

2023 Designing Main Street Sandbox Design Competition

Participating Teams

Student Competition

Florida International University
 Michigan State University
 New Jersey Institute of Technology
 University of Massachusetts
 USC

Professional Competition

Arcadis IBI Group / CurbIQ Sam Schwartz
 City of Dubuque
 Erdman Anthony
 Georgia Department of Transportation
 GHD
 Modern Mobility Partners
 NV5 Engineers and Consultants
 Toole Design Group
 VHB

The 2023 Optimizing Main Street Sandbox Design Competition, sponsored by the ITE Consultants Council, was a culmination of creativity, innovation, and technical applicability from both professional and student teams. Competitors were challenged to envision a corridor that would be balanced in addressing residents and visitors needs for comfortable and connected safe traveling options (walking, biking, taking transit, driving, etc.), increasing accessibility and micromobility, and providing curbside space for businesses to thrive.

Teams were asked to optimize the right-of-way for a corridor that could serve as an example in terms of balancing needs, safety, operations, mobility, equity, and livability. To make the competition parameters consistent, teams used a 1-mile long Main Street corridor in the City of Neverland with a posted 25 mile-per-hour speed limit. This corridor is hypothetical and does not exist. Information for the corridor such as right of way, land use, roadway characteristics, etc. were provided in a CAD-based file. The goal was to use the information provided to re-envision the corridor—especially curbside activity—and optimize the needs of abutters, residents, and visitors.

Teams officially presented their projects at the 2023 ITE Annual Meeting and Exhibition in Portland, OR, USA in August. After being evaluated by a distinguished panel of judges, the winning teams were announced, as well as one honorable mention in each category. Congratulations to the winners, honorable mentions, and all the teams that participated, and stay tuned for more on the theme for next year’s Sandbox Design Competition!



Professional Competition Winner: VHB

Team Members: Ashley Domogala, Matt Duranleau, Matt Kealey, Phil Goff, Gabi Choi, Elsa Chan, Adam Prichard, and Rick Plenge

Submission Highlights

Parameters

- Maintain existing curbline
- Maintain all existing pedestrian crossings
- Maintain one vehicular travel lane in each direction
- Provide four 80-foot-long bus stops for each direction
- Provide at least four accessible parking spaces
- Provide at least two corridor blocks that include flex curbside uses



Corridor Goals

- **Safety:** Design Main Street to be safe for all users including pedestrians, cyclists, and motorists
- **Operations:** Ensure that Main Street will balance operations of all modes
- **Mobility:** Provide accessible and efficient mobility and parking options for all users
- **Equity:** Ensure all modes of transportation are available and accessible regardless of socio-economic status
- **Livability:** Create a street that improves the quality of life for its residents and visitors
- **Economy:** Design Main Street to support future growth and development

Curbside Elements

- Pedestrian Crossing Infrastructure
- Bike Lanes
- Micromobility Stations
- Bus Stops
- Parklets/Outdoor Dining
- Landscaping/Green Infrastructure
- Parking
- Accessible Parking
- Car-Sharing Parking
- Electric Vehicle Parking
- Pick-up/Drop-off Zones
- Freight/Loading Zones
- Food Truck/Mobile Vendor Zones

“This corridor development approach not only optimizes curbside activity on Main Street, but also can be transferred to optimize curbside activity on any roadway in the City of Neverland and beyond.”



Professional Competition Honorable Mention: Toole Design Group

Team Members: Sofia Duran, James Bottomley, Yasmin Fuseini-Codjoe, Murat Jenidi, Kabir Khurana, Harriette Shakeri, Lila Singer-Berk, Tyler Wong, Diane Xiao, and Leon Yacoubian

Submission Highlights

I. Setting the Stage: The vision and goals for reimagining a more equitable Neverland corridor.

II. Putting the Framework into Practice: The application of the goals across our residential, civic, and commercial contexts.

