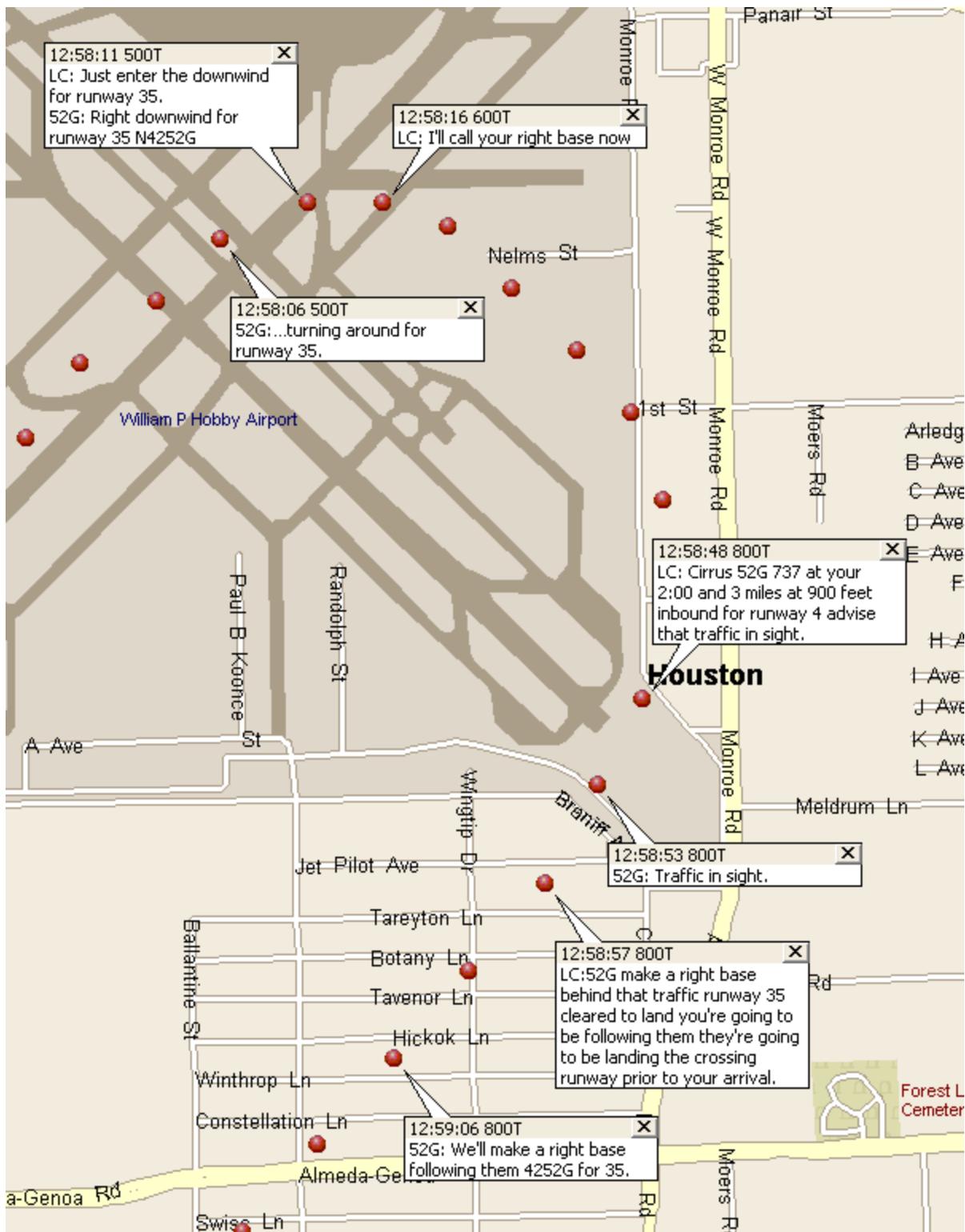


Figure 3 – Maneuvers following the initial go-around.

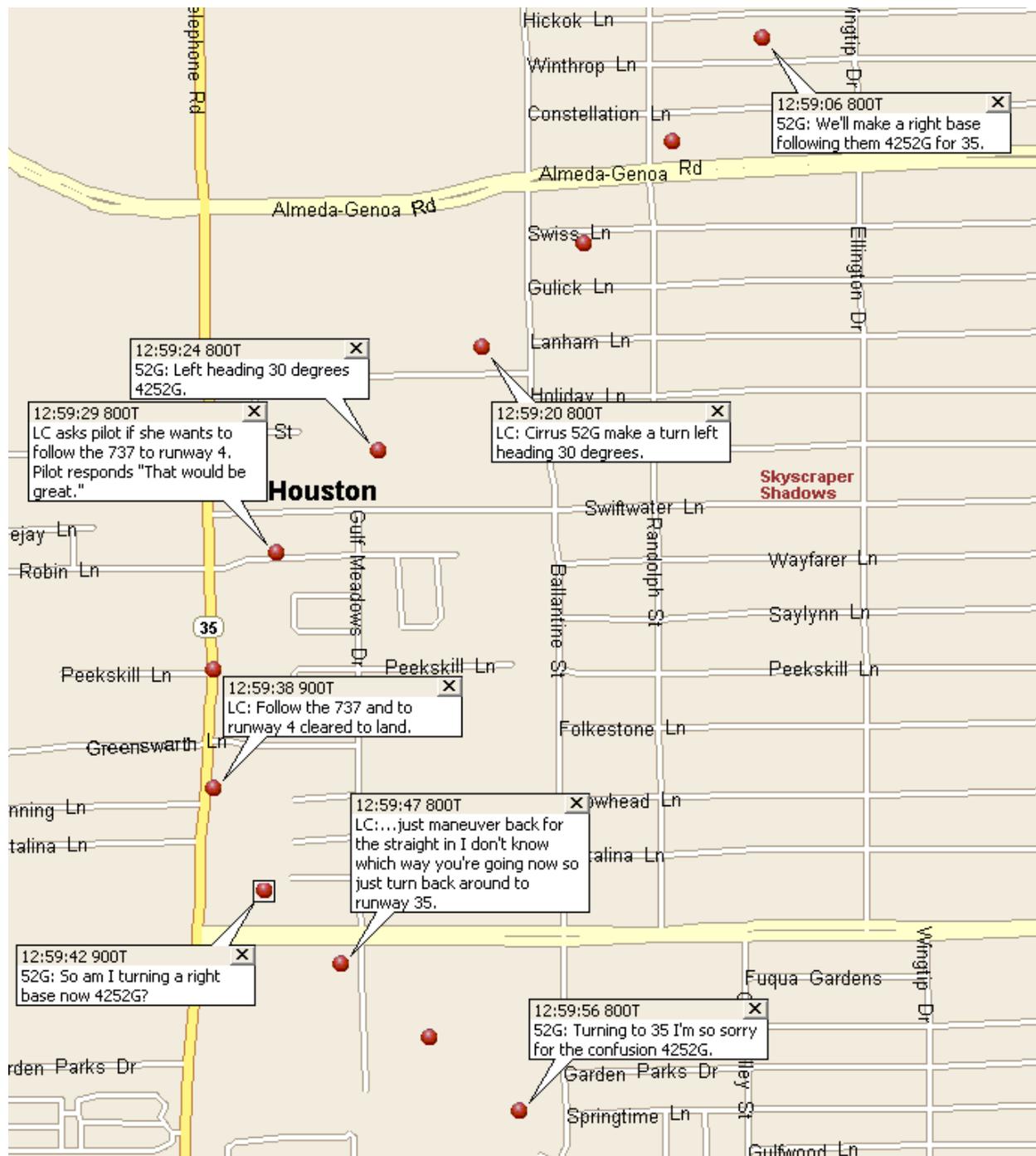


Figure 4 – Continued pattern maneuvers.

