



Soaring 220 feet above the intersection of I-70 & I-75 and seen by thousands of vehicles daily, this 120 foot wingspan monument to the Wright Flyer will symbolize Dayton, Ohio throughout the world.

# The Wright Icon News

Bringing an Icon to Dayton - The Birthplace of Aviation

April 2011  
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Issue 2

Today's Modern Aerospace Hub - Tomorrow's Aviation Leader

## Our Flyer Must Not Fly!

Wilbur and Orville Wright worked long, hard years to unlock the secrets of flight. They learned things along the way that would become the foundation of an entire academic discipline – aeronautics – and an industry – aviation. In building a monument to their achievement and to the heritage and future of aviation, the Wright Image Group finds itself with an ironic challenge, how to build an airplane that absolutely will not fly!

The Wright Brothers' challenge was to discern how airplane "lift" was created using an airplane wing moving through the air. They did experiments with small wings mounted on the front of a bicycle. Flight speeds were simulated by pedaling the bicycle. Later they developed a wind tunnel in which the wing or airplane model was stationary, but wired to scales so lift could be

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measured, and air was blown over the model by a fan. The model mounting needed to be sufficiently strong to keep the airplane in position. The result is the same. Whether the airplane is moving through the air or the airplane is stationary and air is blown over it, wing lift is created. Forgive the engineering description, but what it means is that if we were to erect a monument with a model of their flyer on top of it, and the winds were high enough and aligned just right, like in our wind tunnel example, it could break away and fly right off the pedestal! That sounds humorous, but the results could be spectacularly tragic.

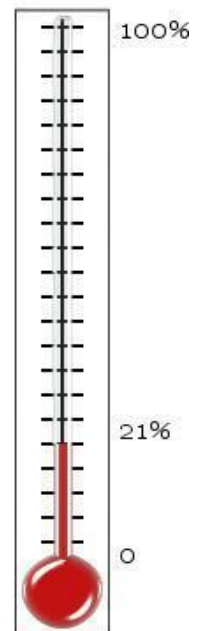
See [Must Not Fly](#) on page 3

## Our First Fund-Raising Goal

A little over a year ago, we published an article on how the Wright Image Group was stepping out with Preliminary Design Development and that we estimated it would require \$175,000 to complete all three stages. Since then we have raised that estimate to \$200,000 and are now poised to begin a focused fund-raising campaign. That \$200,000 is our first intermediate fund-raising goal. We consider preliminary design documentation a prerequisite for successfully soliciting the large donations required to complete the project. Both design work and fund-raising are well underway, but we still have a ways to go! We are more than 20% of the way there, and bearing down hard on fund-raising!

In every subsequent newsletter we will illustrate our progress toward the goal with an old standby, a fund-raising thermometer, like the one on the right.

Keep an eye out for it, and please don't resist that urge to reach for your wallet or purse! See page 4 for all the information you need to make a donation!



## “Branding” the Monument

A quick Google of terms like “Wright Brothers,” “Wright Brothers Monument,” or “Wright Flyer,” reveals an almost endless list of references to museums, monuments and markers across the country. The Wright Image Group website, “wright.monument.org,” competes for sunlight on those lists.

Board member Amanda Wright Lane suggested several months ago that we may need to do some work on “branding” our project. What does that mean? Think about the famous image of a coke bottle, how widely recognized it is around the world, and how inseparable it has become from the words, “Coca-Cola.” The two go hand-in-hand. The image of the Wright Flyer is equally recognized and equally unique worldwide. To paraphrase Carl Day in the WIG’s first DVD, you could show that image to people in Outer Mongolia, and they would say, “Ah, first airplane!” Properly branding our project means that our monument would have a name that would firmly link it with the image, so that seeing one immediately brings to mind the other. For example, when you hear “the Arch,” an image of the Gateway Arch in St Louis comes to mind; when you hear “Eiffel Tower,” its image comes to mind; and when you hear, “Statue of Liberty,” Lady Liberty pops right up on your mental screen!

We have a terrific concept for our monument – the already famous image of the Wright Flyer, with a 120 foot wingspan, perched atop a 200 foot high pedestal, soaring over the intersection of Interstate 70 / 75, in glorious view of over 52 million vehicles a year. That’s an easy image to remember! What we need is a name for it. Since Amanda’s suggestion we have teased a long list of prospects from our collective imagination and have found some good ones. However, the existence of another “Wright Brothers Monument” in North Carolina and so many other “Flyers” throughout the country complicates the process. We haven’t found the one candidate that resonates with virtually everybody.

We are on the verge of coming on line with our new website. As soon as that is functional, we will use it to help conduct a “naming contest.” In addition to all the good candidate names we now have, we will give visitors to our site the opportunity to vote for their favorite as well as suggest others. Our hope is that someone will come up with that flash of insight, that revelation of brilliance, which will leap to the top of the list as the obvious winner! Stay tuned.

### Our Supporting Communities

Beavercreek  
Butler Twp  
Centerville  
Clayton  
Dayton  
Fairborn  
Kettering  
Miami Twp  
Montgomery Co  
Oakwood  
Washington Twp  
Xenia

## Oakwood Signs On

Oakwood Mayor William D. Duncan signed Resolution #1729, passed on February 7<sup>th</sup>, 2011 by the Oakwood City Council, stating that it “...does hereby support the construction of a Wright Flyer Icon to recognize the accomplishment of the Wright Brothers and depict the Greater Dayton Area as the Birthplace of Aviation.”

