A radical approach to tackle school bus bullying

Case

Scoping student bullying with disruptive spatial design.

Client

Industry Denton ISD Education

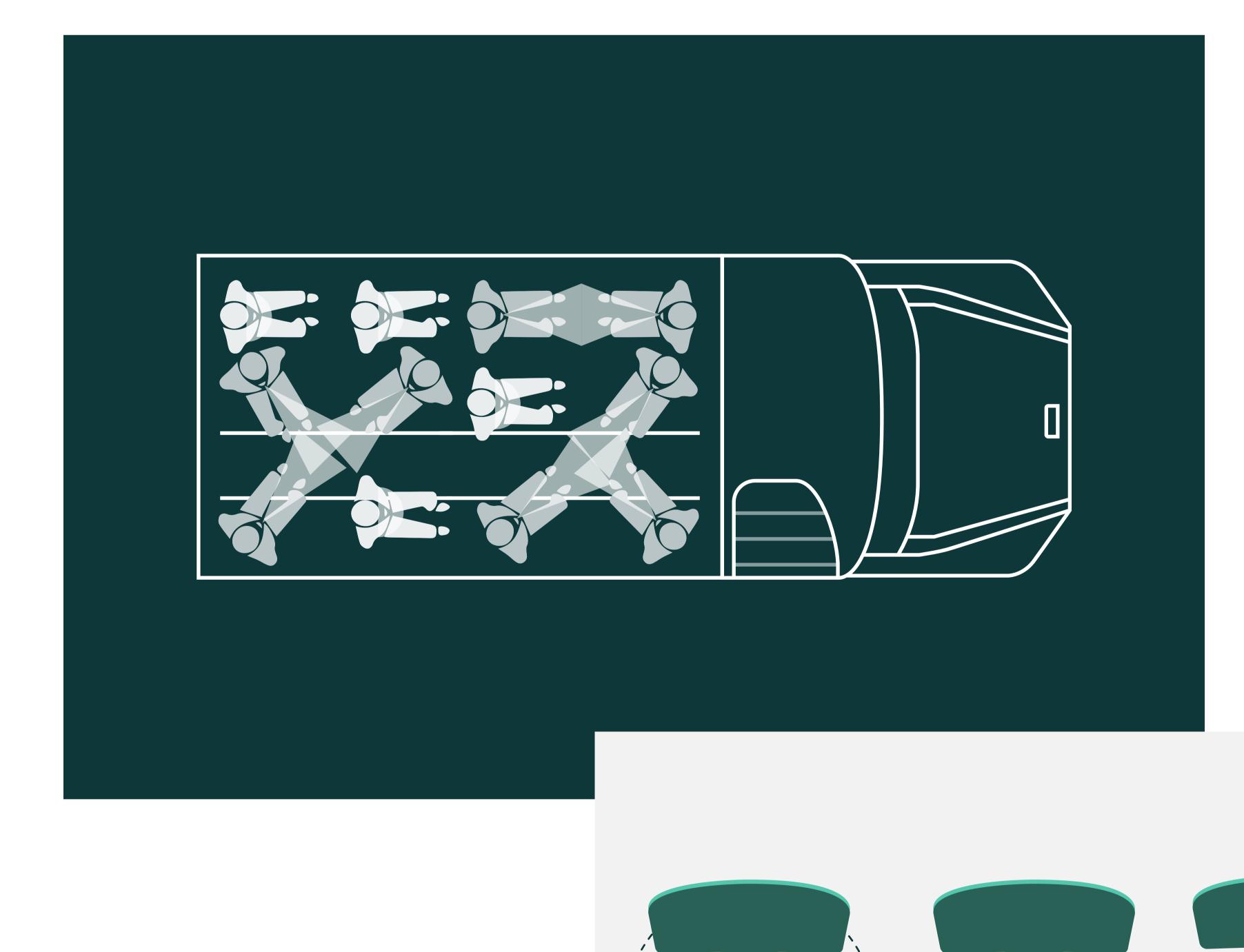
Year 2019

Capabilities Interaction Design Product Design UX Design Spatial Design Design Research



Merging the best of physical and social experiences into one aligned spatial concept, this project advocates a user-centered approach to redefine a culture change and drive innovation necessary in a shift to active, meaningful engagement.

