

# DiMonte Group in the Community

The DiMonte Group is a product design firm that, at its core, believes that giving back to the community is the right thing to do.

When we heard about the work of the local charitable foundation Pioneers (TOT Trikes), we instinctively volunteered to help out. We knew they could benefit from our design expertise and manufacturing relationships.

The following short presentation tells the story of how we partnered with Pioneers in ways that started with us helping out a lot of young kids, and ended with us uplifting an entire community beyond our original goal.



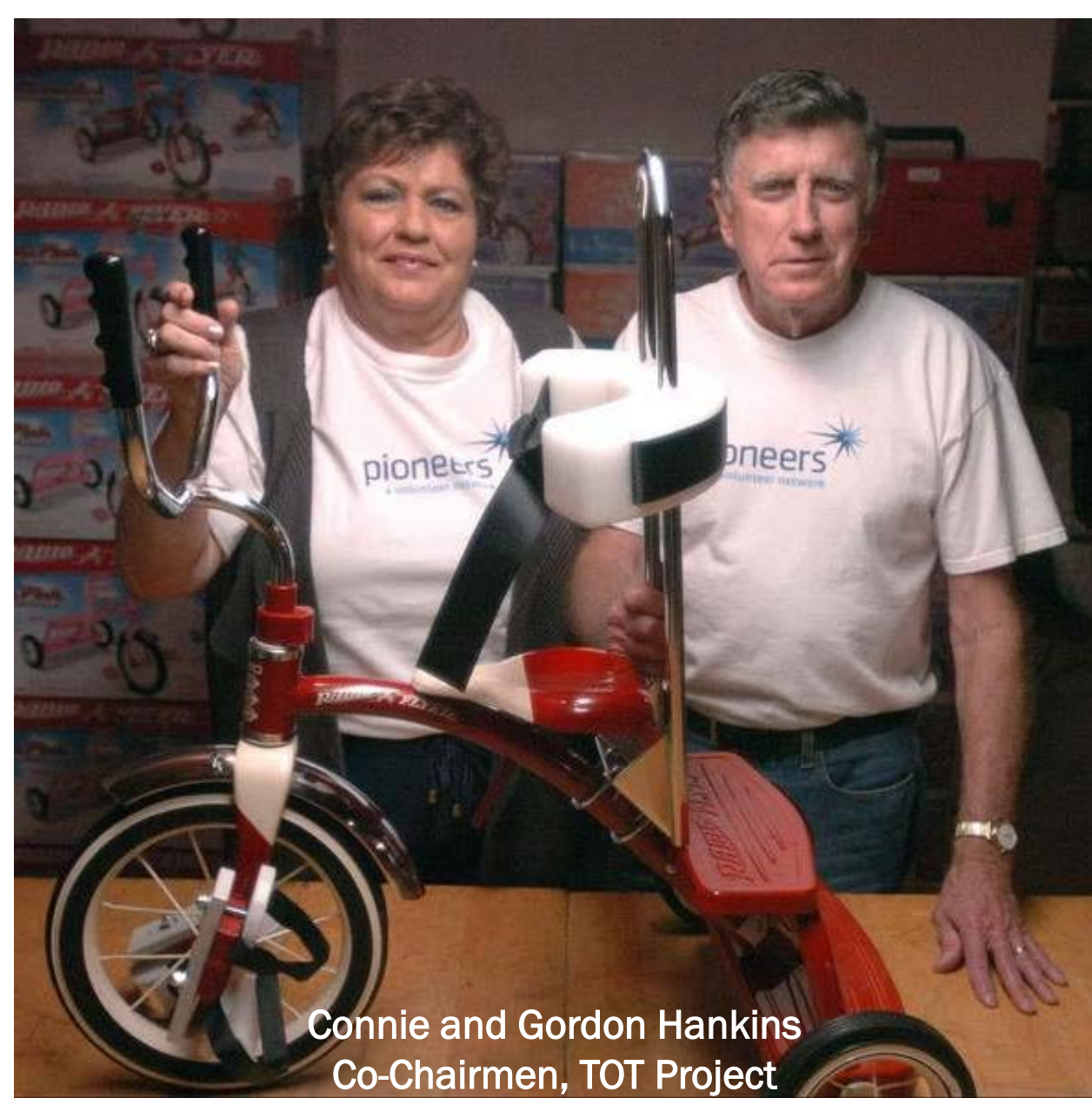
# Pioneers, TOT Project

Pioneers is a volunteer and donations based charity that provides modified trikes to children with special needs:

<http://tinyurl.com/hsrkdpj>

Their TOT (Therapy Oriented Tricycle) Trike is designed and modified for children with special needs (ages 1½ to 7 years) to help improve their strength and enhance their physical therapies.

The best part is that these trikes empower special needs kids with the autonomy of exploring, playing, and interacting with the world and other kids under their own power.



Connie and Gordon Hankins  
Co-Chairmen, TOT Project

# TOT

The TOT program purchases and receives donated tricycles. Then each tricycle gets modified with special aftermarket parts to address the child's specific needs.

When Gene DiMonte heard that TOT was having trouble sourcing tricycles and the specialized components they needed, he knew TOT could realize their mission more fully - **and maximize every donated dollar** - if we engaged DiMonte Group's skills, clients, vendor contacts, and community relationships to this worthy program.



# Evaluation

After meeting with the Hankins, reviewing their goals, and assessing their current operation, DiMonte Group determined that TOT could help out more children if they could reduce operational issues in the following areas:

- Improve performance and durability of the custom components.
- Decrease costs and simplify assembly of the custom components through smart design.
- Increase production output by streamlining the supply chain.
- Get trikes at a reduced cost.



# Collaboration - Client

Leveraging an existing business relationship, DiMonte Group facilitated a collaboration between Radio Flyer and the TOT Project to reduce the cost of the basic tricycle to Pioneers (TOT Trikes).



