

# WHIRLWIND

Wheelchair



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## Dear Friends and Supporters,

I am pleased to report that Whirlwind made great strides on all fronts in 2017. From wheelchair design to providing wheelchairs to those who need a good wheelchair in developing countries to project development, 2017 saw progress that now has Whirlwind poised to make more contributions to the independence and mobility of wheelchair riders around the world.

In 2017, Whirlwind began to put the pieces together for an extensive project in Morocco. See our centerfold spread for more details on that project and on Whirlwind's visit there this past September.

Beginning in 2018, we will also participate as technical consultants on wheelchair policy in a 4-year rehabilitation project funded by USAID in the Republic of Georgia.

We currently have 3 new wheelchairs nearing the end of their development cycles. You can read about the OmniRider, the power add-on to the RoughRider®, and about a lighter weight version of the RoughRider on page 7. You will also read about a lightweight sports wheelchair (10 lbs.), based on a Nigerian design that is being made in Morocco by our partner, Peace Wheels.

Whirlwind provided support to Arizona-Sonora Border Projects for Inclusion (ARSOBO), a joint American-Mexican cross-border wheelchair manufacturing shop headed by longtime Whirlwind associate and wheelchair rider Gabriel Zepeda Mesa in Nogales, Mexico. Whirlwind founder Ralf Hotchkiss has been visiting and supporting ARSOBO for several years.

Our years of expertise will once again be called upon as Whirlwind participates in the Wheelchair Stakeholders Meeting for developing countries to be held in Bangalore, India in January 2018. The meeting is sponsored by the World Health Organization and USAID.

2018 will be my last year as Whirlwind's Executive Director, having held that position since 2002. I will continue to assist Whirlwind staff and Board in developing policy and projects but without the daily responsibility for running the organization. We are beginning this year to search for a successor.

As always, we count on you for financial support. Your support is more important than ever in helping us promote independence, mobility, and the full participation of wheelchair riders into their communities around the world. Remember, *as you help Whirlwind you help change the world.*

Sincerely,

**Marc Krizack**, Executive Director

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## First Chinese-Made RoughRiders® Delivered in China!



For three years, Whirlwind RoughRiders have been manufactured in China. Up until now, all the wheelchairs were for export. During the summer of 2017, the first RoughRiders manufactured in China were delivered to elderly Chinese citizens at the Senzi Care Center in the city of Yushu.

Led by teacher Arnold King, twelve high school students from the North Coast Prep Academy in Arcata, California spent four weeks in China following a yearlong course in Chinese and Tibetan Studies. The RoughRiders were funded by the Lost Coast Rotaract, which is for young Rotarians, and which is sponsored by the Rotary Club of Eureka, California. The students delivered the RoughRiders, assembled them, and fitted the RoughRider wheelchairs to the elderly recipients.

*Above: students from Arcata, California delivering China-made RoughRiders in Yushu, China*

*Right: resident of Senzi Care Center in his new RoughRider*





## Morocco Peace Wheels Project

After more than two years of extensive efforts, Whirlwind has managed to pull together the key partners for a major wheelchair project in Morocco. The project would support a social enterprise, called *Peace Wheels* that includes local wheelchair manufacture and assembly of imported RoughRiders® in conjunction with efforts to improve access to wheelchairs throughout the country.

This project is the brainchild of Salam Hassan, an Iraqi wheelchair rider and former Whirlwind wheelchair engineer. Salam is a US citizen. His wife Sara Tanzakkine is Moroccan and is a Whirlwind employee.