- I separate misbehaving students and that's pretty much it; there really is no official protocol. Students switch seats and act up out of boredom; it becomes difficult to monitor their behavior when my main focus is transporting them from point A to B safely. Bus Driver, Denton ISD





Prototype

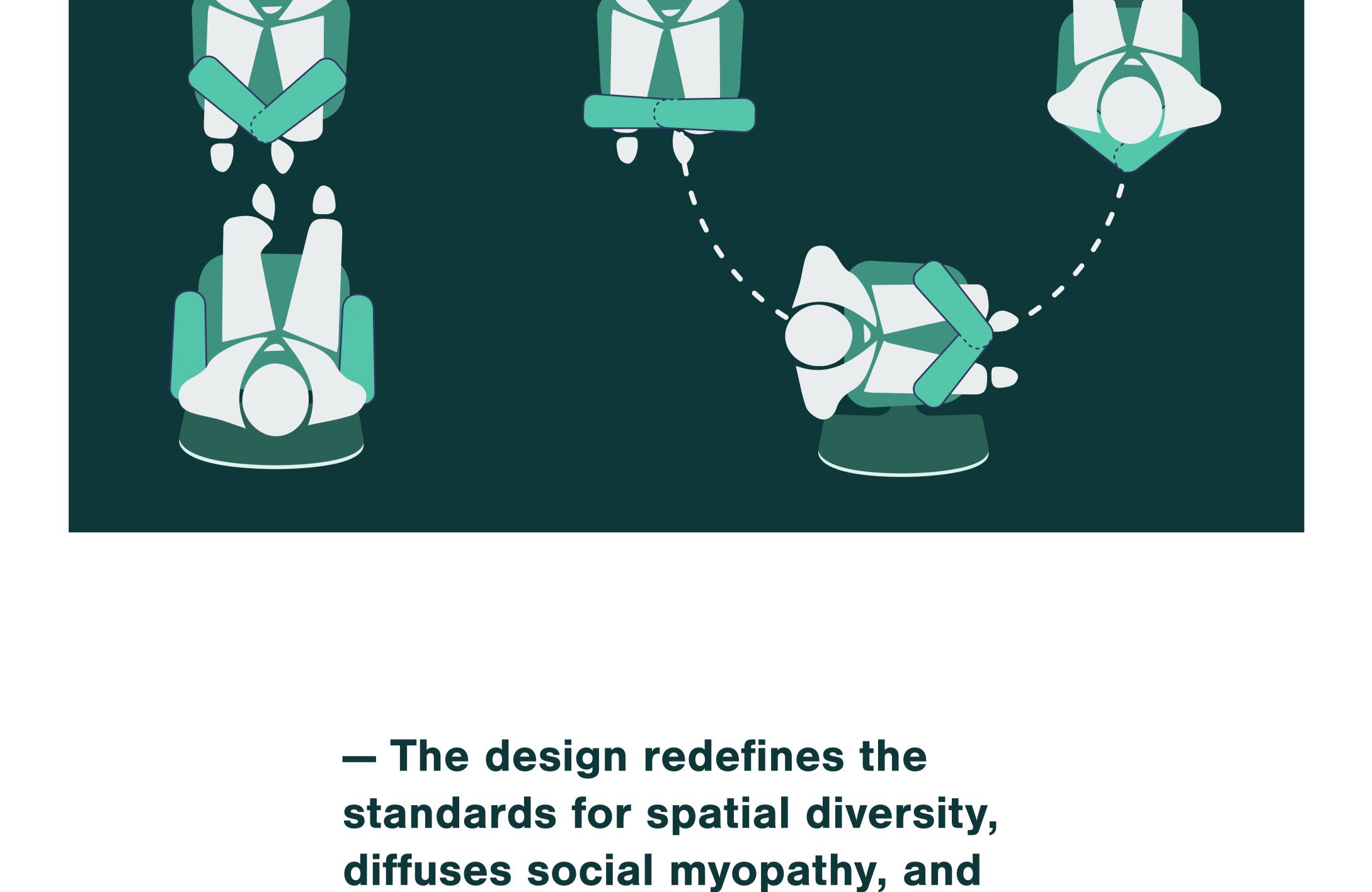
Emergent



Sketch

Historic

Convergent Disorienting Impermeable Porous Myopic Diverse Monolithic Serendipitous



pioneers intuitive relational

engagement.

