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Moving UB Forward:
Innovation, Mobility and the Future of Campus Transportation

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Director, Parking and Transportation

Overview & Fast Facts of UB Parking and Mobility Today!

- **Getting Around at UB!**
- **Let's kick things off with a quiz! Get your phone out!!**
- **Fast Facts!**

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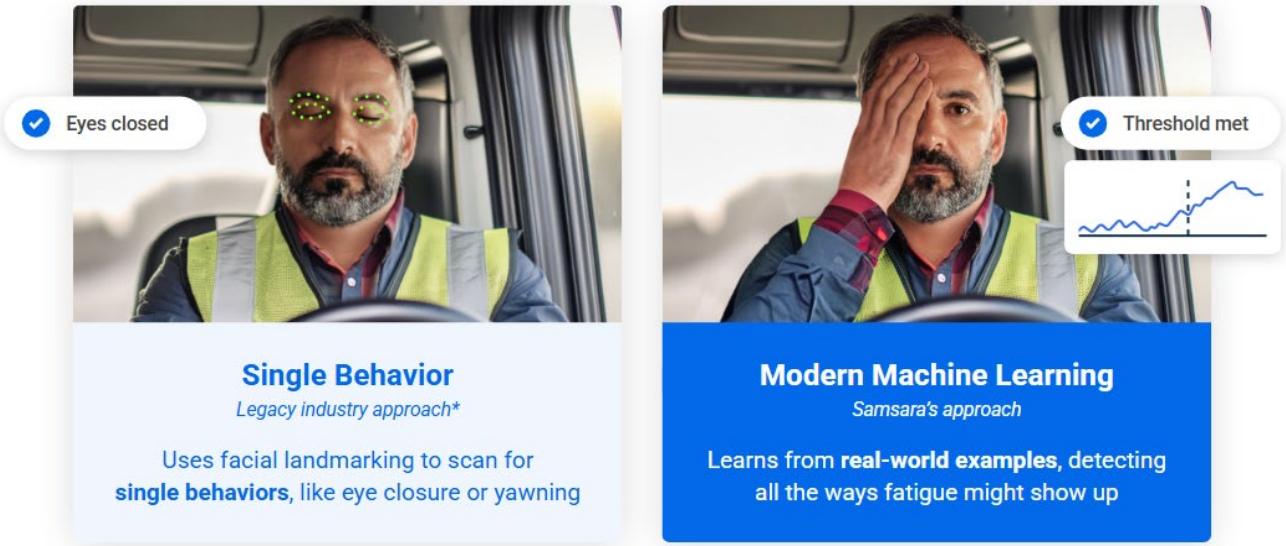
UB Stampede
Samsara Technology

Samsara Overview



WeDriveU utilizes Samsara, a cutting-edge driver monitoring system powered by G-Force vehicle data and Artificial Intelligence (AI). Key Features include:

- Samsara uses dual cameras, one facing the road and one the driver.
- Samsara's AI technology enhances safety by analyzing a broader range of environmental factors, allowing identification of additional risky behaviors.
- Operator risk scores and frequent behaviors create tailored development strategies, improving overall safety outcomes.

Samsara Gamification - How Our Local Team Uses This Tool

- Top performers in each of 6 categories are posted in driver common area
- Top 5 drivers in the 6 categories scored receives an award:
  - These 30 high performers receive a safety pin
  - The top annual pin winner gets a cash prize
- Drivers are excited and engage in friendly competition
- Those who don't win ask for feedback to help them improve
- Considering radio announcements for more public recognition

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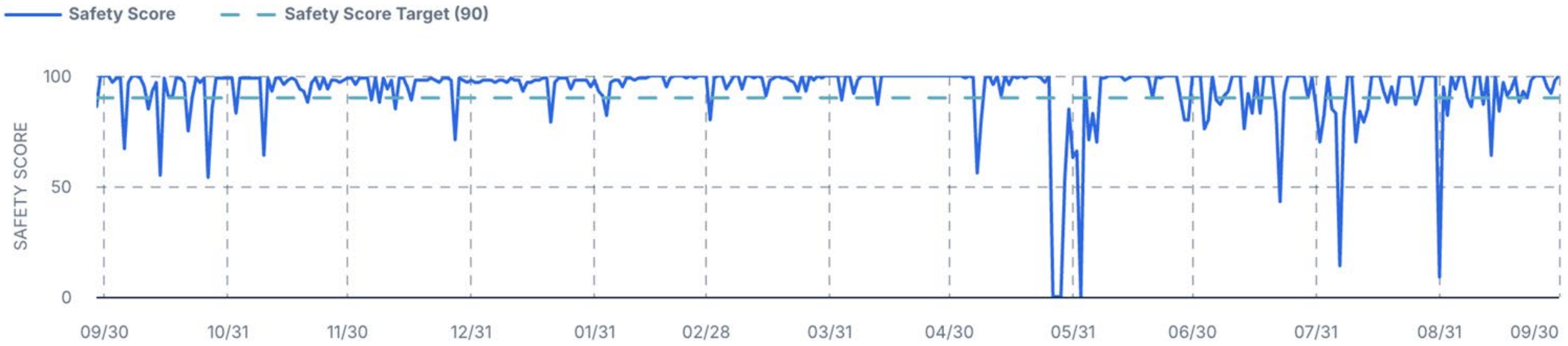
WeDriveU Safety Score

Safety Score Oct 1 - Sep 30

This Period

95



Distance Driven
644,483.9 mi

Time Driven
51,145h 28m

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Samsara Details - Past Year

Understand Your Score

The Safety Score is a grade out of 100. This is broken down into seven Risk Factors, so you can clearly see what is driving your overall score. Risk Factors accumulate negative points which lower your Safety Score.

Max Score	100
Crash	-0.1
Harsh Driving	-0.8
Distracted Driving	-0.9
Collision Risk	0
Traffic Signs & Signals	-0.6
Speeding	-0.7
Policy Violations	-2.1
Safety Score	95

Rank	Driver	Score
1	Andrzej Swacha 9041 - Buffalo NY	100
2	Vernon Trueheart 9041 - Buffalo NY	100
3	Debra Dibble 9041 - Buffalo NY	100
4	John Degenfelder 9041 - Buffalo NY	100
5	Andrea Gibbs 9041 - Buffalo NY	100
6	Vera Young 9041 - Buffalo NY	100
7	Candice Johnson 9041 - Buffalo NY	100
8	Shanece Floyd 9041 - Buffalo NY	100
9	Darshanie (Nikki) Boyd 9041 - Buffalo NY	100
10	Stephen Agard 9041 - Buffalo NY	100