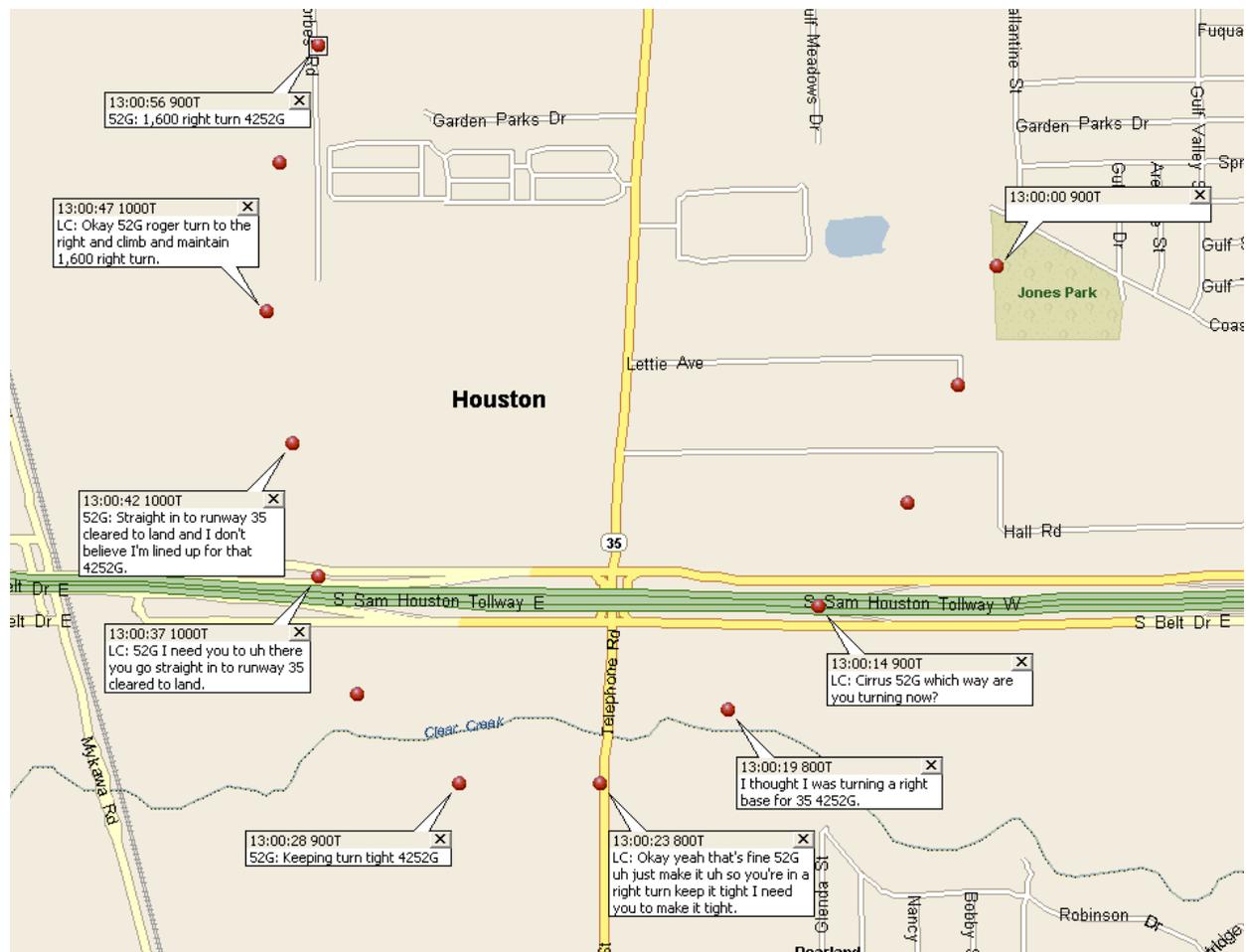


Figure 5 – Continued pattern maneuvers.

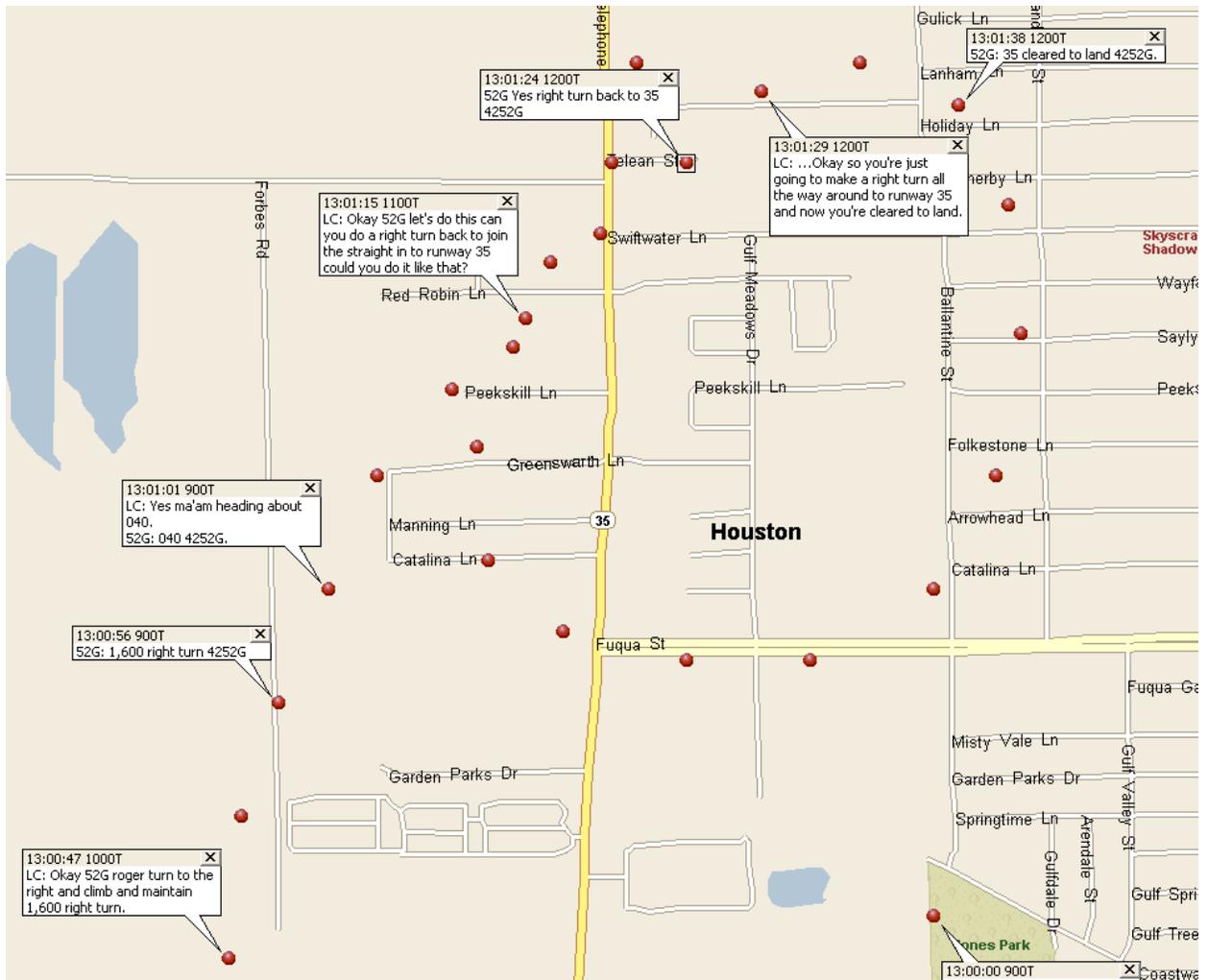


Figure 6 – Changing approach from runway 4 to runway 35.