Students

Challenge

Key stakeholders





school buses are a primary means of mobility

efficient transportation for millions of students

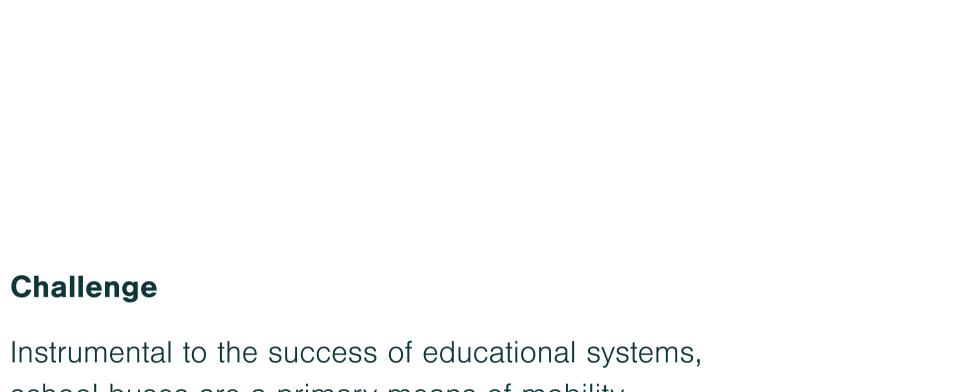
whose goal are to provide safe, dependable, and

nationwide. Relatively unchanged after 130 years of

operation, we were challenged to undertake a major

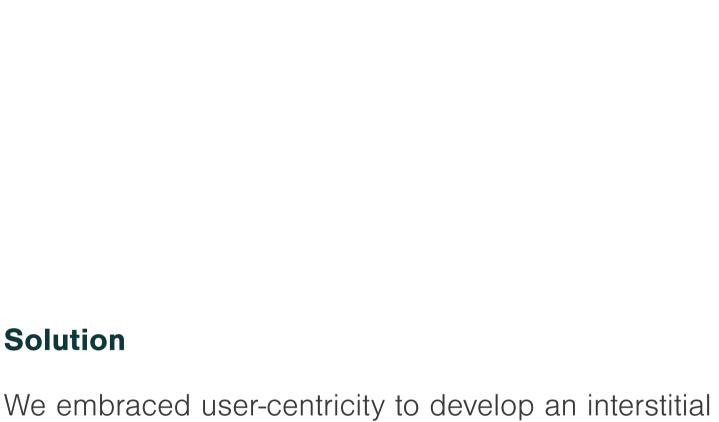
design project to reimagine the bus and empower