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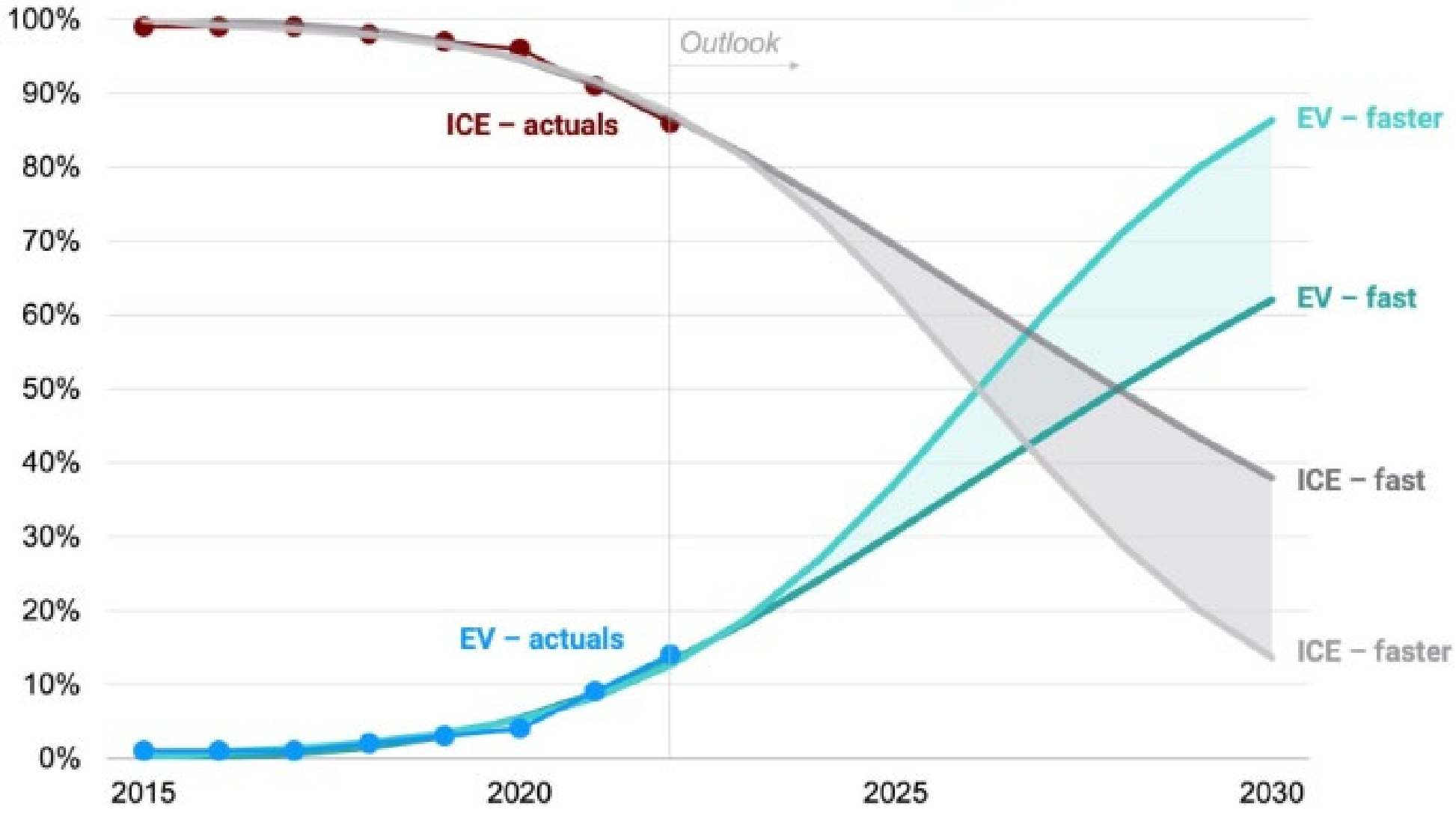
Future of Mobility:
Electrifying Our Rides

Global EV and ICE market share forecast (%)



RMI – Energy. Transformed.

Source: IEA, RMI forecasts

The future lies between fast and faster change.

Vehicle Evolution: ICE vs EV vs Hybrid Systems: What's the difference?

Internal Combustion Engine (ICE) Vehicles

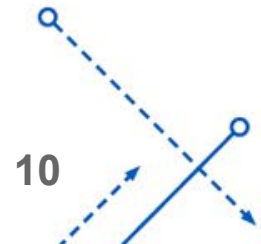
- Fuel/Power: "ICE" vehicles burn fuel like gasoline or diesel inside a combustion chamber to generate power
- Require less frequent and lower-cost maintenance due to fewer moving parts (e.g., no oil changes) and regenerative braking which reduces brake wear

Electric Vehicles (EVs)

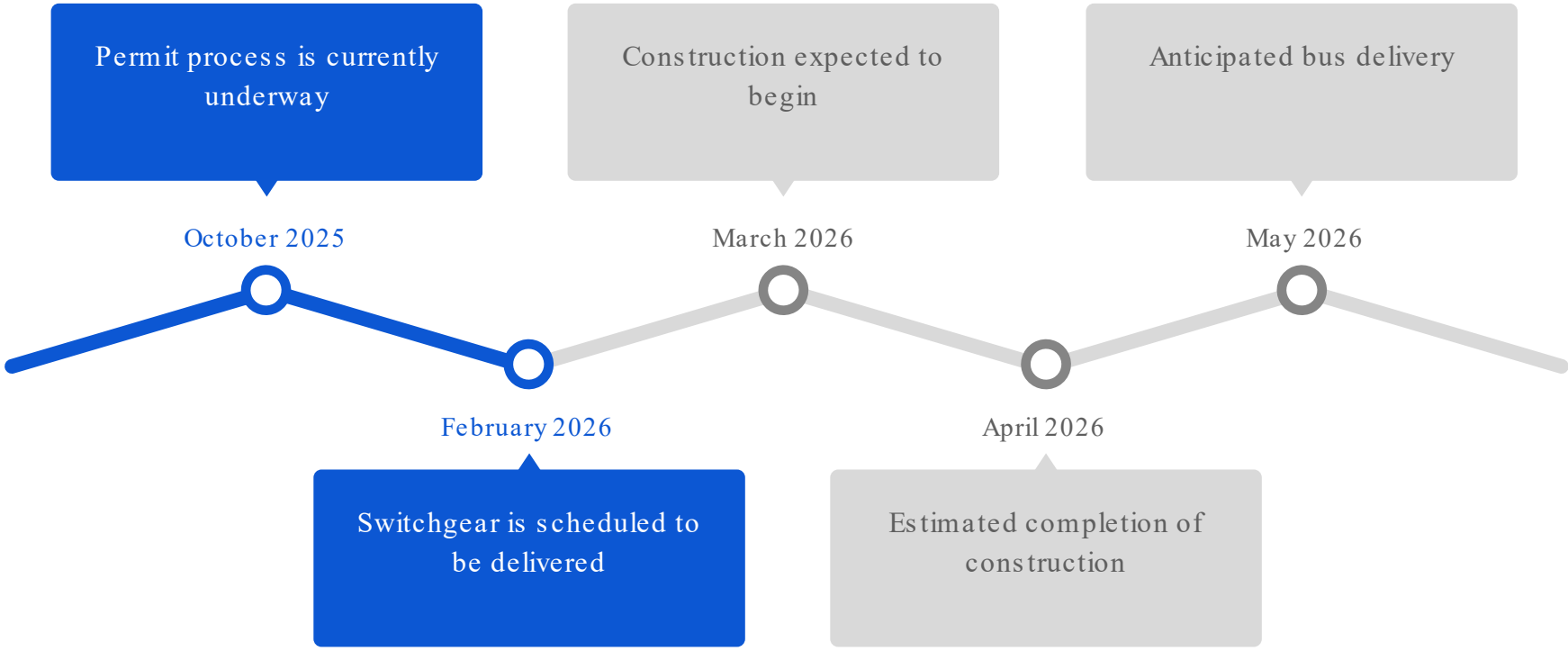
- Fuel/Power: Run on electricity stored in a rechargeable battery
- Require less frequent and lower-cost maintenance due to fewer moving parts (e.g., no oil changes) and regenerative braking which reduces brake wear.