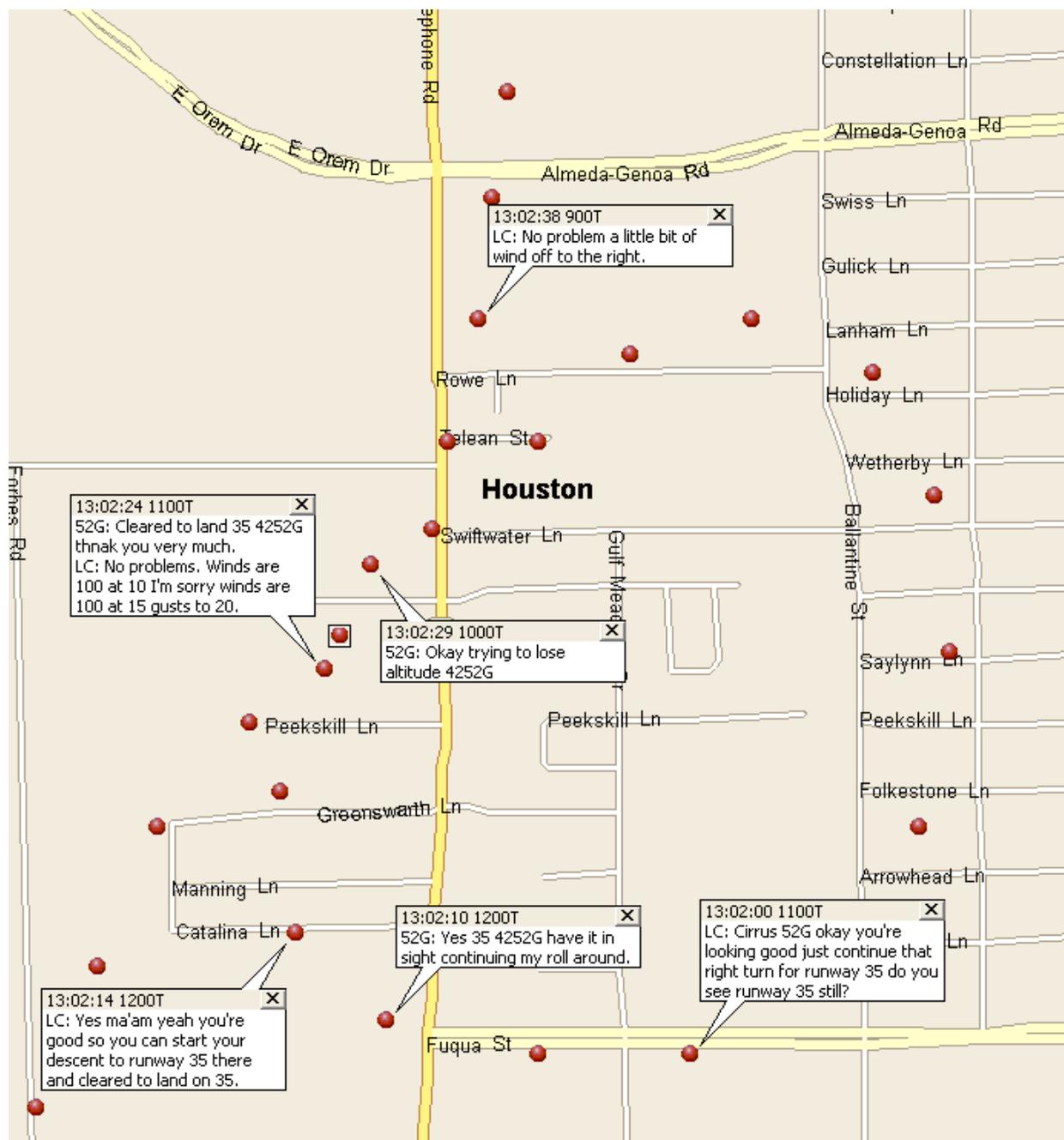


Figure 7 – Setting up for initial straight-in to runway 35.

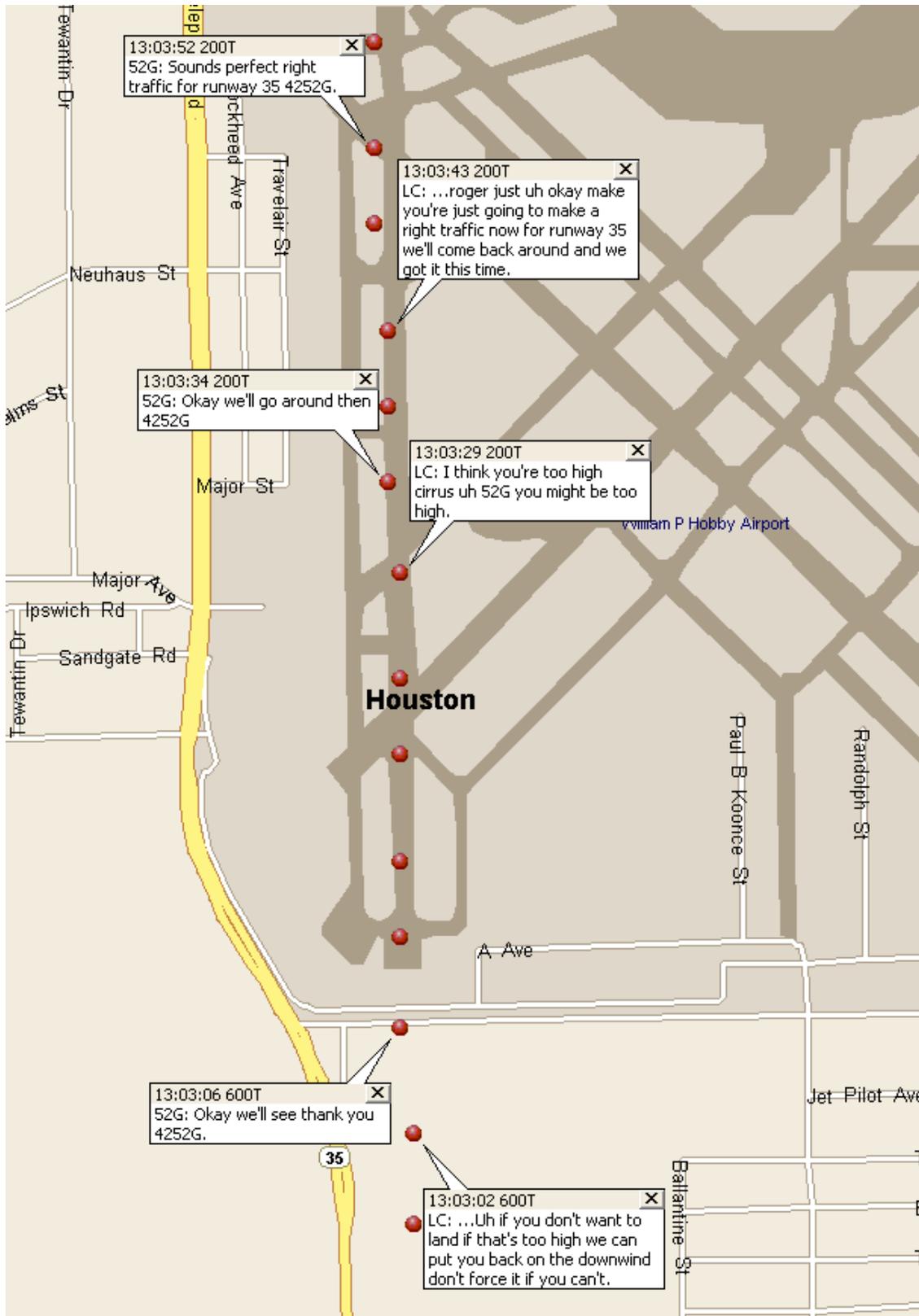


Figure 8 – Runway 35 first approach and go-around.

