Polymershapes

Fully Enclosed Bus Operator Workstation

BUILT FOR SAFER TRANSIT OPERATIONS





Transit operators face increasing safety risks, and agencies need protection solutions that are practical, visible, serviceable, and ready for real fleet environments.

Polymershapes has developed a fully enclosed operator barrier platform designed to improve driver protection while supporting visibility, vehicle integration, and long-term fleet performance.

Informed by direct operator feedback and real-world transit safety concerns, the platform is designed around the realities of daily transit operations, including visibility, passenger interaction, maintenance access, vehicle fitment, and durability in harsh operating environments.

Fully enclosed operator protection

Creates a more secure separation between the driver and passenger area.

Clear visibility

Polycarbonate glazing options help support sightlines, visibility & operator awareness.

Configurable protection levels

Available anti-reflective and ballistic-grade polycarbonate glazing.

50%+ lighter glazing

Polycarbonate glazing can offer significant weight savings compared to traditional glass alternatives.

OEM and retrofit support

Engineered for vehicle-specific fitment, installation, and fleet integration.

Customized to your fleet

Supported by advanced materials expertise, fabrication capabilities, & North American footprint.

Protection for the transit operators who move America forward.

NEXT STOP: DRIVER SAFETY

Polymershapes + INSULGARD SECURITY PRODUCTS

Engineered to protect transit operators — without compromising visibility



Polymershapes combines material expertise and fabrication capabilities with the security experience of Insulgard Security Products. For 50 years, Insulgard has specialized in tested security solutions designed to protect people and property, with expertise spanning ballistic protection, forced-entry resistance, system design and installation. Together, our teams can support projects from material selection and custom fabrication through complete security solutions.

WEIGHT-SENSITIVE DESIGN

Polycarbonate glazing offers significant weight savings compared to tempered glass, helping reduce overall vehicle weight. For electric bus applications, reducing unnecessary weight can support vehicle efficiency and range, helping fleets keep buses moving passengers between charges.

50%+ Lighter*

Material	Weight	Ballistic	Flexural Strength	Break Strength
	lbs/ft²		PSI	lbs force
6mm Tempered Glass	3.41	N	16,000	shatters at impact
9mm Tempered Glass	5.12	N	16,000	shatters at impact
6mm Polycarbonate	1.49	N	18,000	1,100
9mm Polycarbonate	2.25	N	18,000	1,650
12mm Polycarbonate	3.00	N	18,000	2,150
16mm Ballistic Polycarbonate	3.83	Y	20,500	2,700
6mm Laminated Fiberglass	2.85	Y	19,500	1,250
9mm Laminated Fiberglass	4.05	Y	19,500	1,750

* Polycarbonate glazing is up to approximately 56% lighter than comparable tempered glass.

Bus Barrier Weight (avg 36″x72″)	Weight	Ballistic
6mm PC / 6mm FG	49 lb	N
9mm PC / 6mm FG	53 lb	N
Ballistic PC / 6mm FG	62 lb	Y
6mm glass / 6mm FG	59 lb	N
9mm glass / 6mm FG	69 lb	N

Engineered for harsh transit environments

Transit vehicles operate in demanding conditions, including vibration, repeated cleaning, passenger contact, temperature swings, and exposure to road salt in northern climates. Final material and hardware selections should be evaluated against the agency's operating environment.



Ballistic Operator Barrier

FULLY ENCLOSED OPERATOR BARRIER

- ☑ Operator-focused layout
- ☑ Fully enclosed protection concept
- ☑ Visibility-conscious glazing design
- ☑ Transit fleet customization
- ☑ OEM and retrofit adaptability
- ☑ Easy maintenance and cleaning
- ☑ Lightweight polycarbonate glazing
- ☑ Flame-Resist Thermoplastic Alloy Enclosure

DESIGNED FOR REAL TRANSIT FLEETS

Not a one-size-fits all shield, the platform is being developed around transit fleet requirements, including driver visibility, passenger interaction, maintenance access, vehicle fitment, and long-term durability, and daily wear-and-tear.

The system is supported by Insulgard Security Products, a division of Polymershapes, which designs and fabricates security enclosures across a range of ballistic protection levels.