Bus drivers



Transportation

department



ecosystem designed to socially empower and

passengers. Its goal of analogously unified

architectural features attenuates the numerous

psychologically and physiologically safeguard a travel

experience for the nearly 14,000 Denton ISD student

School

administrators



EMBracing

accessibilit

Accessible

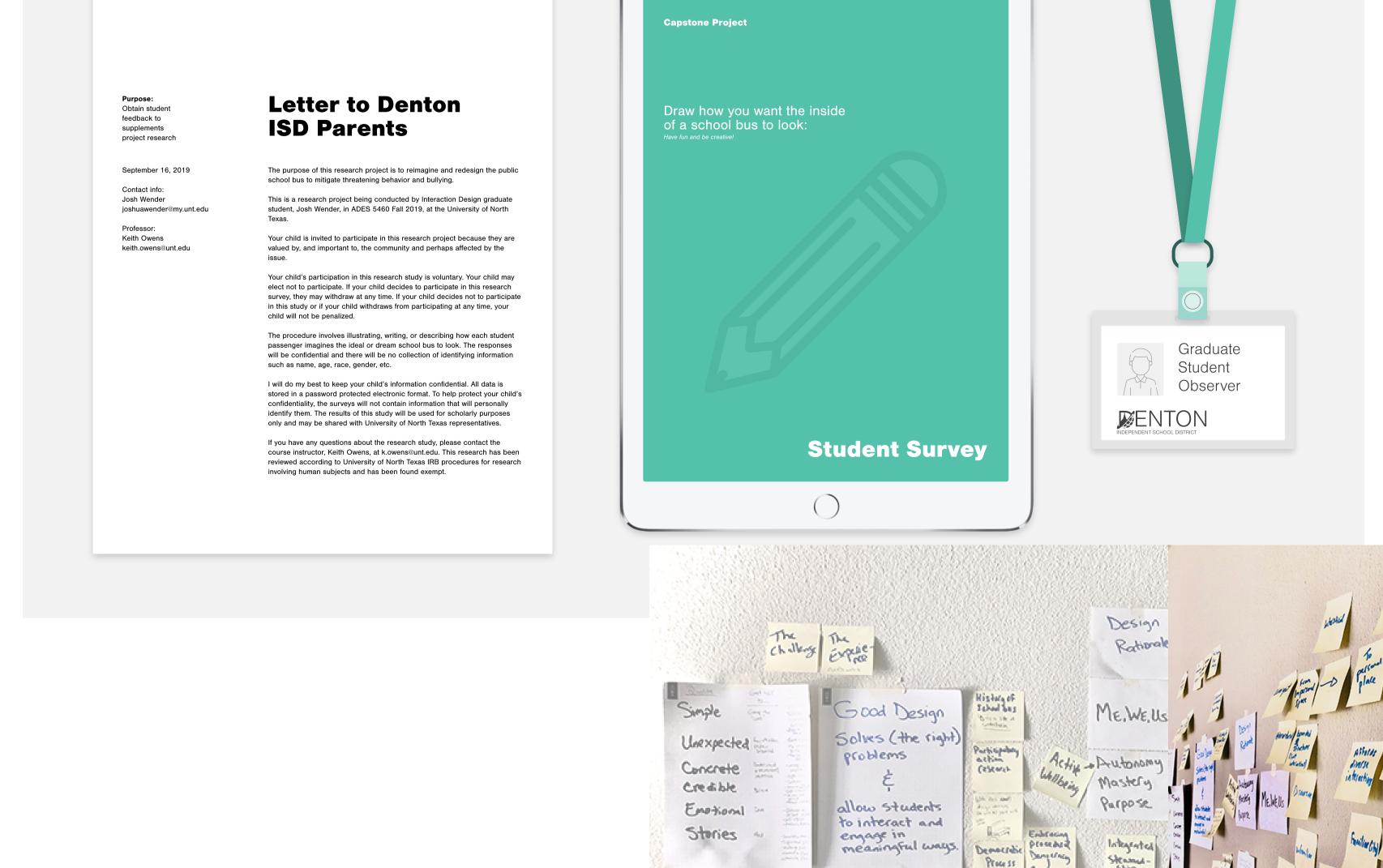
Instructors

and advocate for today's adolescents. For students bombarded by ineffective, behavior-based antibullying tactics, how do you connect with this younger generation to catalyze a culture shift necessary to drive meaningful experiences? By meeting their basic and psychological needs. The aim was to allow passengers flexibility to inspire excitement, foster community, and create rewarding, socially diverse interactions.

challenges of a conspicuous rise in bullying and the need for efficaciously transformative tactics. The

Solution

scope of proposed systems will embrace socialemotional learning, ease social interaction and facilitate community. The objective for the advocated passenger aligns with the school district's anti-bullying initiative imperative to empower students and improve atmospheric infrastructure. It will disrupt the riding experience and position public school transportation as one of the industry's most influential.