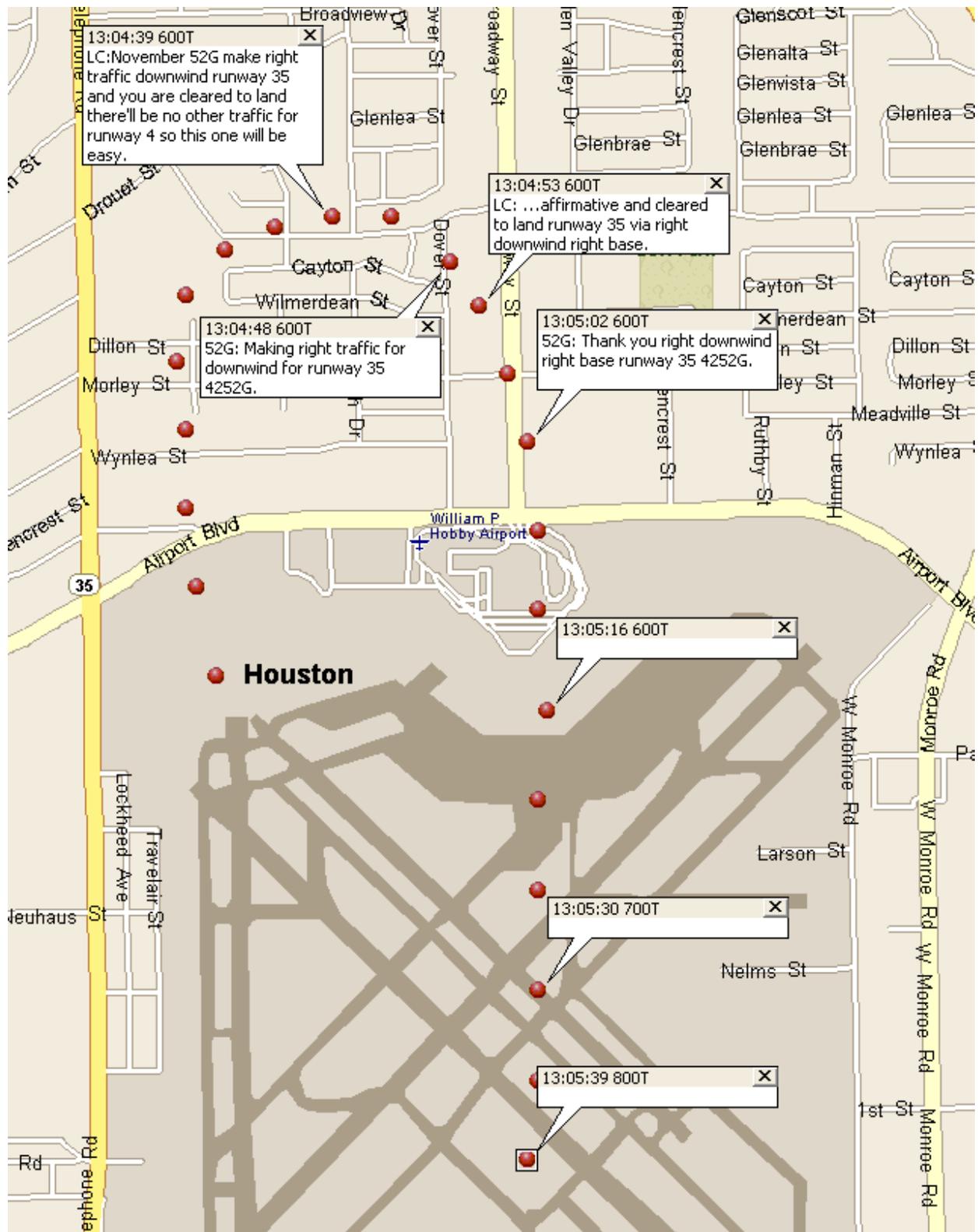


Figure 9 – Preparing for second approach to runway 35.

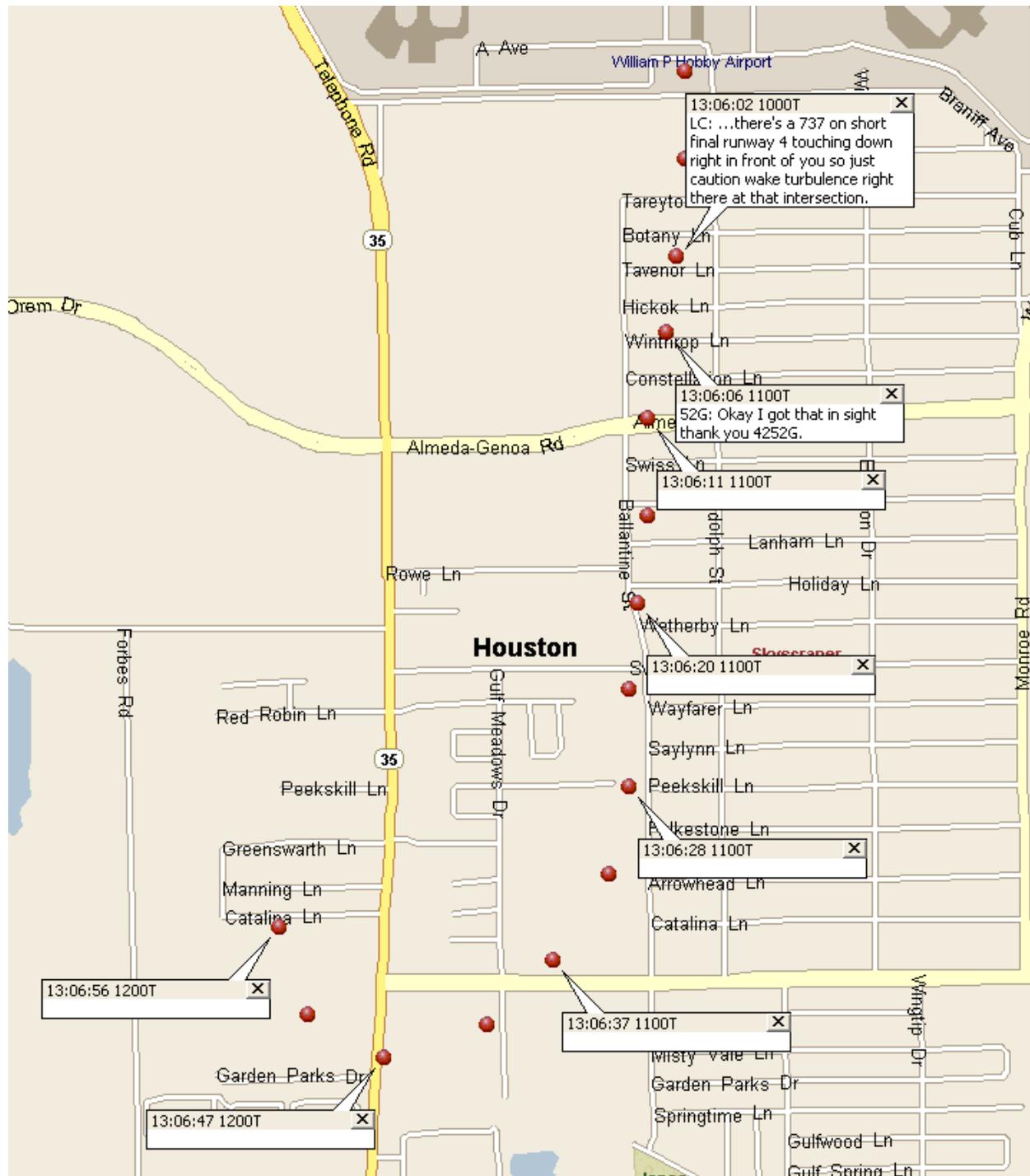


Figure 10 – Downwind to final turn, second approach to runway 35.

