Homeowners with more than one vehicle often don’t have a second driveway. The process of creating a new driveway is complicated, long, and expensive. Traditional portable curb ramps are impractical and don’t have enough versatility for every curb type and size. They are usually clumsy, heavy, and require continuous assembly and disassembly. The objective of this project is to design, fabricate, test and implement a new ramp system that mitigates traditional curb ramp issues and has the capability to support a large RV transitioning from the roadway, across a curb, and onto a driveway.

**PROBLEM STATEMENT**

Portable Ramp for Curbs by Team Rampage

**PROTOTYPE PROCESS**

- Curb Prototype
- Dimension and Transportation Prototype
- Hardware Prototype
- Mini Ramp Prototype

**CAD EXPLODED VIEWS, TRANSPORTATION, AND SYSTEM LEVEL DIAGRAM**

**TESTING**

- Transportation
  1. Strength of transportation sleeves
  2. Ease of movement

- Water Test
  1. Water flow/pooling

- RV Test
  1. Test ramp integrity
  2. RV usage

**MANUFACTURING**

- Bandsaw
- Water Jet
- Nut and Bolt Assembly
- Countersink Drilling
- Aluminum Welding
- Hole Drilling

**TEAM MEMBERS**

- Edward Gonzalez-Sainz
- Matthew Jensen
- Paul Alex Trees
- Antonio Vargas

**FINAL PRODUCT**

- Components
  - Three aluminum sections
  - 12 wedge supports per section
  - Transportation system
  - Rubber at all contact points

- Features
  - Support up 12,000 lbs each
  - Angled ends for side access
  - UV resistance
  - Water resistance

- Curb Fit
  - Designed for 6 inch curb
  - 12 feet of total width
  - Works with angled curbs
  - Allows water flow

- SolidWorks Model
- Fully Assembled Product