Success

Diffuse

Emphanic Leuching

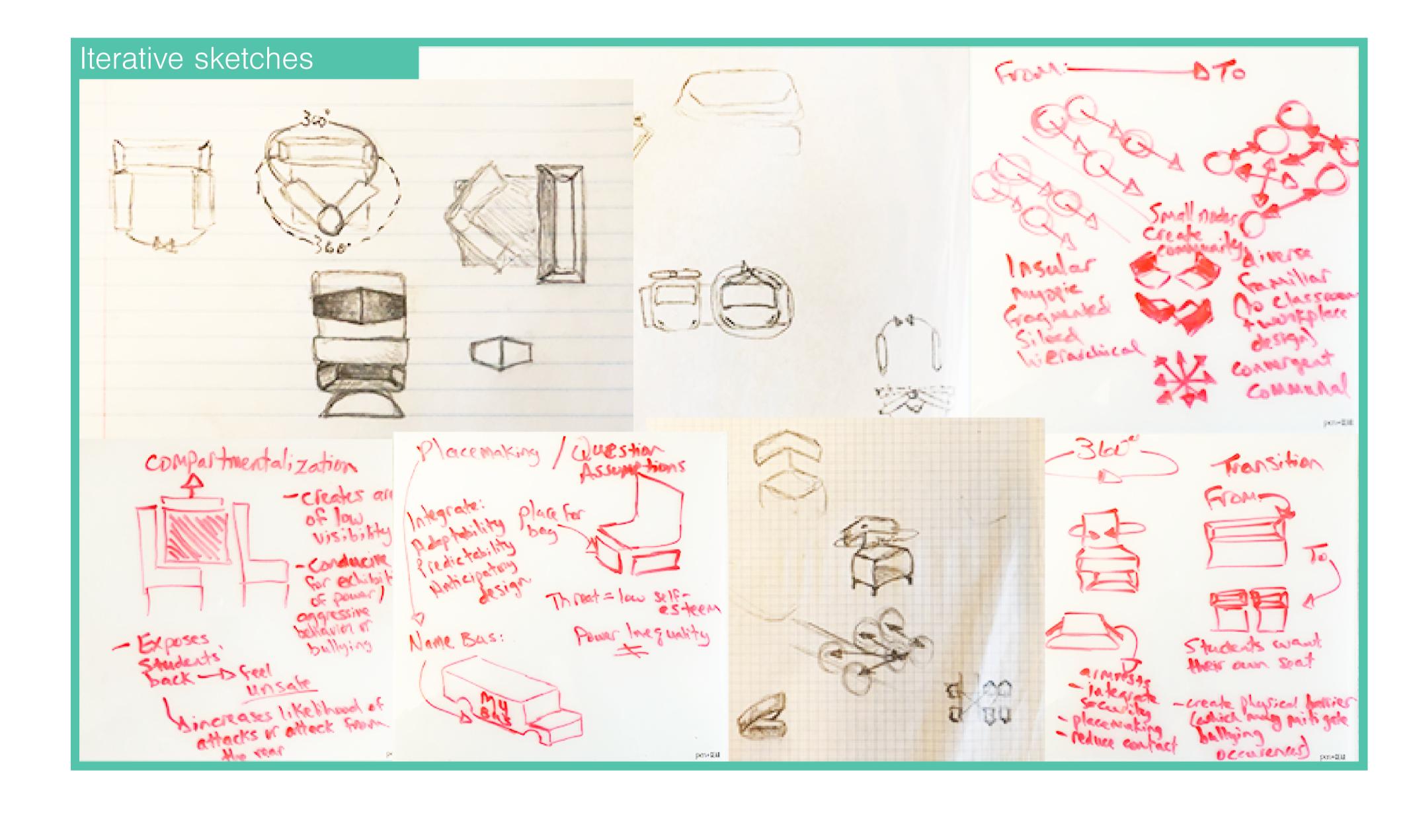
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Process

We began with comprehensive literary and competitive research to build contextual empathy from social emotional learning to contemporary pedagogical methods and classroom and workplace design. To better understand user needs, we employed mixed-methods and participatory action research, observing, surveying and co-traveling with passengers to learn about their journey and understand behaviors, pain points, and intrinsic motivations first-hand. We even interviewed departmental administrators and bus drivers and toured facility operations.

Below: emic and ethnographic research methodologies in the forms of student illustrations and (activity) heat mapping, respectively, were synthesized to help inform design decisions.





- We produced a completely unique experience and created something entirely new, that digests everything students want and delivered it.



the journey map became vital for understanding the total ecosystem.

With the help of Denton ISD Transportation Department, the project transforms interstitial space into

Understanding interactions through three different lenses: how people relate to each other, how they

community, and self-efficacy. Each seat issues 360 degree movement, providing varying, frictionless

relate to their use of space, and how they exchange information, we designed a space that allows

passengers to fully customize and interact with their journey, complementing a desire for safety,

a place that transcends its stigma and not limited to its definition - "home away from home."