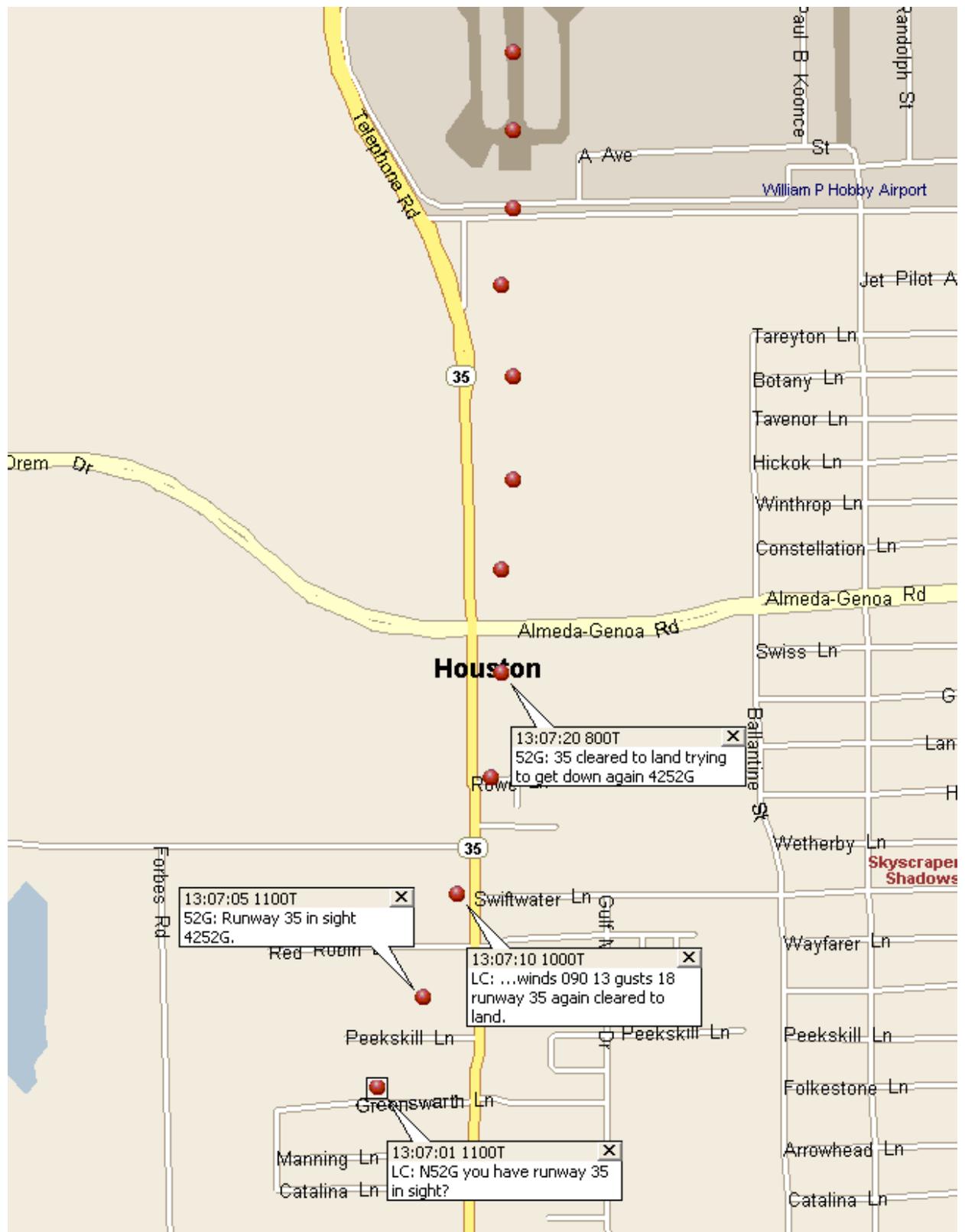


Figure 11 – Second approach to runway 35.

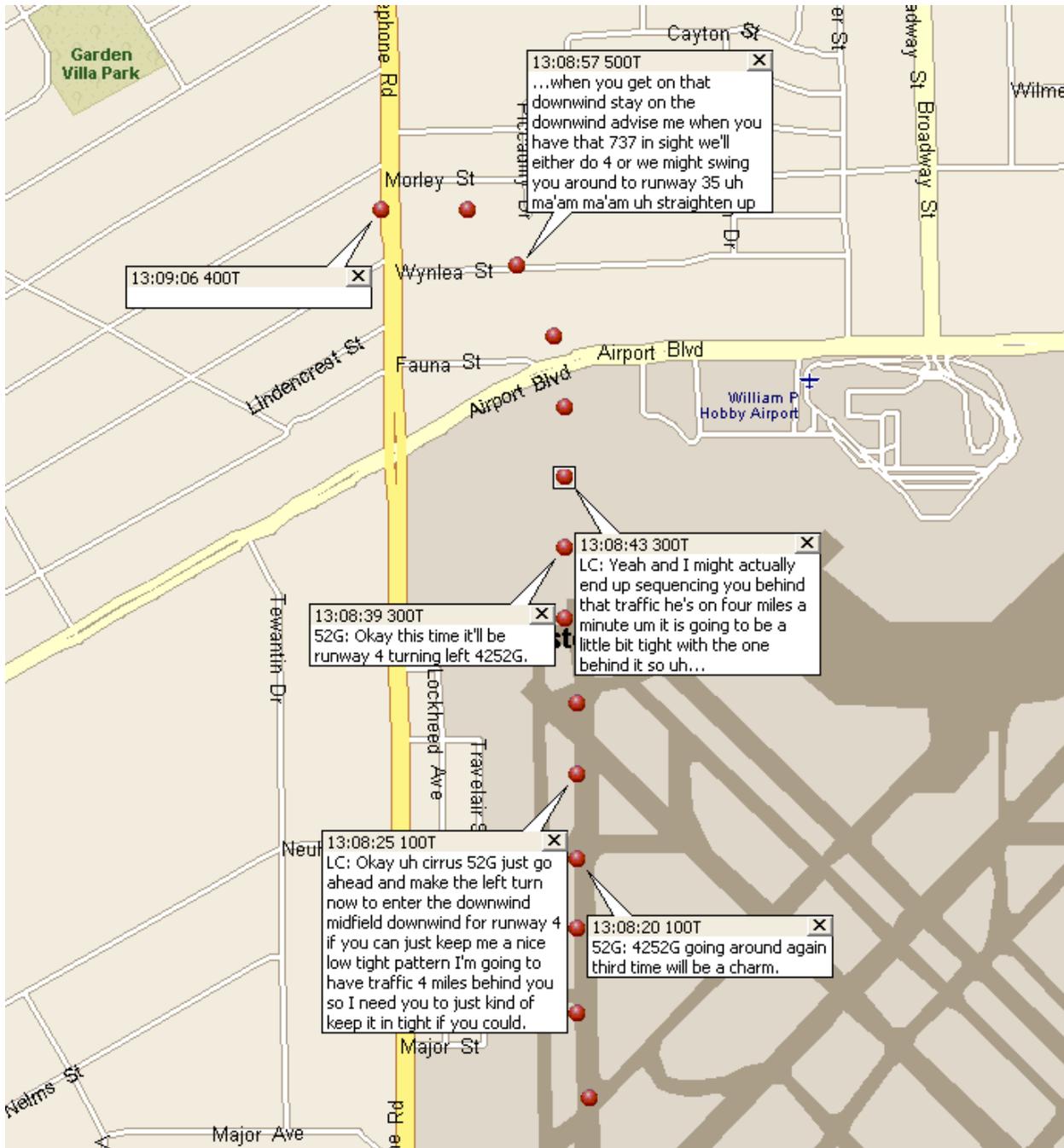


Figure 12 – Go-around following second approach to runway 35 and loss of contact.

3.0 Personnel Interviews

3.1 Brian Way

HOU LC OJTI

The ATC group interviewed Mr. Way on June 15, 2016.