Specifically mentioned as part of the rationale in the resolution was the fact that Orville Wright lived at the Wright’s Oakwood mansion, Hawthorn Hill, from 1914 until his death in 1948.

Oakwood is the twelfth municipality in the Dayton region to pass a resolution of support for the Wright Image Group project.

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Similarly, if the wind direction is at an angle, it could push the airplane off the pedestal. Think about the times you put your arm and “cupped” hand out the window of a moving automobile when you were a child. At 50 or 60 miles per hour, the force on your arm and hand is very high. Not only is our design goal to keep the flyer attached to the pedestal for that head-on wind, but, since it will not be able to weathervane and keep itself aligned into the wind, it has to be able to withstand winds from literally any direction – top, bottom, left, right, and even from the rear. As we all know, those winds can be high. Think about the thunderstorms, hurricane tails, and frontal passages that we have all experienced here in the Dayton region.

Our design challenge then is to build a model that generates very little lift and very little resistance to winds coming from any direction, and to devise both structure and attachments that will keep it on the pedestal, undamaged, even in severe weather. This is unique. As Walt Hoy, Founder and Chairman of the Wright Image Group, has said, “I missed the class in engineering school on how not to make an airplane fly!”

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***Like the Wright  
Brothers, we  
are breaking  
new ground***

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Steve Brown, our project architect, has been consulting for some time now with a widely recognized expert in aircraft design, Mr. Joseph Lusczek, to anticipate the problems we will encounter and help line up the analysis and testing we will need. Joe is the Technical Director of Aerospace Systems Design and Analysis at the Aeronautical Systems Center Capability Integration Directorate at Wright-Patterson AFB. He agrees that this is a unique design challenge. To counter highly turbulent and gusty winds, we will probably need to design porous wings and eliminate camber (the

cross-sectional design that optimizes lift) to minimize both lift and drag. As Joe says, “We will need to reduce the drag in every direction...”and come up with a “...design for minimum loads that structurally will withstand the wind gust loads associated with the severest weather anticipated in this area.” To do this will undoubtedly require smaller scale models of both the pedestal and the flyer, and wind tunnel testing of each separately as well as the two of them mated. Then there are the challenges of manufacturing and materials....! (We will discuss some of those in future issues.)

The uniqueness of the project means that there is not a broad base of either data or companies that can support design efforts. Like the Wright Brothers, we are breaking new ground. However, Joe has identified a number of companies across the US, and even overseas, with that potential. As we go forward with the design, he and Steve will be taking advantage of every relevant source of expertise.

We can not afford our monument to the Wright Brothers, and to the history and future of aviation, to be “gone with the wind!”

## Did You Know...?

During their two years of development work at Huffman Prairie (from the initial test flights at Kitty Hawk through October 1905) which produced the world's first practical airplane, the Wright Brothers also invented the first aircraft-launching catapult! It was a gravity-powered device that assisted them in getting their Flyer up to takeoff speed. Of course, modern aircraft carrier catapults have improved on the idea, but credit Orville and Wilbur with another clever invention!

To join, make a donation, or get information explaining the different contribution and recognition levels, write to us at:

Monument  
1605 N. Main St  
Dayton, OH 45405

Board Member Spotlight



Sally (Secretary) and Bob Ruh

Bob and Sally were both born and raised in New Jersey, met while attending different colleges there, and were married in 1952. Sally attended New Jersey College for Women (now Douglas College) and Bob is a graduate of Rutgers University. Bob holds a Bachelor of Science, a Master of Science, as well as a PhD in ceramics. Commissioned through ROTC, Bob's initial Air Force assignment was to Wright-Patterson AFB. After active duty, he joined civil service and spent his career working at WPAFB in the AF Materials Laboratory, the AF Research Laboratory, and the Signature Technology Office. His career included basic studies on materials for lightweight ceramic armor for personnel and helicopter applications, ceramics and ceramic composites for turbine engine applications, thermal barrier coatings for jet engines, and low observable materials for stealth airplanes. After retiring in 1993, Bob worked as a consultant until 2006. Bob and Sally have served together on the WIG Board of Directors since 2009, and have been instrumental in scheduling presentations and securing resolutions of support from so many communities around the Dayton region. Sally was elected Secretary in December 2010.

Annual Membership Dues table with columns for Individual (\$20), Couple (\$30), and Business (\$50).

Make checks payable to: Aviation Heritage Foundation, Inc. With the following comment on the "For" line: "Restricted for WIG"

- WIG Board of Directors list including Walt Hoy (Chairman), Walter Ohlmann (President), Stephen Brown (VP, Design & Engineering), George Gianopulos (VP, Fund Raising), Curt Nelson (VP, Public Information), Sally Ruh (Secretary), Jacqueline Nawroth (Treasurer), Shayna Kolodesh, Jon Kurtz, Amanda Wright Lane, Judi Law, Ellie Lewis, Anthony Perfilio, Walter Rice, Marshall Ruchman\*, Bob Ruh, and Toula Stamm\*.

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