Hybrid Vehicles

- Fuel/Power: Use both an internal combustion engine and one or more electric motors to improve fuel efficiency. This combination allows the vehicle to switch between or use both power sources simultaneously for better performance or gas mileage
- Energy efficiency: The system switches between the two power sources or uses them at the same time to maximize fuel efficiency and performance



Fleet Electrification - Yard Electrification Progress

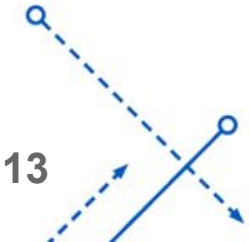


Fleet Electrification - Electric Fleet Comparison

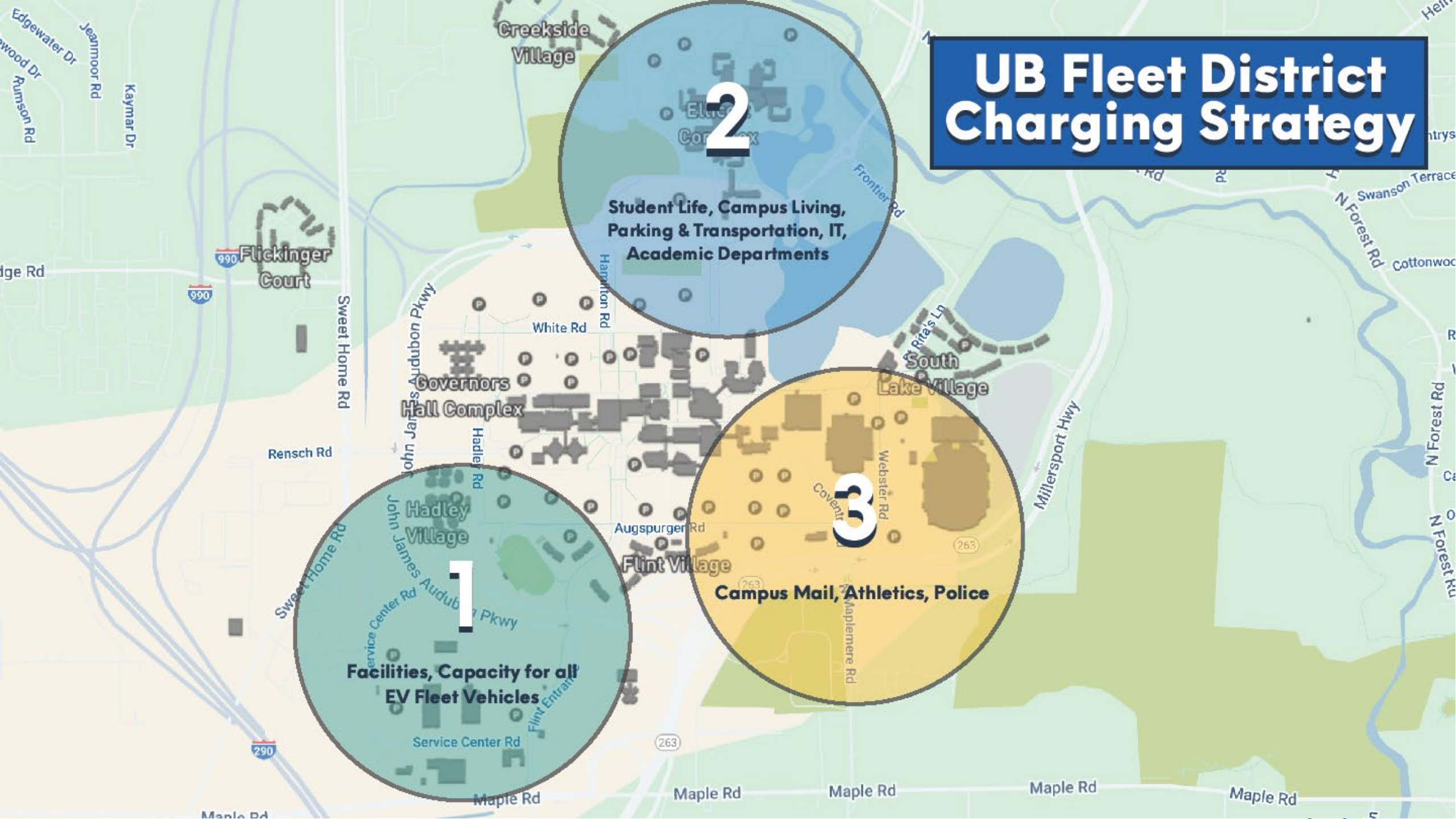
Category	GILLIG Battery-Electric Bus (BEB)	GILLIG Clean Diesel Bus
Platform	GILLIG Low-Floor 35’ / 40’	GILLIG Low-Floor 35’ / 40’
Propulsion	100% Electric Motor	Cummins L9 Clean Diesel Engine
Energy Source	Modular Lithium-Ion Battery Packs (up to ≈ 686 kWh)	Ultra-Low Sulfur Diesel
Maintenance	Fewer moving parts; reduced preventive maintenance	Mature systems, widely available parts
Fuel / Energy Cost	Lower cost per mile (electricity dependent)	Higher variable fuel cost (diesel market)
Emissions	Zero tailpipe emissions	EPA-compliant but non-zero CO_2 & NO_x
Noise	Very quiet, smooth acceleration	Noticeable engine noise
Reliability Testing	Record Altoona ZEB score (15.2 hours unscheduled in 15k mi)	Long-term proven reliability