Mr. Way began working for the FAA in December 2002 at Longview ATCT (GGG). In February 2012, Mr. Way transferred to HOU. Mr. Way was certified on all positions at HOU by December 2012, and held a current FAA medical certificate.

On the day of the accident, Mr. Way was working his regular assigned shift of 0530 to 1330, assigned to provide on-the-job training (OJT) to Mr. Widmier on the LC position. On a scale of 1 to 5, Mr. Way described the traffic during period before the accident as “around a 3.” There were no personal or operational issues affecting his performance, and he did not feel fatigued during the shift. During the preceding month he had worked “a couple” of overtime shifts, and typically worked one midnight shift every week.

Mr. Way didn't feel he needed to intervene much during the training session until N4252G was inbound. Mr. Way said that normally aircraft are sequenced by approach control and the tower just clears them to land. If the spacing were to diminish unacceptably, then Mr. Way would either send one of the aircraft around or send them back to approach to be re-sequenced. He stated that approach normally gives a “good feed” to the airport and it is not common for the tower to have to pull someone off the approach or switch them to a different runway. He described the relationship between the tower and approach control as good.

Mr. Way recalled first seeing N4252G inbound from the west on a modified base to runway 4. When the pilot checked in, Mr. Way's trainee thought the call was from a Southwest B737 on final. They corrected the confusion and cleared the pilot of N4252G to land on runway 4. Mr. Way asked the pilot if approach had issued any restrictions and then told her to proceed direct to the runway numbers. Mr. Way saw N4252G join the final and then slow down. He noticed the spacing decreasing between N4252G and the following 737, so he told N4252G to go around. He made that decision because of the “flow” in use at the airport and the knowledge that runway 35 was also available for landing. This was a common “out” he had used many times to resolve a spacing issue rather than sending the aircraft back to approach for resequencing. He stated that if the approach controller called to take an aircraft back for sequencing, he would not question it and would send the aircraft back to approach.

Mr. Way told the pilot to enter right downwind for runway 35. N4252G overshot the final and was not properly lined up for runway 35. The overshoot started looking like a problem with the aircraft on the runway 4 final, so the LCT issued a 30 degree left turn for traffic. The pilot seemed confused about what to do, so Mr. Way took over the frequency and began working LC on his own. After N4252G got lined up for runway 35, the aircraft looked high (“a couple hundred feet above the runway at midfield”) so Mr. Way again instructed the pilot to go around and enter the right downwind. He added that there was no further traffic on the runway 4 final, so the next try “should be easy.” Mr. Way subsequently cleared N4252G to land on runway 35. The aircraft ended up too high again, and the pilot reported going around.

Mr. Kinkelaar, the FLM, had been monitoring the local frequencies and coordinating on the landlines. Mr. Way did not recall hearing any specific landline coordination between Mr. Kinkelaar and approach, but generally when LC got busy, the FLM handled the coordination with approach control. Mr. Way knew that Mr. Kinkelaar was aware of N4252G's multiple go-arounds. Mr. Kinkelaar didn't intervene at any time during the incident and did not ask questions about the event afterwards.

Mr. Way's shift was almost over, so Mr. Chambliss had come to LC to complete a relief briefing and take over the position. Mr. Way moved to the monitor position to for the required 2-minute position overlap period. He saw N4252G turn left crosswind off runway 35 and then "nose the aircraft straight down." Based on radar and visual observation, Mr. Way estimated that N4252G was approximately 500ft above ground just before the accident. He saw the FLM pick up the crash phone, but wasn't aware of which emergency services responded to the scene. Mr. Chambliss continued working the LC position, but departures at HOU were stopped because of the accident.

While he was dealing with the spacing issue between N4252G and the trailing SWA flight, the approach controller called and Mr. Way replied that he would take care of [the spacing.] He stated that spacing issues requiring a go-around or a runway change only occurred about once a week.

A facility briefing item provided to the group stated that it was a "best practice" to handle go-arounds by transferring them back to the approach control for resequencing, while the I90/HOU letter of agreement stated that go-arounds should be handled as a satellite airport departure: that is, transferred back to I90. Asked about the disagreement, Mr. Way said that keeping go-around aircraft in the pattern was frequently coordinated with I90 and was a very standard alternate plan. It was common for FLMs to coordinate with I90 on behalf of LC, but that would not necessarily lead to a conversation between LC and the FLM about what had been discussed.

In Mr. Way's experience, having an aircraft miss the runway twice was unusual, and this was the first time he had seen that. As the aircraft was VFR, keeping it in the pattern was the "normal" response.

There were about 5 developmentals at HOU, and they were generally well prepared for OJT after completing their class room training

Mr. Way said that he would not have done anything differently in this situation, and that if a local assist position had been open it wouldn't have changed anything. On the whole, Mr. Way felt that HOU does a really good job and uses good procedures, but noted that there was always room for improvement.

Mr. Way had been on administrative leave until Wednesday, June 15, 2016, and had not participated in any discussions with facility management about the accident. He has not participated in any crew briefings since he came to HOU, and said there was no practice of

discussing incidents and accidents as learning experiences. He was not aware of the specific membership of the facility safety council.

3.2 James Kinkelaar

HOU FLM

The ATC group interviewed Mr. Kinkelaar on June 15, 2016.

Mr. Kinkelaar began working for the FAA in February 1991 at the FAA Academy, and was first assigned to Burbank ATCT. He later transferred to Chicago Center, Rockford ATCT, Chicago Midway ATCT, Las Vegas ATCT, Dayton ATCT, and Dallas Fort Worth International ATCT before coming to HOU as an FLM in June 2015. Mr. Kinkelaar was certified on all positions at HOU and held a current medical certificate. He typically worked 12 to 16 hours a month on the LC and ground control (GC) positions, and otherwise spent almost 40 hours a week in the cab supervising the operation.

On the date of the accident Mr. Kinkelaar was working his regular assigned shift of 0630 to 1430 and performing his regular FLM duties. The day started with seven controllers, including one trainee, but around noon he was notified that one of the controllers assigned to the shift had been medically disqualified. Another controller had already been approved for annual leave, so only five controllers were available. There were no unusual equipment issues affecting the operation. The winds started out variable from 050 to 110 degrees, and increased in strength as the day went on. There were no reports of wind shear or other wind issues during the shift. Mr. Kinkelaar was not sure where the wind sensor was located on the airport, but noted that there was soon to be a change in the system.

In the period leading up to the accident, HOU was landing runways 4/35, and departing runways 4, 12L/R, and 35. Most of the traffic was landing on runway 4 and departing from runway 12R. There was training in progress on the LC position, which he was monitoring to the extent possible along with his other duties at the supervisory position in the back of the cab.

Mr. Kinkelaar first became aware of N4252G when he saw the aircraft on radar on a left base for runway 4, with other jet traffic inbound on final. The training team on LC decided to turn N4252G direct to the runway. At the same time he heard approach call and ask the tower to turn N4252G direct to the runway. When the LCT controller issued the instruction, N4252G made a slow turn and proceeded directly to the end of runway 4.

Mr. Kinkelaar noticed that the B737 traffic behind N4252G was slowing, but still overtaking the aircraft. LC told the pilot of N4252G to go around and fly runway heading. N4252G overflew about $\frac{3}{4}$ of runway 4 before LC instructed the pilot to enter right downwind for runway 35. After N4252G turned downwind, it started drifting towards the other traffic on final for runway 4. Mr. Kinkelaar heard the LCT controller tell N4252G to turn left 20 degrees, and then Mr. Way, the instructor, took over the position.

