

Driving Innovation

• The Pace Strategic Vision Plan

Detailed Plan



DRAFT June 2021



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Driving Innovation,
The Pace Strategic Vision Plan

June 2021

Pace Suburban Bus

Message from the Executive Director



Dear Riders, Citizens, and Public Officials:

It is my pleasure to share with you *Driving Innovation*, Pace's new strategic vision plan. This document represents many exciting new initiatives our agency is planning for the coming years. It also lays out the goals, aspirations, challenges, and opportunities that this planning work will address.

The pandemic this past year has moved our agency to take unprecedented steps to protect passengers and keep service running. I am so very grateful for the support we've received from our riders and regional partners. I also cannot thank our staff enough. Pace bus operators, maintenance personnel, dispatchers, servicers, and administrative employees have risen to the occasion to ensure continuity of critical public transit services.

Pace's family of services not only allow essential workers to get to their jobs, but also provide some riders their only option for getting to grocery stores, medical appointments, family visits, and other important places. I am confident that new passengers will join returning riders onboard public transit in the coming months as vaccination expands and we all reacclimate to life after COVID-19.

Despite this pandemic, Pace's future is bright as we make progress on a historic number of new capital projects funded through the Rebuild Illinois state capital program. From this new foundation of expanded facilities, Pace will significantly improve its ability to provide transit service and ultimately poise our agency to better serve the mobility needs of Northeastern Illinois communities.

This is just the beginning of the conversation, and I encourage you to share your own thoughts, ideas, questions, and comments about *Driving Innovation*. Pace will continuously update this plan as we hear from our riders and partners and as new developments take shape in the region.

Thank you and stay safe!

Rocco L. Donahue
Executive Director, Pace Suburban Bus



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I. Introduction



2020: A Turbulent Year Bolsters Case for Innovation

Driving Innovation was originally expected to be published in June of 2020, with an initial technical review by partner agencies in March. At that time, the US economy was vibrant and many looked forward to the prospects of a new decade. In the first draft of the plan, Pace identified ways to address recent disruptions in the transportation industry. These included the rise of Transportation Network Companies (TNCs) such as Uber, Lyft and Via, and other emerging technologies that are changing how people travel. Most of these ideas are still relevant and featured in this version of the plan.

Then came the pandemic. The global spread of COVID-19 quickly upended life as we know it. Masks, hand sanitizer, lock-downs, social distancing, school closures, contactless deliveries, virtual meetings... These are among the many unexpected yet now all-too-familiar hallmarks of life for most of 2020 and beyond. The economy steeply declined, unemployment skyrocketed, and public transit witnessed historic losses of ridership.

On May 25, George Floyd was murdered in Minneapolis, Minnesota while being placed under arrest. His death, along with countless others leading up to it, sparked waves of protests across our nation. This movement has broadened in its focus to addressing systemic racism, and promoting social justice and Black innovation.

In August, devastating wildfires swept California, Oregon, and portions of seven other western states, incinerating nearly one of every 20 acres of land, forcing evacuations, destroying tens of thousands of homes, and killing dozens of Americans. These fires have shattered records and renewed attention to the need for urgent action on the climate change.

Each of these issues both directly and indirectly affect Pace and the public transit industry at large. Thus, this plan has been updated to begin addressing these and many other related issues in the years ahead. Innovative ideas, practices, and thinking are now more important than ever for Pace to retool its approach to providing public transit.

Though 2020 has had no shortage of crises, the year shined a light on Pace's obligation to consider essential workers and critical needs, equity, and climate stewardship in all of its work.

Pace's Response to COVID-19

The COVID-19 pandemic has dramatically affected public transit, a critical service that helps essential workers get to their jobs, grants residents access medical care and necessities, and keeps society running. In spite of COVID-19, Pace is moving ahead with the many important projects and initiatives outlined by *Driving Innovation* that are integral to the region's resiliency and economic recovery in the coming years.

For the duration of the pandemic, Pace's response to COVID-19 is focused on Safety, Service, and Transparency – the three principles established at the onset of the pandemic to guide all decision making. Pace moved quickly during the early spring of 2020 to step up already rigorous cleaning practices to ensure vehicle surfaces are continually disinfected. Additionally, operators are shielded from boarding passengers through transparent barriers, employees complete daily health screenings, and information on positive COVID-19 cases are published on Pace's website.

Pace has maintained as much service as demand and resources allow, implemented numerous safety measures, and provided personnel with personal protective equipment (PPE). We added extra vehicles to routes to support social distancing, provided frequent, timely and transparent passenger information, and continued work on capital improvement projects to ensure that Pace is ready for our region's recovery and future.

Counter to early media reports that public transit was a major contributor to spreading COVID-19, research findings in 2020 suggest it has been a low-risk environment during this pandemic for most passengers. This is mainly due to natural ventilation, mask-wearing, staggered seating arrangements, and the lack of face-to-face conversations for long periods. Rather than being infected aboard vehicles, transit riders have been more likely to contract the virus at their point of destination, primarily employment sites.¹

Agency staff and leadership are humbled by and deeply appreciative of the influx of notes of customer gratitude for the exemplary service they have received from bus operators. These have continued to flow in since the onset of the pandemic and underscore Pace's commitment to our customers from every facet of our agency.

For the duration of the pandemic, Pace's response to COVID-19 is focused on Safety, Service, and Transparency.

1 APTA (2020). "Public Transit and COVID-19 Pandemic: Global Research and Best Practices." www.apta.com/research-technical-resources/research-reports/public-transit-and-covid-19-pandemic-global-research-and-best-practices/.