Reducing Risk & Moving to Scale

Building a fleet charging strategy



COMMENTS FROM OUR COLLEAGUES ABOUT EV'S


UB Fleet District Charging Strategy
2
Student Life, Campus Living, Parking & Transportation, IT, Academic Departments
3
Campus Mail, Athletics, Police
1
Facilities, Capacity for all EV Fleet Vehicles
Creekside Village
Flickinger Court
Governors Hall Complex
South Lake Village
Hadley Village
Flint Village
Sweet Home Rd
Rensch Rd
White Rd
Hampton Rd
Hadley Rd
Augspurger Rd
Webster Rd
Millersport Hwy
Frontier Rd
Service Center Rd
Maple Rd
Swanson Terrace
N Forest Rd
Edgewater Dr
Jeanmoor Rd
Kaymar Dr
Rumson Rd
990
290
263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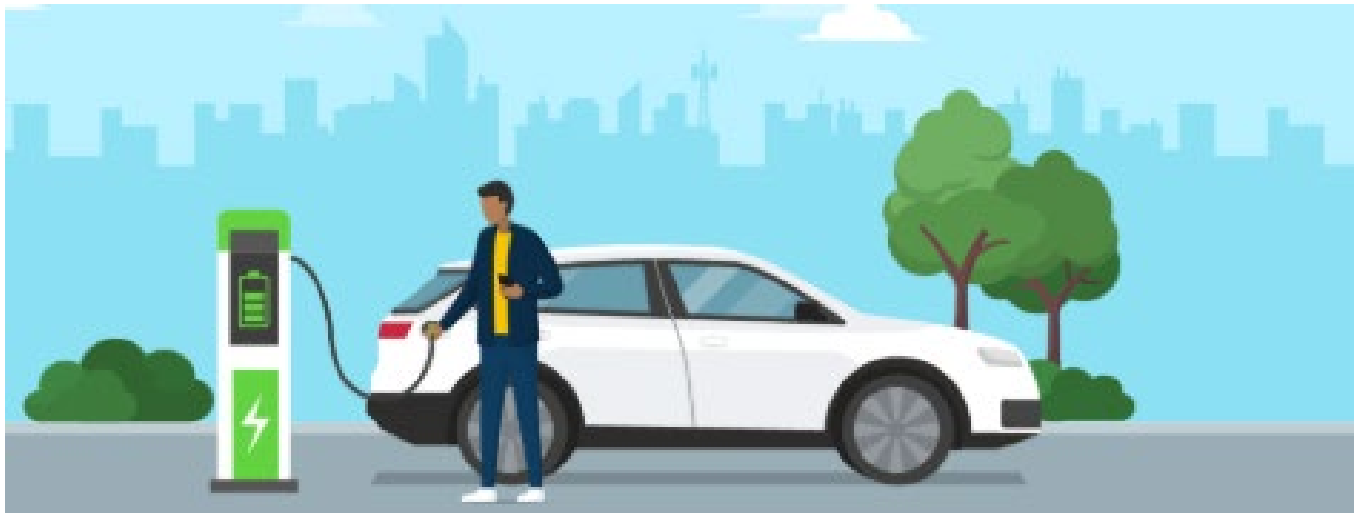
New York Power Authority

Faculty/Staff EV and Hybrid Registrations

Faculty/Staff EV and Hybrid registrations have slightly decreased in the past two years

	25-26	24-25	23-24
Faculty/Staff Electric	789	882	882
Student Electric	802	998	1023
Resident Student Electric	19	45	94
Faculty Staff Hybrid	185	203	191
Commuter Student Hybrid	485	495	470
Resident Student Hybrid	18	35	56



Electric Vehicle Level 2 Charging Stations at UB

North Campus

- Jacobs B Lot (16 ports)
- Coventry Rd., at Bissell Hall (2 ports)
- Mary Talbert Way, at Bonner Hall (2 ports)

South Campus

- Parker Lot (14 ports)
- Diefendorf Loop (2 ports)

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Future of Mobility:
Potential Light Rail Extension

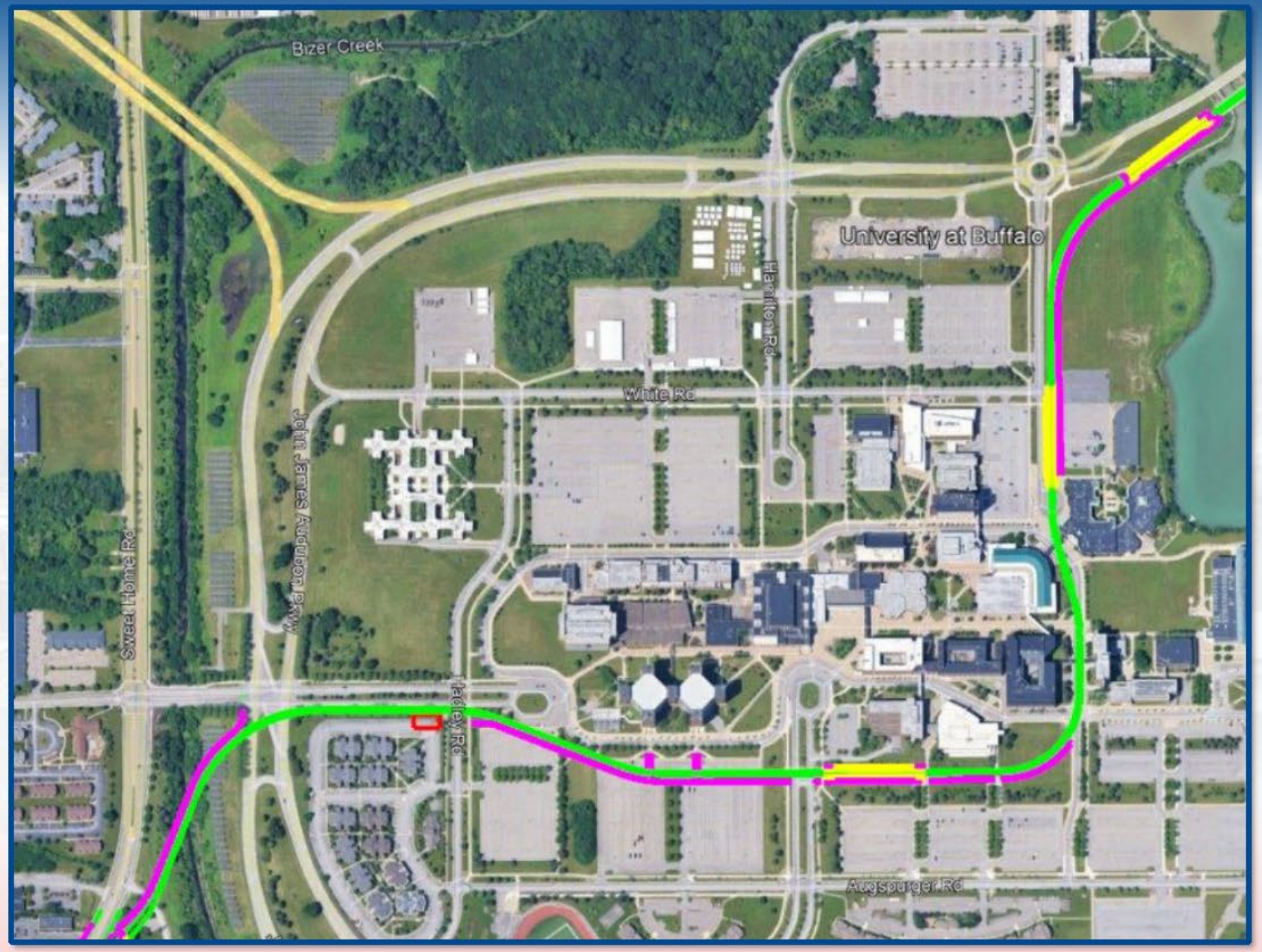

NFTA-METRO
111
CAUTION Vehicle Enters Tunnel DO NOT FOLLOW
EXPO
MAIN ST.
across from
SHEA'S.