Mr. Way told the pilot of N4252G to make a gradual 270 degree turn around to runway 35. The plan was to put the Cirrus on runway 35 through a gap between the runway 4 arrivals. The Cirrus was not descending very much. Mr. Way then told the pilot that the aircraft looked too high and

to go around. Mr. Way then sequenced N4252G on to another downwind for runway 35 and cleared the pilot to land. While N4252G was on downwind to runway 35 for the second time, Mr. Kinkelaar called approach and asked them to slow their next arrival down to build in a little more space for the Cirrus. The approach controller told Mr. Kinkelaar that he would take N4252G back, but Mr. Kinkelaar saw that N4252G was already turning base so he told approach that the tower would just work the aircraft. Mr. Kinkelaar did not coordinate with LC about the call. Although the spacing between the runway 4 arrivals looked adequate, Mr. Kinkelaar saw N4252G coming in high on final again (around the height of the tower), and the pilot reported that they were going around.

Mr. Way's shift was ending, so Mr. Kinkelaar had the LCT move to GC and send Mr. Chambliss from GC to LC to relieve Mr. Way. After the relief briefing was completed, Mr. Kinkelaar heard Mr. Chambliss calmly talking to the pilot, who by then was on the upwind following the go around. Mr. Kinkelaar was on the phone so he did not hear exactly what was said, although both the controller and pilot sounded calm. Mr. Kinkelaar then heard LC saying "straighten it out, straighten it out!" and realized that there had been an accident. He put the regular phone down and activated the crash phone, reporting that the crash was about 1/2 mile up Airfield Rd. Emergency vehicles responded.

Mr. Kinkelaar also told the flight data/clearance delivery controller to call the other controller up from lunch immediately. Andre Harris, the air traffic manager, came up to the cab to assist with emergency notifications. Mr. Kinkelaar got Mr. Chambliss off the LC position about five minutes after the accident. He was unable to get the other controllers off position for about 15 minutes because of staffing. Mr. Kinkelaar spent the next two hours up in the tower cab.

Mr. Kinkelaar did not discuss the events of the accident with the controllers involved. He was mostly concerned for the controllers wellbeing and didn't want to talk to about the accident with them. The controllers were given some administrative leave in addition to their regular days off to decompress and participate in stress counseling. Mr. Kinkelaar did contact them over the weekend to ensure that they were doing all right after the accident.

When asked about Mr. Chambliss's instruction to N4252G to "keep turn in tight," Mr. Kinkelaar said that it was not standard phraseology.

Mr. Kinkelaar said that the speeds of the aircraft coming in on final are a "hit or miss." Sometimes the aircraft come in fast and other times slower. HOU does not normally put restrictions on the final unless unusual conditions at the airport are affecting runway occupancy times or other operational issues. On occasion HOU has to break an aircraft out on final, but it was not a systemic issue. If an aircraft goes around, there are two choices: either to go back to approach or come into runway 35. About 90 percent of the time if a small VFR aircraft had to be re-sequenced off runway 4, the tower would keep the aircraft and not hand it off to approach. This was normal handling following a go around. Mr. Kinkelaar said he didn't give any instructions to LC because they had the situation under control. As far as Mr. Kinkelaar could tell, both approaches to runway 35 were good and should have worked: the aircraft just didn't descend. The first approach to runway 4 would not have worked and sending N4252G around

was the best option. If they hadn't pulled N4252G out, they would have potentially had to send two other aircraft around.

Mr. Kinkelaar has tried to get crew briefings together since he got to HOU, but staffing has been short and briefings have been hard to accommodate. He does try to meet with his crew when he can, but the priority is the operation over crew briefs. Mr. Kinkelaar organized two all-hands briefings scheduled for next week. The supervisors and training specialist will cover the operation so all the controllers can meet with the ATM and the facility NATCA representative.

Mr. Kinkelaar had not completed many Performance Records of Conference (PRCs) to document controller performance, and admitted that it was an error on his part. With the recent events that they've had, PRCs have become more common. Mr. Kinkelaar stated that he has done performance management from day one but his documentation was poor. Mr. Kinkelaar said the new ATM has addressed performance management with the FLMs and has stressed documentation within the allowable time constraints. He said it was difficult documenting this due to his workload with the schedule. He attended FLM training at the end of 2015, and it did help him understand performance management better. He had not completed any PRCs related to this accident as of the date of this interview. He will be discussing the accident and ATC communications with the ATM to see how he wants to handle it. Mr. Kinkelaar reported receiving no specific personal training on performance management or quality control in the past month, although he did receive some training on resource management.

Mr. Kinkelaar could not explain why HOU had their recent issues, but has found that some people weren't engaged like they should have been. Some controllers have never seen certain situations and that opened up opportunities to coach them. If he had to grade the facility management efforts to brief employees about issues and events he would give them a "C to C minus." Mr. Kinkelaar felt that the value of these experiences aren't being taught well enough. He has not been involved in the Air Traffic Safety Action Program (ATSAP) event review and skill enhancement training process yet as a supervisor, and he did not file an ATSAP report for this accident. He was not sure if any of the controllers did so. The local safety council had not been very active before a recent visit from the central service area Quality Control Group. While their activity level had recently increased, he had still not seen much information coming out of the group.

If Mr. Kinkelaar had the opportunity to do anything at HOU, he would improve the communication throughout the entire facility. Controllers may get briefed about an occurrence, but there is too little time available to ensure that understanding and learning occurs. When he talks to his crew, if there is a specific topic to address, all 7 of his controllers get the same briefing. If it was a week where a more generic discussion is possible, he has sessions that are more of a coaching nature.

Management staffing at HOU was 1 ATM, 3 supervisors, and 1 training specialist. The activity level placed the facility right in the middle of the ATC 8 level.

The tower was not primarily using runway 12 for arrivals because the wind hadn't picked up until the afternoon arrival push was in progress, and that was not a good time to change runways. Landing on the 12s while also landing on runway 4 was difficult because of the airport layout.

The approach control was usually cooperative about restrictions requested by the tower.

Asked if he had ever participated in a System Service Review process, Mr. Kinkelaar said he had temporarily filled a slot on the local safety council for an event involving a runway crossing without using visual aids. The whole process took 60 to 90 minutes. He also participated in the last half of the "services rendered teleconference" for this event.

Asked about the decision to put the Cirrus on runway 35 with the existing crosswind, Mr. Kinkelaar said that the tower had been using runway 35 all day for a variety of aircraft with no issues. He thought the controllers were making good decisions and the sequencing with the runway 4 arrivals looked good both times. He never felt a need to intervene. The problem seemed to be that the pilot never descended enough to get to the runway.

3.3 Chris Chambliss HOU LC

The ATC group interviewed Mr. Chambliss on June 16, 2016.

Mr. Chambliss began working for the FAA in November 1988 at the FAA Academy. He worked at various facilities including Santa Maria ATCT, San Jose ATCT, and HOU since then, arriving at HOU in 1998. He also worked seven temporary details at Oshkosh ATCT during the annual EAA event. Mr. Chambliss was certified on all positions at HOU. He held a current ATC medical certificate.

On the date of the accident, Mr. Chambliss was working his regularly assigned shift of 0530 to 1530. There were no unusual personal or equipment issues affecting his performance.

Mr. Chambliss was working GC when he became aware of N4252G inbound to HOU. He recalled seeing the aircraft on radar about five miles out and again on short final to runway 4. Mr. Chambliss did not observe anything unusual up to that point. He heard one of the LC controllers send N4252G around, but was unsure if it was the developmental or the trainer that issued the instructions. He then heard the LC controller sequence N4252G to runway 35. He was generally aware that the Cirrus was in the pattern, but was mainly occupied with his GC duties. Mr. Chambliss was relieved from GC by the developmental controller who had been training on LC. He observed N4252G high and south of runway 35. When Mr. Chambliss went to LC to relieve Mr. Way, he noticed N4252G over the runway and still high. He couldn't really estimate the altitude of the aircraft, but it just seemed high. He was hoping that the pilot was not going to try to land because the aircraft was at least midfield and looked like it was going to touch down at the far end of the runway.

Mr. Chambliss heard the pilot of N4252G report that she was going around. She commented, "third time's a charm." He felt confident she was comfortable because of that comment. Mr.