III. Implementation Spotlights: The implementable solutions that can be incorporated into any city.



Goals and Uses

- Safe and Comfortable
- Active and Inviting
- Accessible and Connected
- Sustainable and Resilient
- Flexible and Dynamic

Best Practices for Placemaking

- Develop partnerships with local organizations, community groups and schools
- Develop travel demand management plans and traffic management plans with key stakeholder groups (transit, emergency services and accessibility groups)
- Maintain an accessible path of travel for pedestrians with vision disabilities

Student Competition Winner: Florida International University

Team Members: Enock Mwambeleko, Mostafa Soltaninejad, and Francisca Kasubi (Faculty Advisor: Dr. Priyanka Alluri)

Submission Highlights

Goal

- To achieve a state of equilibrium in addressing the demands of both local inhabitants and tourists when offering secure and convenient modes of transportation, including walking, biking, public transport, driving, and other forms of micromobility.

“Ultimately, this design solution has the potential to create more livable and sustainable urban areas while providing safe, efficient, and reliable transportation options for all.”



- To enhance accessibility and curbside infrastructure to foster the growth and prosperity of local businesses.

Vision

To enhance the usage of the right of way in a corridor that can serve as a model for balancing the corridor’s needs, ensuring safety, mobility, equity, and livability.

**Student Competition Honorable Mention:
University of Massachusetts**

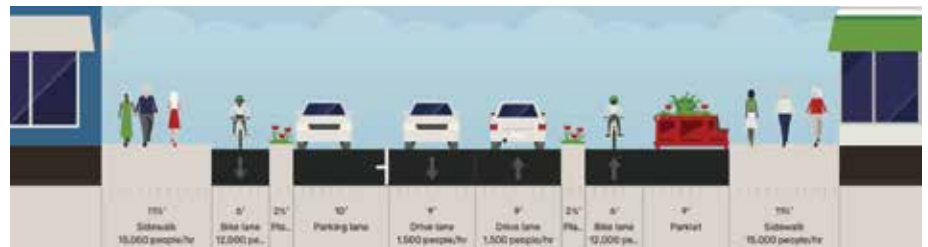
Team Members: Annika Liston, Alexa Weinman, Chris Testa, Bryanne Porter, Scott Bravman

“This Main St. corridor allows users to travel safely and efficiently while being able to access all attractions that are offered. Users are able to travel the corridor on bikes, driving a car, riding a bus, or walking safely and with suitable space around them.”

Submission Highlights

Cross Sections

- Restaurants
- Houses
- Bus Stops
- Flex Zones



Design prioritizes prioritized multimodal access, accessibility for all users, and landscaping to provide appealing spaces to enjoy outdoor dining or other activities.



Envisioning the Competition

Judges Panel



Radha Krishna Swayampakala
RS&H (Chair)



Michelle Danila
Toole Design



James Carr
TechniQuest

David Nevarez
City of Dallas, TX

Erik Zandvilet
City of Mahattan Beach, CA

Tyler Krage
City of Chicago

Priyanka Alluri
FIU (Judge for Professional
Team Presentations only)

Amir Rizavi
VHB (Judge for Student
Team Presentations only)

Radha Krishna Swayampakala, P.E., PTOE (F) of the ITE Consultants Council and Chair of the judging panel for the 2023 Sandbox Design Competition, along with Consultants Council members **Michelle Danila, P.E., PTOE (M)** and **James Carr, P.E., PTP, PTOE (M)** share insight on the value of the competition to ITE and the transportation industry.

ITE JOURNAL: How was the theme for this year’s Sandbox Competition, “Optimizing Main Street,” determined?

CONSULTANTS COUNCIL: The Optimizing Main Street competition evolved from an understanding of the current challenges facing communities to balance mobility needs and economic development within their commercial districts. Communities want to create comfortable and connected safe traveling options for people walking, biking, taking transit, and driving, while also providing curbside space for businesses to thrive. We saw this competition as an opportunity to challenge design professionals to utilize ITE’s Curbside Management resources and apply them to a hypothetical Main Street corridor in City of Neverland. Design teams had to consider the corridor’s width, land use, bus activity, and demographics while balancing safety, operations, mobility, equity, and livability.