Overview:

Track Alignment Through North Campus

MAP KEY

- Track alignment
- Platforms
- Pedestrian sidewalk/path
- Power substation



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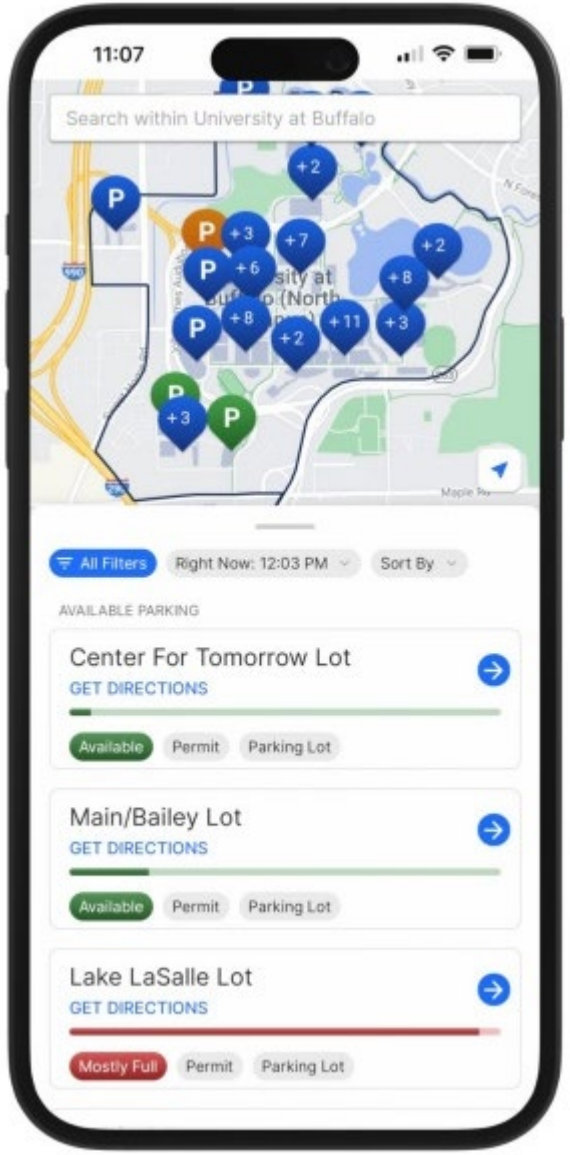
Parking Technology and Occupancy Communications

MODII

Commuting to campus? See predictive parking lot availability on your phone or computer!

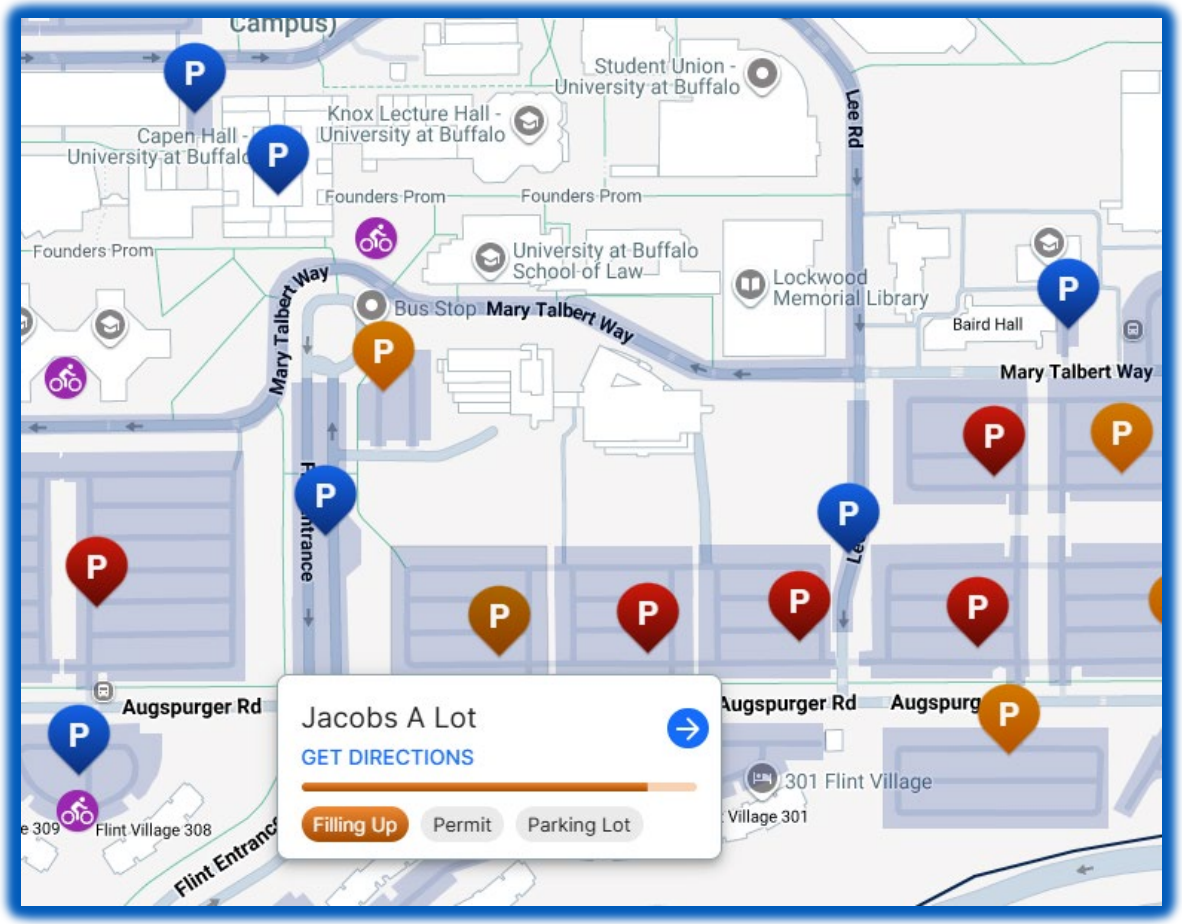
Modii.app/university-at-buffalo



MODII

Inviting guests to campus? Use the “Get Directions” pass through to help guests arrive at the correct parking location for their visit.

Modii.app/university-at-buffalo



GUEST PARKING ENHANCEMENT

P&T seeking out technology to enhance guest parking experience with digital parking permits