Chambliss told the pilot to make a “close-in pattern” to runway 4 and then told her that he might have to amend that or perhaps take the aircraft to runway 35 based on other traffic.

Mr. Chambliss then saw the aircraft “winging...over” and “going steep.” He estimated N4252G was probably close to a 90 degree bank before the aircraft started to fall. He transmitted, “Straighten it out, straighten it out,” wanting the pilot to level the wings, but the airplane crashed. After the accident, Mr. Chambliss recalled someone calling on the frequency asking about departure. Mr. Chambliss advised the FLM of what had happened with N4252G but did not recall the specifics of the conversation.

Asked about the “low and tight” instruction he gave the pilot, he said he had given instructions like that to other pilots but did not recall the specifics. His plan was to have the Cirrus follow a 737 on the runway 4 final, so he asked the pilot to report the 737 in sight and then added that he might have to put the Cirrus back on runway 35.

Mr. Chambliss said approach does a pretty good job on final and they don’t “jam them up too often.” If a general aviation aircraft went around he would probably keep the aircraft rather than give it back to approach, and depending on traffic would take the aircraft to runway 4 or runway 35. The flow in this case was to runways 4 and 35, so that was where he would have kept the Cirrus even with the existing crosswind. The aircraft looked high during both approaches to runway 35.

Mr. Kinkelaar is his supervisor. Mr. Chambliss stated that he hasn’t been to many crew briefings in the past few years, and they were not regular events. He did recall receiving some training on incidents occurring at other facilities, but not the specific content.

3.4 Donte Harris

HOU FD/CD Controller

The ATC group interviewed Mr. Donte Harris on June 16, 2016.

Mr. Harris began working for the FAA in June 2011 at the FAA Academy. He worked at Oakland Center and Hayward ATCT before transferring to HOU in December of 2015. Mr. Harris was still in training, but was certified on Clearance Delivery/Flight Data (CD/FD) and GC. He held an ATC medical certificate.

On the date of the accident, Mr. Harris was working his regular assigned shift of 0700 to 1500.

Mr. Harris was working CD/FD when he became aware of N4252G. He recalled the local controller trying to the best of their ability to get the pilot of N4252G to land the plane. Mr. Harris received a call from a different pilot about a flight plan and had to manually enter it in the system. He heard Mr. Chambliss tell N4252G to “straighten up, straighten up,” then looked up and saw N4252G nose dive.

After the aircraft crashed, everyone was kind of shocked. He saw Mr. Kinkelaar pick up the crash phone. Mr. Harris picked up the phone on CD/FD and paged any controller available to come to the tower. When a controller came up he advised him to go to LC to relieve Mr.

appeared to be too high and issued go around instructions. On the next approach to runway 35, the aircraft was again too high and the pilot initiated a go-around. The aircraft appeared to be about the same altitude on both approaches to runway 35, and definitely too high to land.

The FLM told Mr. Widmier to relieve the ground controller (Mr. Chambliss), so he moved to the GC position, and Mr. Chambliss took over the LC position. He heard Mr. Chambliss sequence N4252G to runway 4. His attention was then diverted by GC duties. He did not observe N4252G turn left crosswind, but saw the aircraft when it was between 50 and 75 feet above the ground.

The FLM activated the crash phone. Departures were stopped because of the accident, but arrivals continued to land. One of the airport fire trucks requested control of the discrete emergency frequency.

Mr. Widmier was relieved from the ground control position about 15 minutes after the accident. After a ten minute break he returned to the tower to work ground control.

Mr. Widmier stated that he had not had any discussions with anyone following the event. He had not spoken to the event crisis team but planned on doing so.

OJT debriefs took place after each training session if warranted, and were normally completed by the end of each day.

Mr. Widmier stated the new procedural changes being implemented by the facility are good, such as requiring adherence to standard procedures and minimizing runway changes.

Mr. Widmier had not seen very many go-arounds in training. The usual procedure was for jets to proceed straight down the runway, then turn to heading 160, maintain 3,000 feet, and contact departure. In classroom instruction, controllers are taught to treat go-arounds as a satellite airport departure. He had not yet received any simulator training, although a simulator is available at Houston Intercontinental. He noted that simulator training was not provided for the LC position, but was provided as part of GC training. Radar training was provided via online learning modules.

Based on his experience at DWH, Mr. Widmier was asked how he would characterize the handling of N4252G's arrival. Having the Cirrus mixed in with the jets meant that the situation needed to be watched, but it wasn't a major issue. The pilot never sounded flustered or disoriented. After the accident, the airport fire crews asked to use frequency 120.2 and responded to the far NW corner of the airport.

Mr. Widmier was uncertain about the type of separation being applied between the SWA flight and the Cirrus on final. He realized that it wasn't going to work when his trainer took over the position. The intent was to prevent a flyover on the runway.

3.6 Edgardo Colon

I90 Hobby Final Controller

The ATC group interviewed Mr. Edgardo Colon via telephone on June 17, 2016.

Mr. Colon began working for the FAA in October 1989. Mr. Colon's first facility was San Juan center/approach control in Puerto Rico. Before being assigned to I90 in 2008, he worked at Isla Grande ATCT, San Juan ATCT, and San Juan Center. He held an ATC medical certificate.

On the date of the accident, Mr. Colon was working his regularly assigned shift of 0700 to 1500.

Mr. Colon had been working the Hobby Final (H) position for about 45 minutes when he first became aware of N4252G. He recalled taking a handoff from the "Lakeside" sector when N4252G was approximately 20 miles west of HOU. N4252G came in on a base leg to runway 4. The aircraft's ground speed was about 130 knots with a head wind. The pilot of N4252G sounded confident.

Some of the arrivals into HOU were being vectored around heavy weather southwest of the airport. He sequenced N4252G behind a Boeing 737 and gave the pilot a wake turbulence advisory. At that point, the pilot seemed fine. Mr. Colon had other traffic behind N4252G on final, so he issued the aircraft a heading to shorten the approach and switched the aircraft to HOU tower. Mr. Colon advised the aircraft sequenced behind N4252G to reduce speed to 150 knots or less and switched the aircraft to HOU tower. After both aircraft were on HOU tower frequency, the spacing appeared to be diminishing between N4252G and the trailing B737. The approach controller was required to continue to monitor spacing on final even after aircraft were switched to the tower. He was working 5 or 6 other aircraft, and noticed that N4252G still seemed to be headed toward the outer marker, so he called the tower to have them turn the aircraft direct to the runway. N4252G showed a 120K groundspeed to about 3 mile final, the started reducing speed. Mr. Colon told the next jet arrival to reduce speed to 150kt, and told the pilot to contact the tower.

After N4252G went around on runway 4, Mr. Colon received a call from HOU tower asking him to slow the next arrival to runway 4 because of N4252G landing. The final was pretty full out to about 20nm. Mr. Colon advised the HOU controller that he would work N4252G, but HOU said they would keep the aircraft. Mr. Colon said he told the tower he could not issue the reduction, and didn't slow the next arrival because the aircraft was already at the final approach fix and he didn't think HOU tower could sequence N4252G inside of the traffic. Mr. Colon switched the next arrival to HOU tower. Mr. Colon first recognized that N4252G was landing runway 35 when he saw the aircraft turning final for that runway: before that, he thought the tower was going to have N4252G land on runway 4.

Mr. Colon said that HOU tower has control for speed changes of aircraft on contact, with no requirement for HOU tower to coordinate the speed changes with approach control. It is normal practice to restrict arrivals to 170 kt on final.

In the event of a go-around by an aircraft operating under instrument flight rules, most of the time the tower would switch the aircraft back to approach. If the aircraft was operating VFR,

HOU tower would usually work the aircraft back in for landing. If they couldn't do that, then I90 would take the go-around aircraft back and re-sequence it for another approach.

Mr. Colon was first informed about the accident by another controller who heard about it while on a break.

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AS-30 ATC Investigations