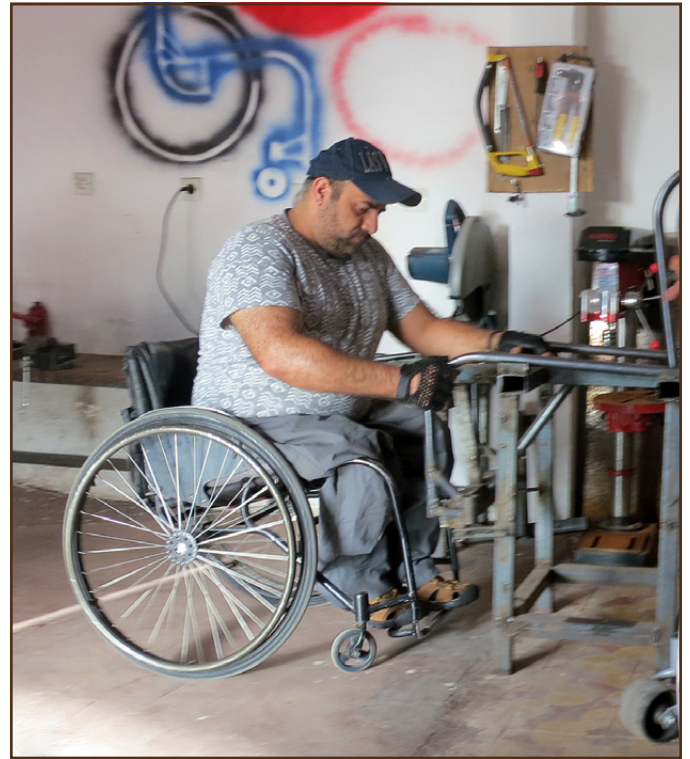
In September 2017, the project planning team visited Morocco for two weeks to meet with potential partners. We secured collaboration with White Dove, a disabled-run NGO in the northern city of Tetouan, on developing new wheelchair services in Morocco. Whirlwind requires that a local disability organization play a leading role in projects that we support. White Dove currently receives capacity building support from USAID and European Union projects. We contributed a *Peace Wheels* sports wheelchair and a RoughRider for a wheelchair technology exhibition sponsored by White Dove in Tetouan on Dec. 15, 2017.

The Rotary Club of Casablanca has agreed to purchase more than 300 wheelchairs annually and has expressed interest in collaborating with an American Rotary Club on a joint humanitarian project to meet the wheelchair needs of Moroccans with disabilities. Our partners at the Coalition for Independent Living in Tbilisi, Georgia, whose RoughRider factory is a model for the Moroccan project, will provide assembly line training and quality control to greatly increase the number of wheelchairs produced.



The Entraide Nationale du Maroc is the government agency responsible for purchasing wheelchairs for distribution to persons with disabilities in Morocco and they agreed to purchase 9,000 wheelchairs in 2017. Whirlwind staff met with Faoud el Madani, General Director of L'Entraide Nationale, regarding the government's commercial tender for purchasing wheelchairs and about their willingness to improve the functioning characteristics of the wheelchair specifications for their commercial tenders.

After our meeting, the Entraide Nationale agreed to collaborate on a future assessment survey that will get feedback from users on different types and models of wheelchairs. Currently, the government purchases only basic wheelchairs imported from China. One of the Morocco project's goals will be to educate the government about the need for purchasing wheelchairs, which are appropriate for the rough



*Salam Hassan in the Peace Wheels workshop in Marrakesh, Morocco*

*Mohammad Bilal, wheelchair builder at Peace Wheels, speaks with a TV journalist from Magreb Voices*



environment in Morocco and to change the government's current wheelchair provision policy. White Dove would implement the wheelchair assessment survey and the adoption of World Health Organization guidelines for wheelchair provision services.

USAID/Morocco's new Democracy and Governance Officer, Jennifer Nikolaeff, met with our team in September at the US embassy in Rabat and expressed a willingness to administer any project that USAID-Washington would be willing to fund. Agreement of the in-country USAID office is a precondition for any USAID support for a disability project.

Whirlwind Wheelchair International wants to express its commitment to supporting and collaborating with Salam Hassan and *Peace Wheels* in Marrakesh. Whirlwind has followed Salam's development in Morocco of a lightweight sports wheelchair and a newly invented hub-less wheelchair, as he begins to develop appropriate technology wheelchairs in Marrakesh, which can be manufactured at a low price from locally available materials with locally trained workers who have disabilities. In addition, we have agreed that *Peace Wheels* can also be the official distributor of RoughRider wheelchairs in Morocco and North Africa.

Whirlwind will publicize the *Peace Wheels* project in our newsletters and will look for project funding and donors who want to buy a wheelchair for someone in Morocco. Whirlwind and *Peace Wheels* have also agreed to collaborate on an Internet fundraising campaign, using Whirlwind's website, in order to identify individual donors who want to support the development of *Peace Wheels* or who want to purchase wheelchairs and donate them to wheelchair users in Morocco. Whirlwind will help identify an American Rotary Club interested in collaborating with the Casablanca Rotary Club on a wheelchair distribution project.



*Whirlwind staff meet at L'Entraide Nationale du Maroc office in Rabat*



*Salam Hassan created a hub-less wheelchair to eliminate the cost of imported hubs, axles and spokes.*



*Locally made sports wheelchair built by Peace Wheels*



## Choosing a Whirlwind RoughRider® for Quadriplegics

*The Chairman of Whirlwind's Board of Directors, Bruce Curtis, is a quadriplegic who uses a Whirlwind RoughRider. Here he answers a question about whether the RoughRider is appropriate for a person who recently became a quadriplegic.*

If your friend has reasonable strength in his arms and wrists and good trunk support, he would be a candidate for the RoughRider. However, most quadriplegics, at least initially, want a lightweight wheelchair. The outdoor mobility and transfer stability benefits that come from a RoughRider wheelchair are typically not the highest priorities for new quadriplegics, especially when you consider that the RoughRider weighs much more than an ultra lightweight wheelchair.