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Design Engineering

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# Collaboration – Vendor Sourcing

DiMonte Group then introduced the TOT Project to several of our partner vendors so TOT could source custom components directly, eliminating the retail costs TOT was currently paying.

But DiMonte Group didn't stop there...



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# Collaboration - Community Service.

DiMonte Group introduced the TOT Project to Illinois Prairie School District 204, where Gene DiMonte serves on the Technology and Engineering Education Advisory Board.

The three high schools' **Skills USA** clubs readily accepted the opportunity. Students were challenged with project planning and to design and build fixtures and jigs to improve the assembly process. Each Club assembled 25 tricycles in 2 hours, cutting the Hankins backlog of orders just in time for Christmas! The students earned valuable Community Service credits necessary to graduate.

But DiMonte Group didn't stop there...

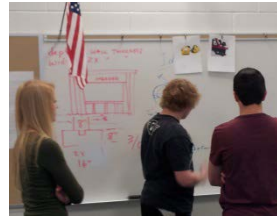


# Collaboration – Education.

Gene DiMonte realized that the TOT Trike presented a unique opportunity for the school district’s Project Lead The Way program. Engineering classes were invited to participate in “real world” design, production, and manufacturing of the TOT Trike.

DiMonte Group personnel donated time to guest instruct Senior Design Courses.

We prepared the problem statements, and periodically met with the class to review and advise the students’ design efforts to teach them the processes that produce outstanding product designs.



## TOT- Handle Bar Assembly (HBA)

**Client Company:** Therapy Oriented Tricycle (TOT), New Outlook Crossroads Chapter of Pioneers. Gordon and Connie Hankins  
<http://www.pioneer volunteer.org/volunteer/pioneers/projects/spotlight/projects/default.aspx>

**Target Consumer:** Special needs children ages 2 ½ to 7 years. See website above.

**Designer:** \_\_\_\_\_

**Problem Statement:** Client cannot buy this special handle bar weldment from its vendor, <http://www.equipmentshop.com>, as the product is unavailable. The current welded HBA is not adjustable to accommodate different size children.