AS4 Compliant



Applicable standards and agency requirements should be reviewed during specification. Polycarbonate glazing may be suitable for transit barrier applications when properly specified, engineered, and installed.

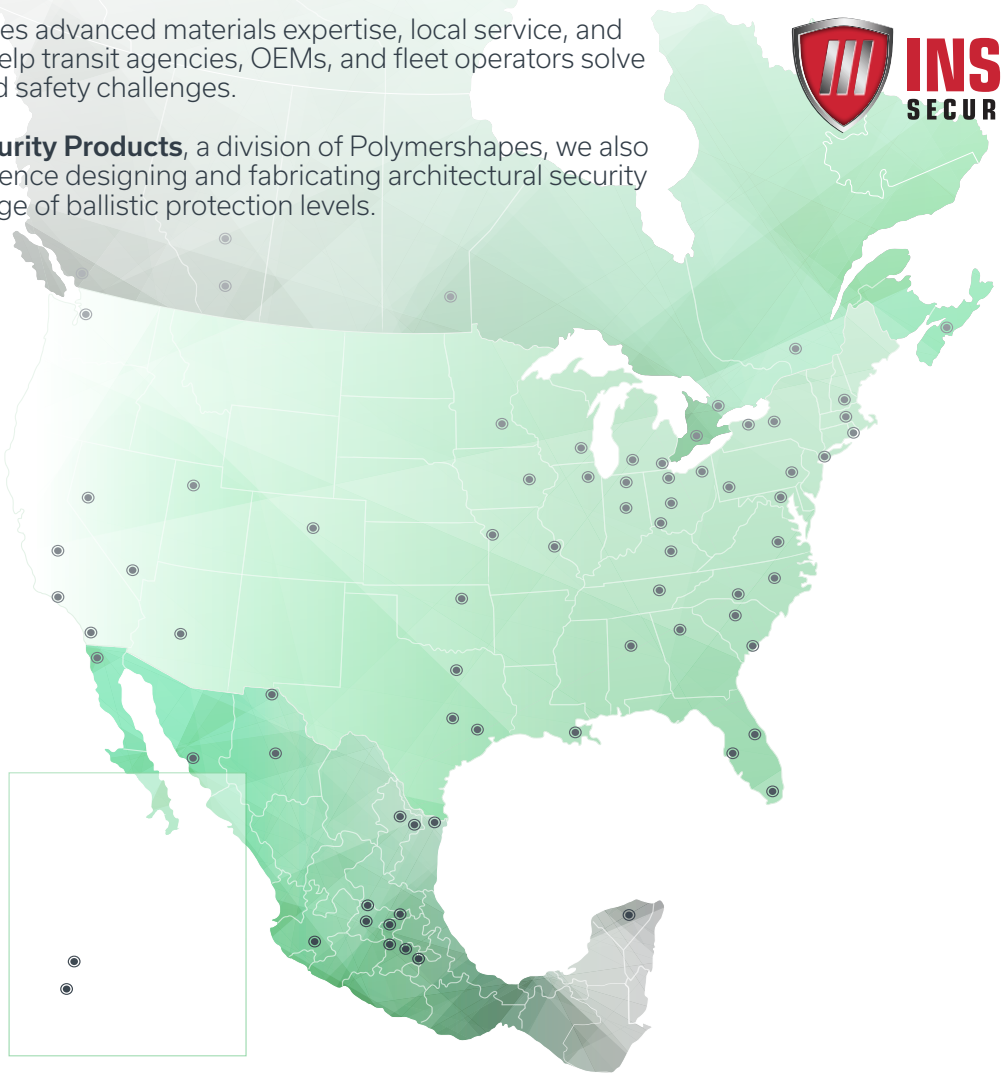
Protecting Transit Operators.
Keeping Fleets Moving.

Polymershapes

Polymershapes combines advanced materials expertise, local service, and fabrication support to help transit agencies, OEMs, and fleet operators solve demanding material and safety challenges.

Through **Insulgard Security Products**, a division of Polymershapes, we also bring specialized experience designing and fabricating architectural security enclosures across a range of ballistic protection levels.

INSULGARD SECURITY PRODUCTS



85+ Locations Across the Americas

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