I have used a wheelchair for 50 years. My preference to use a RoughRider is because I have traveled in dozens of countries through rough conditions, including the rough conditions in many places in America. Unlike the RoughRider, most wheelchairs have a standard wheelbase that is short, with the caster wheels close to the rear wheels. Complaints abound about how easy it is for the standard wheelchair to tip forward and throw its rider onto the ground whenever the small front wheels hit a rock, a crack in the sidewalk, a hole in the ground, or a tree root. But the RoughRider's longer wheelbase and greater stability free up my mental attention from having always to be looking down and examining the ground in front of me and worrying about cracks and stones and irregular surfaces. I don't have to worry very much about falling out of my wheelchair during transfers, either. Finally, the RoughRider moves over outdoor ground so easily that it is also a huge pain-free, struggle-free benefit to friends and family who sometimes need to push me outdoors for long periods of time. If you find that it is really difficult for you or your family to push your wheelchair outdoors over your environment, then *yes, absolutely*, you would find it much easier to use a RoughRider.



*Bruce Curtis and Sara Tanzakkine on the streets of Marrakesh*

## Photo Contest Winner



This past summer we held a Roughrider photo, video, and testimonial contest. The winner for the best picture was submitted by Eric Logan in the Philippines (featured left). Eric will receive \$50 USD plus free push handle extenders for the best photo. All of the other contest winners will be announced in the Whirlwind NewsNotes, which will be published in February 2018.

We will hold a second photo/video/testimonial contest in the spring with the theme "RoughRider Around the World" where people can win prizes for pictures in their RoughRider at famous world landmarks.

*Eric Logan crossing a stream with his RoughRider in the jungle in Surigao del Norte, Philippines*

## US-Mexico Cross Border Wheelchair Project

Since 2015, the Arizona-Sonora Border Project has operated a rehabilitation workshop in Nogales, Mexico where disabled people make assistive devices for others with disabilities. ARSOBO focuses on wheelchairs, prosthetics, and hearing aids. Gabriel Zepeda, a paraplegic wheelchair user and master wheelchair builder, manages the program.

Zepeda learned many wheelchair-building skills from Whirlwind's Ralf Hotchkiss, a paraplegic rehabilitation engineer and principal designer of the RoughRider® wheelchair. For young children with limited control of their bodies, Zepeda often makes special seat inserts with necessary adaptations that can be put onto the wheelchair or used separately as a car seat. Over the last few years, Hotchkiss has continued to visit and mentor Zepeda at ARSOBO.

The project has received substantial support from Arizona Rotarians.



*From left to right: David Werner, Ralf Hotchkiss, Gabriel Zepeda*

## Wheelchair Design Updates

### The OmniRider™

In 2017, Whirlwind made breakthroughs on two designs that we have been working on for a couple of years. The OmniRider is based on the RoughRider's long wheelbase for active outdoor use in rough conditions but with a rigid frame. The new key feature is a seat that the user can easily slide forward to get closer to tables, toilets, bathtubs etc. The improved indoor performance added to the RoughRider's acclaimed outdoor performance should make the OmniRider the wheelchair of choice for people who can afford only one wheelchair. The OmniRider should be in production by Fall 2018. Whirlwind plans to offer the OmniRider in a number of different configurations based on user priorities for cost, weight, and performance.

### Power Add-on

Problems with the motors on the power add-on to the RoughRider have been solved. Together with our partners in

the Coalition for Independent Living from the Republic of Georgia, we are now modifying the controller circuit board. For more than a year Whirlwind's Bruce Curtis has been riding a power RoughRider made by our Georgian partners. He recently spent two weeks field-testing it in Morocco. Lightweight compared to other power wheelchairs, his foldable power wheelchair proved easy to take on the airlines, easy to fit into the trunk of a car, and performed flawlessly on a variety of surfaces. We are pleased with the results.

### RoughRider Weight Reduction

Whirlwind is also experimenting with ways to reduce the weight of the RoughRider by using different materials for the frame but keeping the proven design unchanged. An aluminum, foldable, RoughRider is currently being prototyped and afterwards we will prototype a chromoly (steel alloy) model. Aluminum would mainly be for the developed countries since it can fatigue and crack and then requires special welding equipment to repair that is often unavailable outside of major cities in developing countries.

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