**Design Statement:** Design a new HBA that can be manufactured by client using local manufacturing resources.

- Goals:**
- Reduce purchase costs and improve assembly time.
  - Must look professional and be safe for use by children
  - Look for any added value that can be designed in.
  - Handle bar position should be adjustable for different size children

- Constraints:**
1. Needs to work with both 12" and 16" TOTs.
  2. Must perform same function as current upright Handle Bar Assembly.



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## TOT-Foot Pedal Attachment (PA)

**Client Company:** Therapy Oriented Tricycle (TOT), New Outlook Crossroads Chapter of Pioneers. Gordon and Connie Hankins  
<http://www.pioneer volunteer.org/volunteer/pioneers/projects/spotlight/projects/default.aspx>

**Target Consumer:** Special needs children ages 2 ½ to 7 years. See website above.

**Designer:** \_\_\_\_\_

**Problem Statement:** Client buys a kit of 2 foot pedal attachments, as left and right, from vendor [www.equipmentshop.com](http://www.equipmentshop.com). Product is expensive and looks cheap. By reducing costs of component for client, savings can be put towards producing more TOTs for children. Client is at mercy of vendor for supply. PA is clumsy to attach to TOT.

**Design Statement:** Design a new foot pedal attachment that costs less to manufacture than Client's current unit.

- Goals:**
- Reduce purchase costs and improve assembly time.
  - Must look professional and be safe for use by children
  - Look for any added value that can be designed in.

- Constraints:**
1. A pair needs to cost less than \$56.50 per, we would like to buy a pair for less than \$25 in volume buys of 25 pairs or more at a time.
  2. Needs to work with both 12" and 16" TOTs.
  3. Must perform same function as current PA.
  4. Must be safe for child use.



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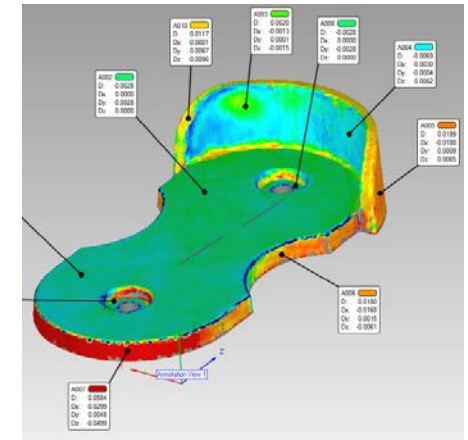
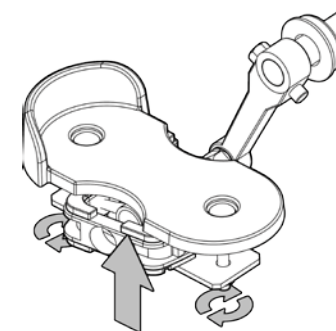
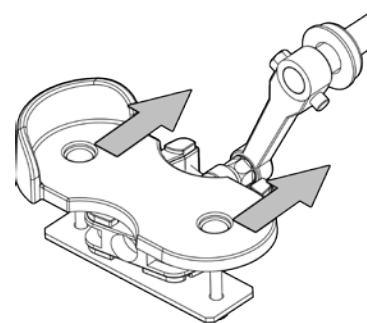
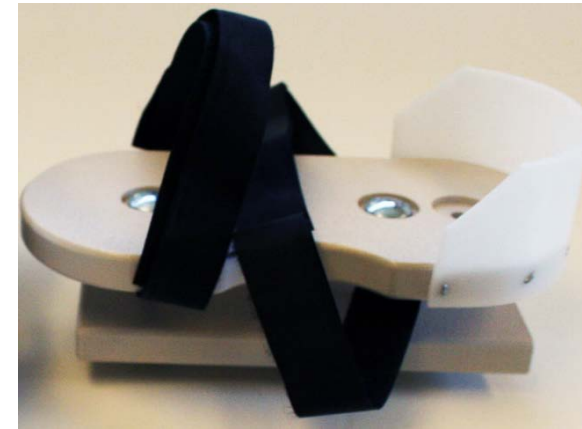


# Pedals – Redesign and sourcing

Existing commercial pedal attachments were expensive and only lasted a few seasons.