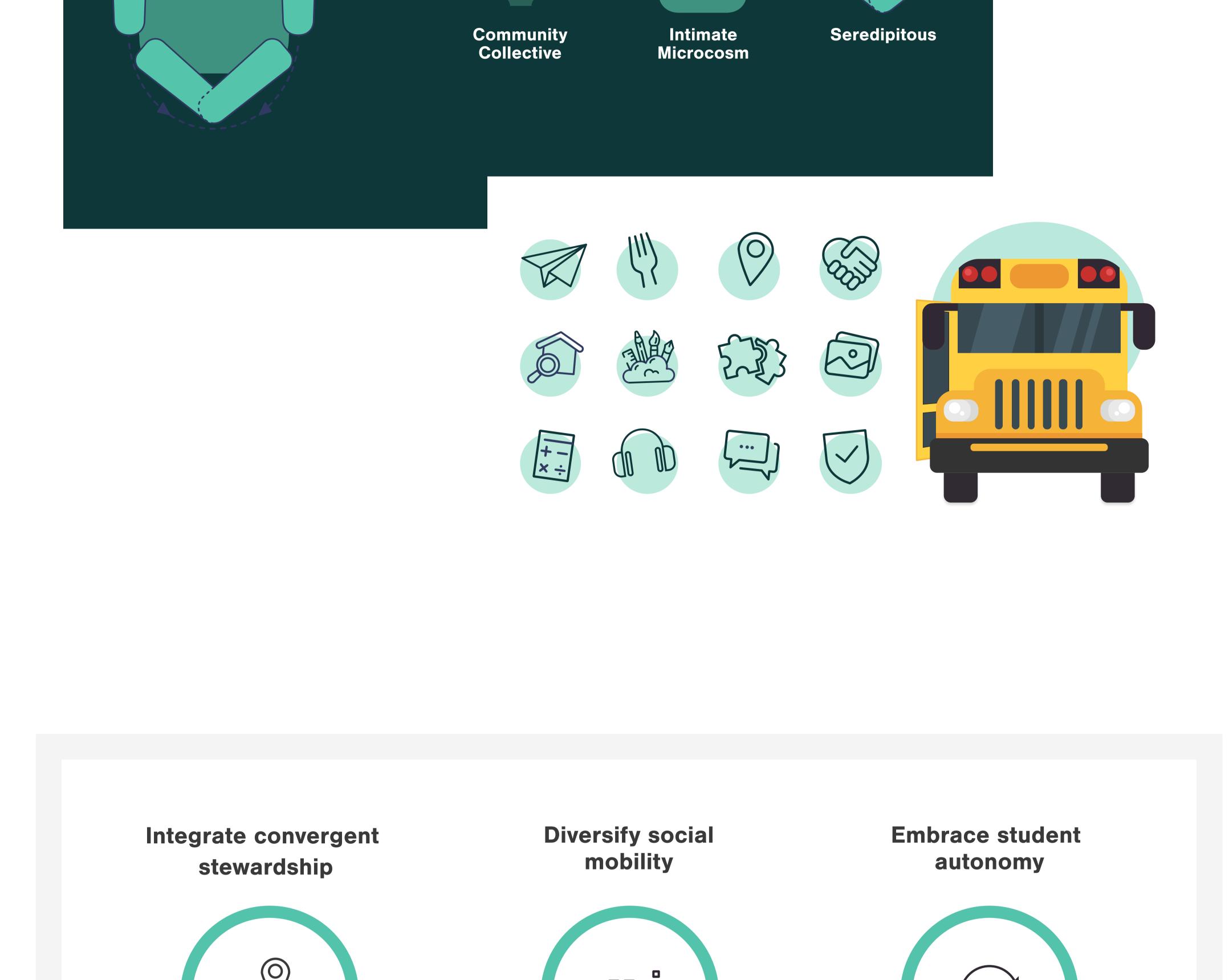
Visualizing the complex

experience and translating it

into an easily digestible visual,

experiences - from solitary and intimate to accessible and socially inclusive - students may engage within the bus, and becomes a guiding design principle.

Concept



— The problem is evident and your method to reduce school bus bullying is greatly needed. Many people don't realize how vital the transportation is to student success; we are the true, unsung heroes of the educational system. Jim Watson, Denton ISD Transportation Director

Social-emotional engagement

Providing rotating seats affords students

varied levels of peer engagement: solitary

or communal. Adjustable arm rests serve

to enable physical security and a surface

on which to study, eat or play games.

Multi-functional armrest

Furnishing multi-purpose, independently

rotating armrest serves to provide

ecosystemic flexibility, facilitate in social

and physical convergence and amalgamate multi-modal functionality.

Placemaking

Integrating highly adaptive features,

students placemake - customize and

transition space into place. Personalization

affords self-efficacy, privacy & respect earned

from an interstitial "home away from home."

Outcomes With a complete design reimagination, the project helps establish new functionality, embraces accessibility, and fosters a culture of social mobility in a flexible space where form follows function.

The design will become a key influence driver behind bullying attenuation and a benchmark for amplifying and humanizing life spaces and social practices with meaningful experiences.

Next Steps To reach a further and more efficacious design, additional research-based iterations will be necessary. With proper resources and access to user groups, more conclusive participatory action research would be conducted within simulated comparatively analogous and scenario-based environments. Participants will be observed, analyzed and surveyed in both traditional and proposed school bus ecosystems to gain enhanced understanding as to which environment will yield desired design

scales of being and action.

outcomes and satisfy user needs. Ultimately, the microsystem will seek to connect and weave distinct