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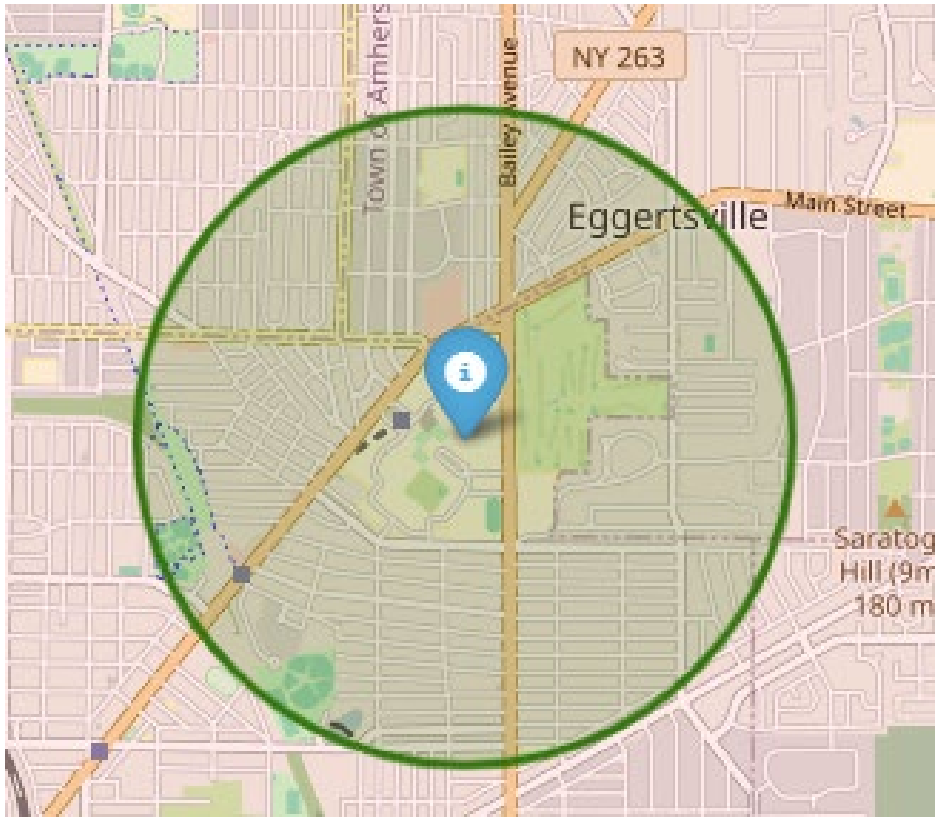
Future of Mobility at UB: Expanded On Demand Offerings

On Demand Transportation: South Campus Safety Shuttle

Purpose & Rationale

- To provide a safe, reliable late-night transportation option for students, faculty, and staff on South Campus and nearby off-campus housing. This service helps reduce the risk of walking alone at night and enhance overall campus safety.
- Pickup Locations:
  South Campus
- Drop-off Range:
- - Up to 1.5 outside South Campus

Service Area



Operating Hours and Service Levels

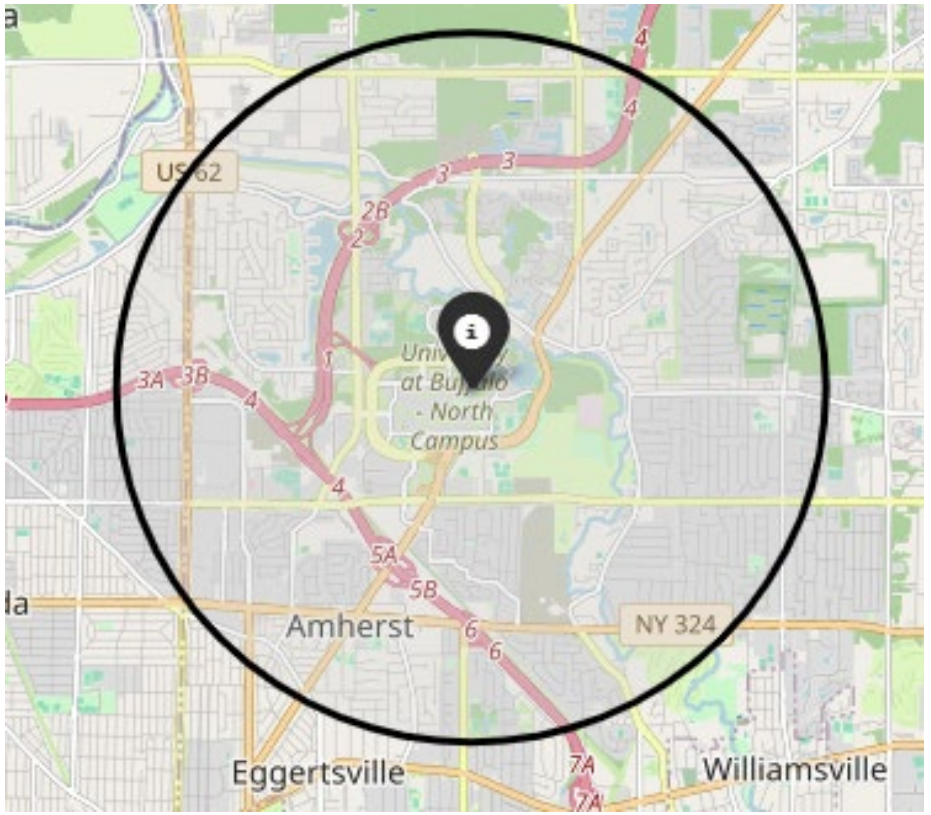
- Operate daily during the fall and spring semesters from 8:00 PM to 2:00 AM

On Demand Transportation: North Campus Safety Shuttle

Purpose & Rationale

- To provide a safe, reliable late-night transportation option for students, faculty, and staff on North Campus and nearby off-campus housing. This service would reduce the risk of walking alone at night and enhance overall campus safety.
- Proposed Pickup Locations:
  - Moody Terrace
  - Flint Loop
- Drop-off Range:
- - Up to 1.5 or 2.5 miles from North Campus
  - On-campus locations not already served by existing shuttles
  - Exclusions (if any): To be determined based on housing policies

Service Area



Operating Hours and Service Levels

- Operate daily during the fall and spring semesters from 8:00 PM to 2:00 AM.
- Operate Monday – Thursday during the fall and spring semesters from 8:00 PM to 2:00 AM.

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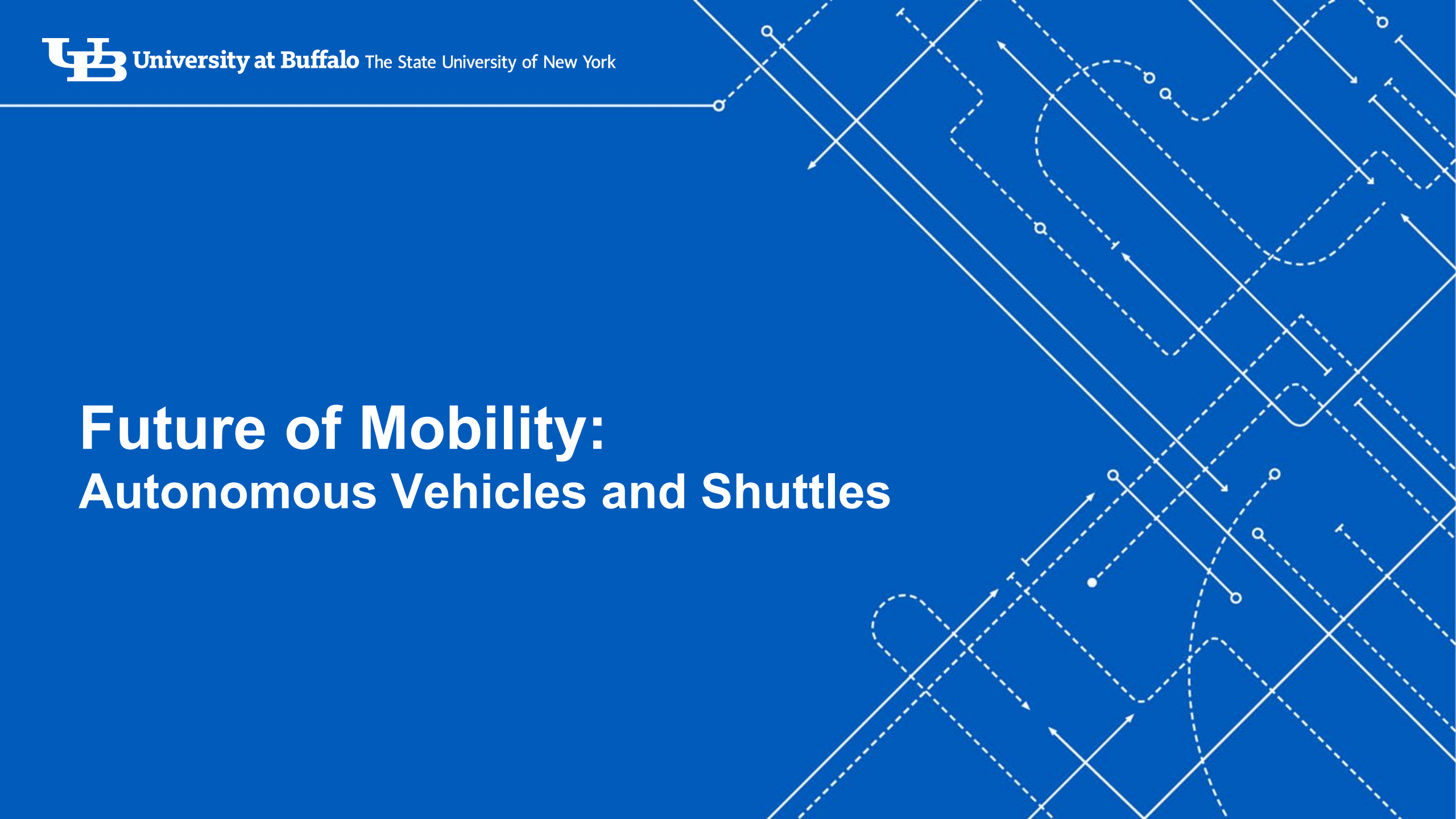
Future of Mobility:
Autonomous Vehicles and Shuttles