Through our efforts, a more durable and cost effective solution was achieved by redesigning the pedals in sand-cast aluminum.

Utilizing DiMonte Group’s extensive Vendor network, we were able to qualify a single source who could manufacture the tooling, casting and post machining, resulting in a **52% “Cost of Goods” savings.**



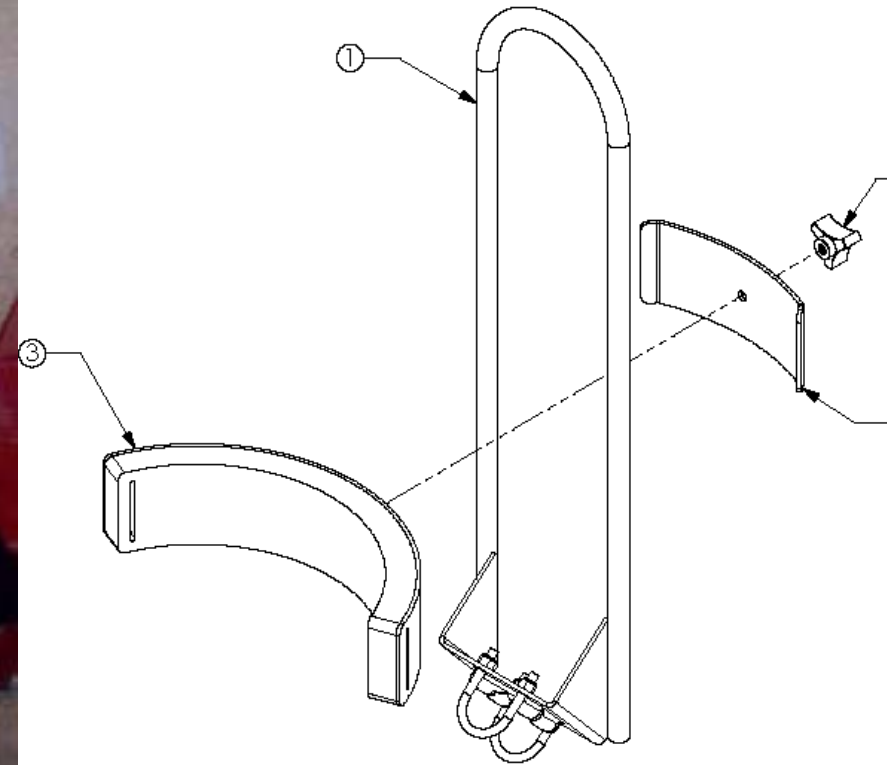
# Torso Support – Redesign and sourcing

The commercial Torso support solution was costly and ineffective at positioning and securing the child in the trike. In addition, the foam cushion was not protected from damage, and the single source vendor had production and delivery issues.

A design utilizing steel brackets provided greater support, safety, protection for the foam, and ease of adjustment.