ITEJ: What was your overall impression of this year’s entries? What was unique or stood out about them?

CC: This is the third year ITE has hosted this competition. We clearly see an increase in the quality of submissions and interest in this competition year after year. Optimizing curbside space is a relevant and timely topic—the pandemic brought lot of changes and new ideas to better use this space. Both professional and student submissions put in great effort to review the guidance we provided and developed their submissions.

Aiming at optimizing City of Neverland’s Main Street, teams presented several interesting ideas in their submissions. The judging panel was particularly interested to see the emphasis several teams put on transferability of their ideas to another community.

For example, one team presented a table illustrating how they propose accommodation of each curbside element (such as bike lanes, parking, drop-off zones, or vendor zones) for various roadway types (neighborhood street to major arterial). Another team emphasized safety elements and recommended adoption of technology to improve safety for bicyclists and pedestrians.

A third team approached the problem very strategically defining a framework that can be used for any community. They then put the framework into practice by focusing on three different contexts: residential (where people live), civic (where people work), and commercial centers (where people shop and meet).

The primary goal of this competition is to encourage and promote the exchange of ideas, as well as enhance the thought process for ITE membership and the entire industry. Much like in previous years, this year’s event has been effective in accomplishing this objective.

ITEJ: Why is it important that this competition include the student category, and not just professional teams?

CC: ITE intends to continue supporting talent at different career stages and cater to a diverse pool of upcoming and active professionals. Submissions from professionals provide a great way to share ideas and real-world practicable solutions with our membership across the globe. Many of the solutions we saw in these submissions are tested elsewhere and show a

clear path of transferability and adaptability to other communities. On the other side, Student submissions provide a great opportunity to foster innovation, new thinking, and a platform to demonstrate what's happening on the research side. Students participating in this event get a great opportunity to network and build relationships. In a nutshell, by accommodating both sides of our membership, ITE continues to focus on skill development as well as knowledge sharing to promote lifelong learning.

ITEJ: What is the overall purpose of this competition in terms of encouraging students and professionals to think creatively and critically about transportation?

CC: The goal of the ITE Sandbox Competition is to provide transportation professionals with the option to engineer a design solution without the common physical constraints and/or economic barriers which often limit design options. The ITE Sandbox Competition is unique in this design. It allows professionals and students more freedom than daily engineering problems/solutions may offer, while also creating parameters which require teams to maintain consistency with accepted best practices. The 2023 competition implemented a conceptual planning/design element specifically to encourage more creativity and allow transportation professionals to show how they would implement best practices and current trends in lieu of just reporting them. And the opportunity to plan and design a corridor with limited constraints produced results which were well beyond the expectations of our staff. [itej](#)

2023 EVENTS

MOVITE FALL MEETING

October 4-6 | Bentonville, AR, USA

MOUNTAIN DISTRICT STUDENT LEADERSHIP SUMMIT | HOSTED BY BYU

October 12-14 | Provo, UT, USA

FLORIDA PUERTO RICO ANNUAL MEETING

October 22-24 | St. Petersburg, FL, USA

2024 EVENTS

JOINT ITE INTERNATIONAL AND MID-COLONIAL DISTRICT ANNUAL MEETING AND EXHIBITION

Philadelphia, PA, USA | July 21–24, 2024


 The logo for Spotlite features the word "spot" in a bold, black, sans-serif font, followed by "lite" in a blue, sans-serif font. The "l" in "lite" is stylized with a horizontal bar extending to the right, and the "e" has a similar bar. The entire logo is set against a white background.

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ITE's bi-weekly e-newsletter has a sharpened focus on the news and trends in surface transportation that matter most to you.