ITS4US Project

NFTA Deployment Overview

- Providing transit access to healthcare and jobs to all residents and allowing them to share in the economic development in downtown Buffalo
- Leveraging technology and developing a scalable model for integrating transportation technology, transit, and connected automation to solve a transportation need

Approach – Project Challenges and Solutions

- Traffic safety issues at street crossings and lack of usable infrastructure in street rights of way
- Lack of efficient and reliable circulation paths between facilities on the campus and in surrounding neighborhoods

Measuring Deployment Impact

- Improved ability of the All Access users to make satisfactory complete trips in the study area.
- Improved ability to find destinations efficiently using the All Access wayfinding functionality.
- Improved ability to cross specific intersections safely using All Access smart signal functionality
- Provision of an efficient, reliable, and safe new on-demand community shuttle system..

Project Partners

- City of Buffalo
- Buffalo Niagara Medical Campus
- VIA - Visually Impaired Advancement
- Kaleida Health
- University at Buffalo
- Greater Buffalo Niagara Regional Transportation Council
- Fruit of the City
- Heart of the City Neighborhoods Inc.
- Niagara International Transportation Technology Coalition (NITTEC)
- Buffalo Hearing and Speech Center (BHSC)

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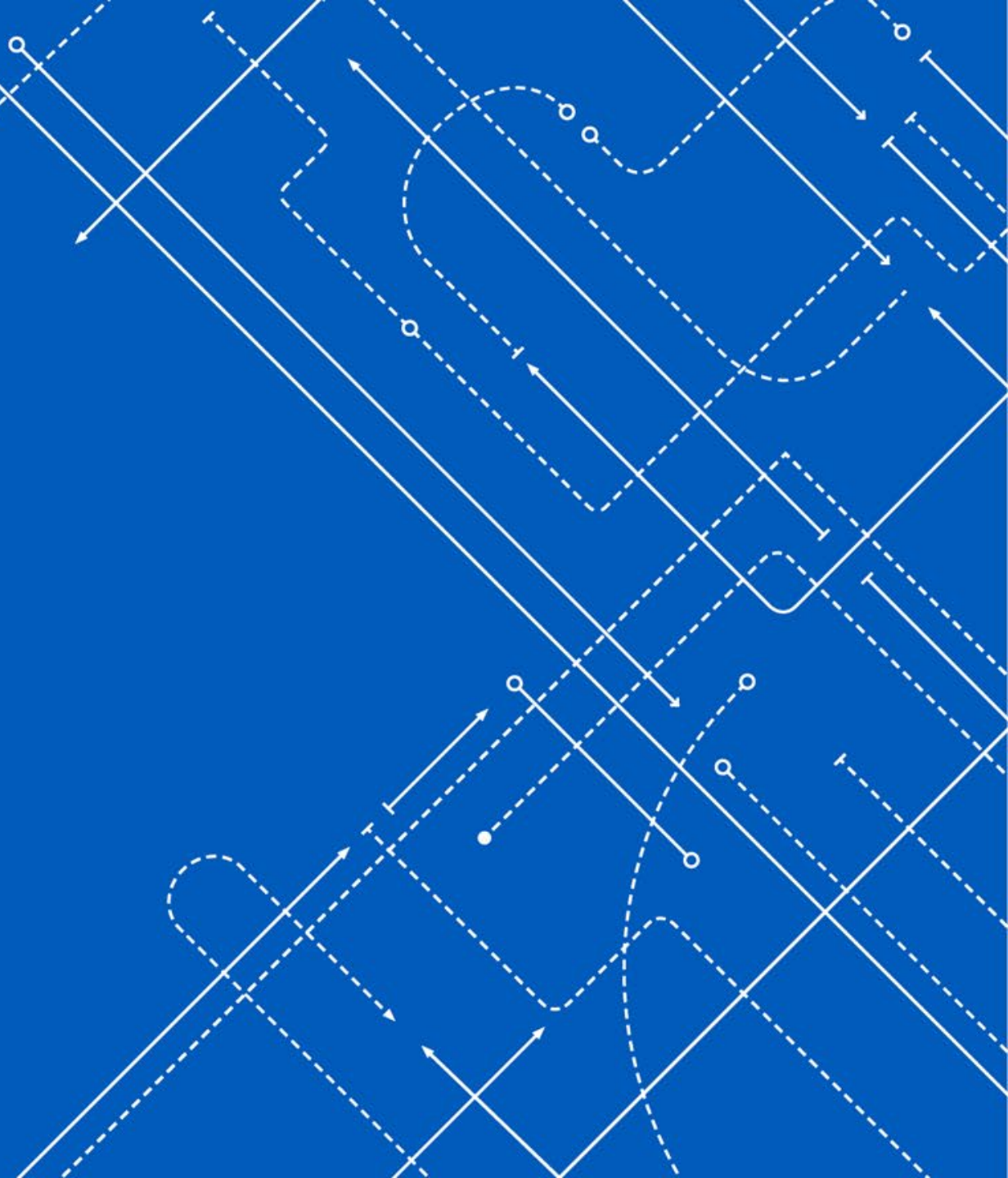
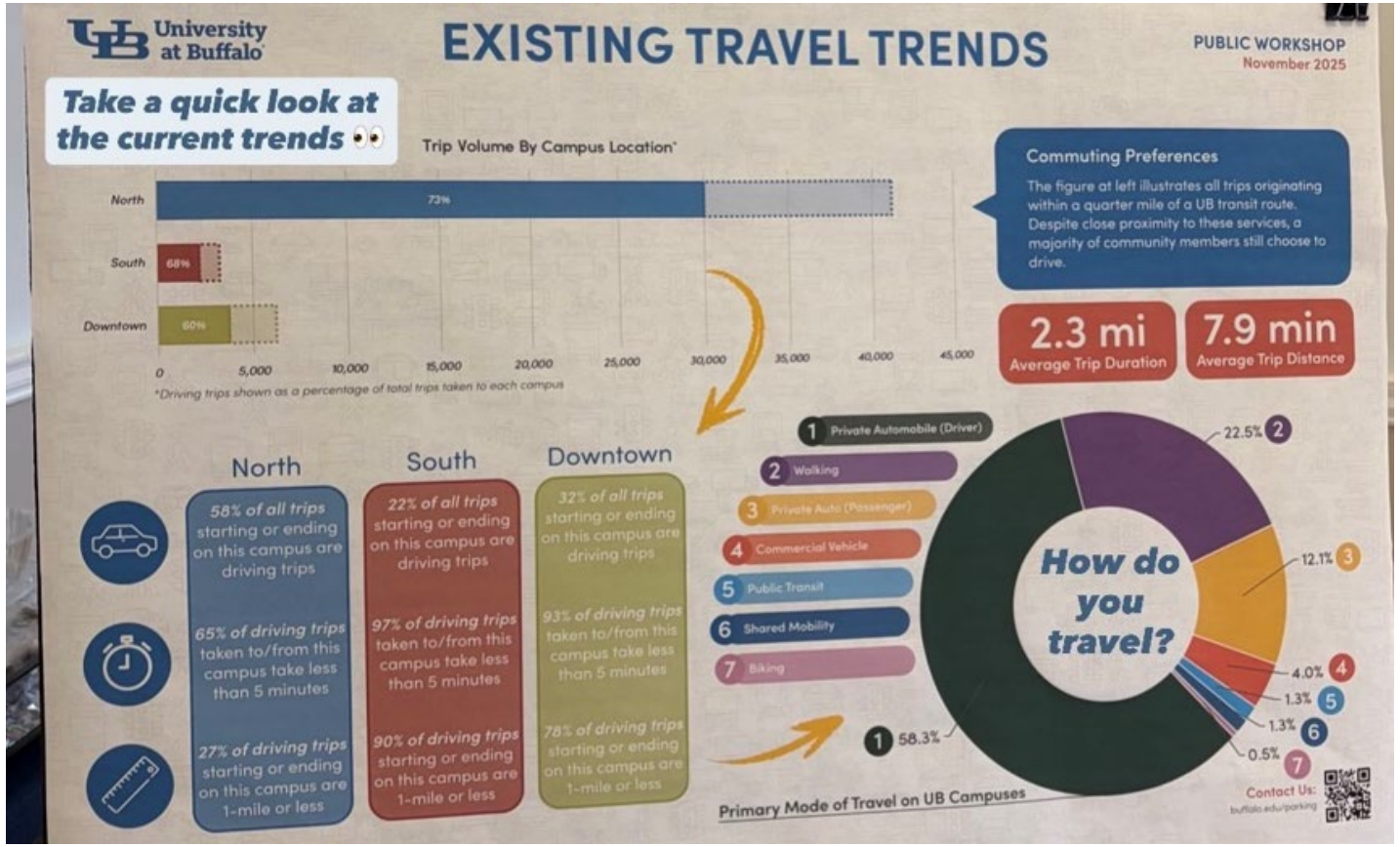
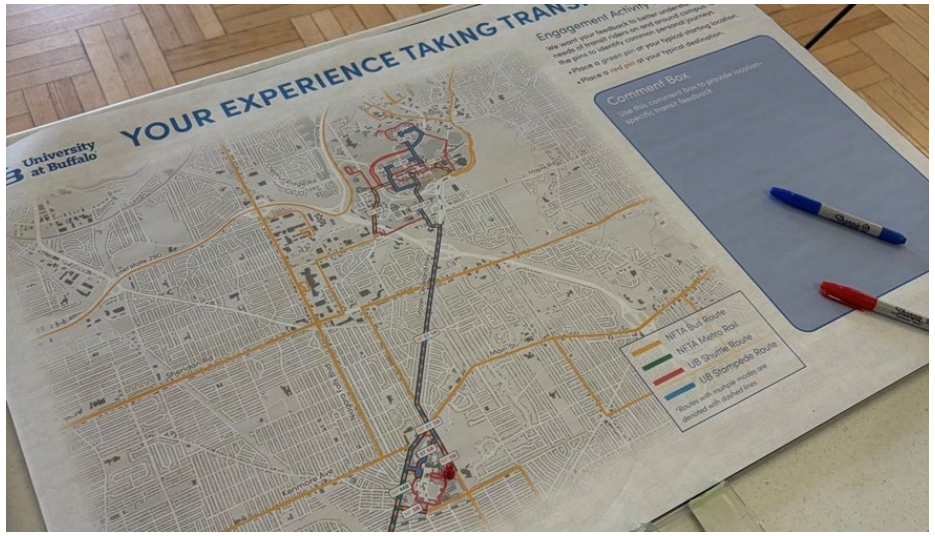
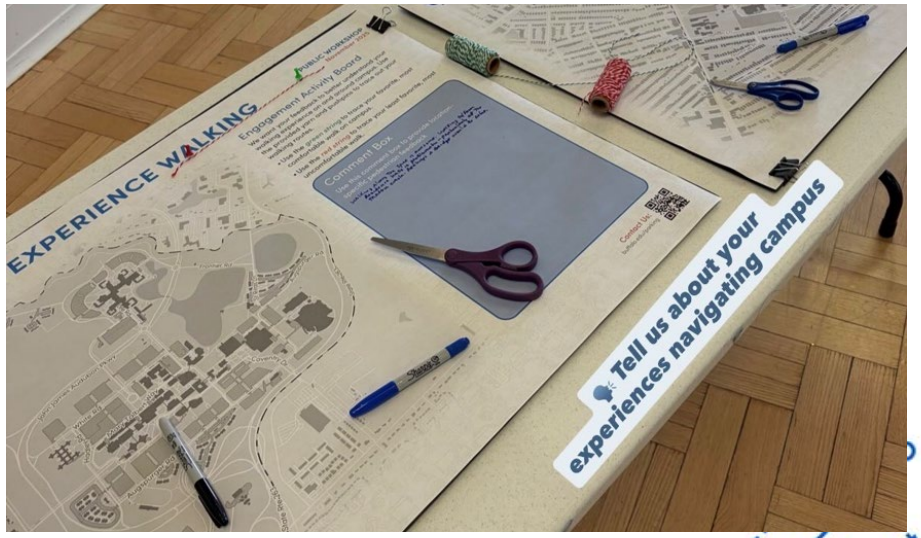
Future of Mobility at UB: Update on UB's First Mobility Master Plan



Mobility Masterplan







Questions/ Comments?

Complete the session survey using your smart device:

Scan the QR code provided on your schedule.

OR

Scan the QR code shown here.

How did we/I do?