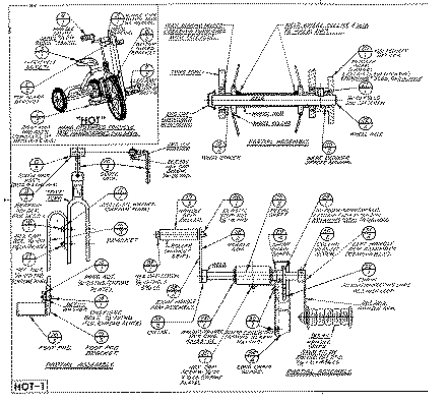
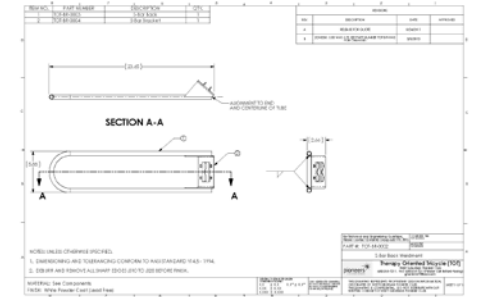
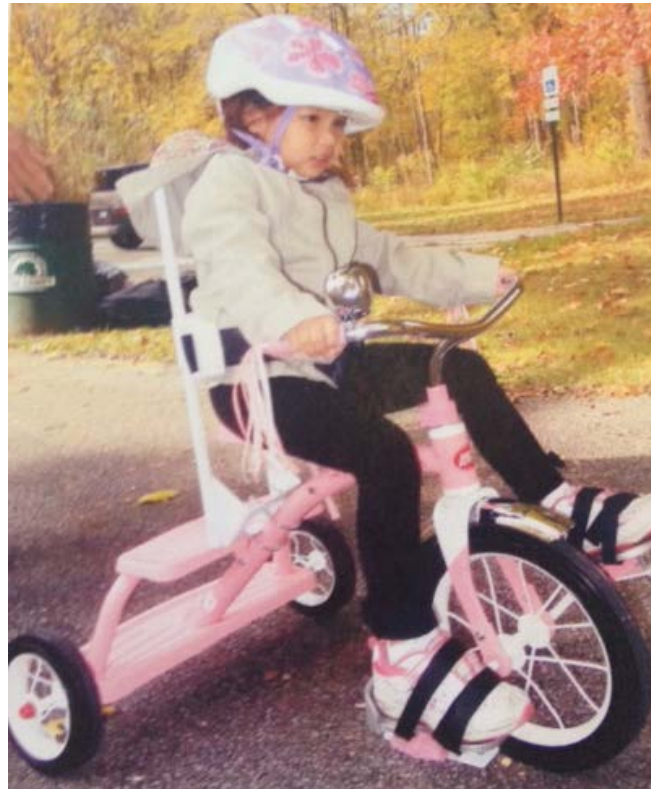
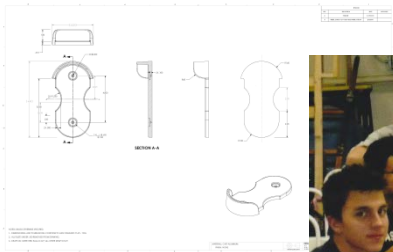
Choosing powder coated steel reduced costs, added durability, and worked with the tricycles paint scheme.

Sourcing locally and direct resulted in a **65% Cost of Goods saving.**



# Good Challenge, Great Cause, Best Result

Led by DiMonte Group's initiative, Pioneers' TOT is able to deliver **200% more trikes** a year to children. DiMonte Group identified 10 future project opportunities for the **Skills USA** and Project Lead The Way students to work on with Project TOT.



# We are proud of who we are and what we do ...

Good, cost effective design is not a hobby for us.

It is baked into our DNA.

And it is present in all the work that we do. Whether we are donating our time to our local community or we are working for a large corporation, great, cost effective design is our mission.

For further information about the DiMonte Group and examples of our work, please visit our website at [www.dimontegroup.com](http://www.dimontegroup.com).

If you have specific questions about how the DiMonte Group might be of benefit to your company, feel free to contact us directly by calling **Mark Peters** at **630-624-9554**, or email to [mpeters@dimontegroup.com](mailto:mpeters@dimontegroup.com).

We are always happy to discuss how we can help out.

It's what we do.