A Special Thank You to Frontline and Essential Workers

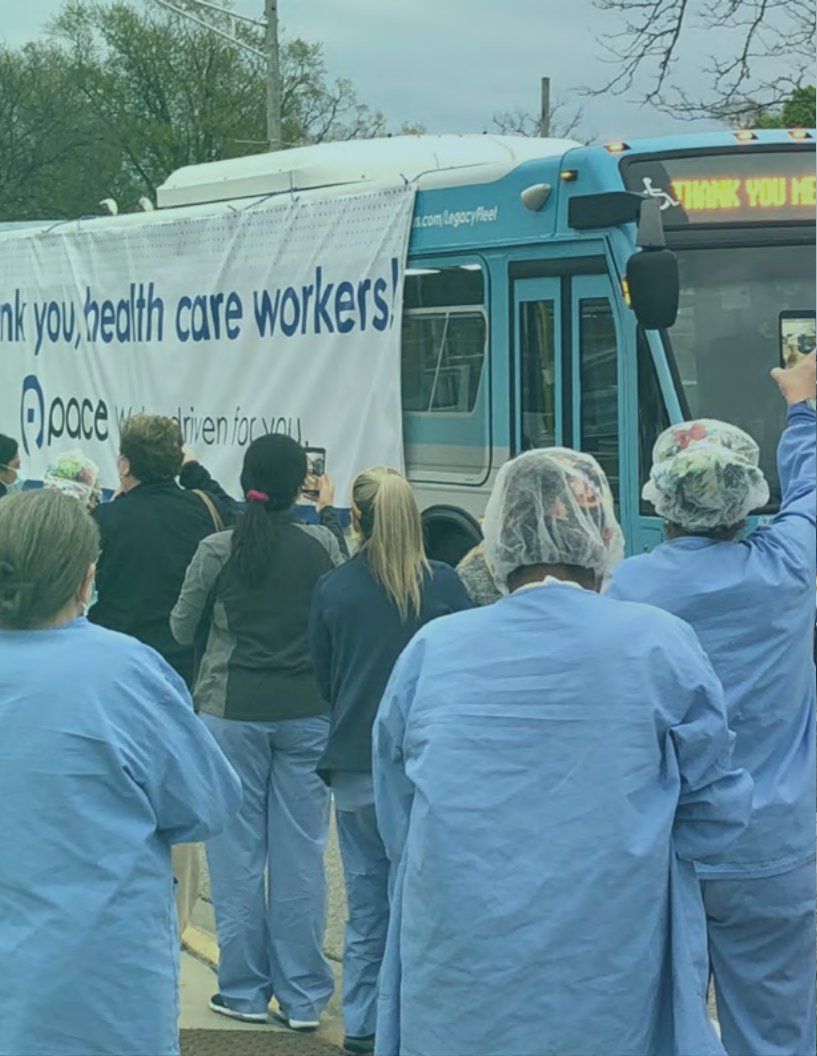
Pace is an agency that truly relies on heroes. This not only includes its bus operators and maintenance staff who continue keeping Pace's family of services running, but also the many essential workers that Pace, in partnership with its sister agencies CTA and Metra, transport to their places of work every day.

We thank our grocery store employees, delivery workers, warehousing staff, and others who keep America's necessities flowing into businesses and households. We thank our medical professionals and first responders - nurses, doctors, medics, firefighters, police officers, and others who regularly come into close contact with the public. We thank teachers, principals, janitors, counselors, parents, and all other educators for all that they do to keep our children learning and safe. We thank all of those who expose themselves to COVID-19 so that others may get the care and support they need to keep our region and nation running.

Lastly, Pace thanks administrators, policy makers, elected officials, scientists, industry leaders, military personnel, and other healthcare professionals working to inoculate humanity against COVID-19. Recovering from this pandemic has been a monumental challenge, but we also know that we will get through it together thanks to the hard work, dedication and perseverance of these and many other individuals.

Thank you for all that you do!





COVID-19 Impacts for Further Investigation

Throughout most of 2020, *Driving Innovation* was modified from its original form to better plan for how COVID-19 and other major developments may affect the plan's proposed initiatives.

A summary list of these issues is provided below. These issues are also called out with additional detail throughout the remainder of the three initiatives sections in Chapter IV of this plan:

What is the effect of remote working options on land use and new developments, and how will that impact Pace service?

- What proportion of downtown and office park workers will return?
- Will ridership on Metra feeders and other shuttle services rebound?
- What will become of suburban shopping centers and other retail uses?
- Will schools and universities continue offering remote learning instruction?

How safe will Pace customers feel about being on board transit vehicles?

- Will Vanpool passengers and RideShare participation rebound?
- Will passengers board buses if social distancing is not possible?

What funding will be available and how will budget constraints affect service?

- Will additional funding from Federal and State government become available?
- Will sustained ridership losses necessitate additional service reductions?
- How will cross-agency and public-private partnerships change to keep public transit running?
- How will currently planned capital projects fit with the project recovery?
- How will transit support the American economic recovery in general?

Where present, these sections are contained in red call-out boxes and



Pace's Commitment to Equity and Social Justice

Pace is dedicated to providing safe, convenient, affordable, attractive, accessible and reliable transit service for all of its passengers. Regional equity has always been a goal for how Pace distributes service and passenger amenities, and which is further enshrined in Chapter III of *Driving Innovation*.

However, we must pause to give increased attention and scrutiny to how well Pace serves the needs of black, indigenous and people of color, who not only represent the vast majority of Pace's customers, but are critical to the social, economic, cultural and political fabric that has bound Northeastern Illinois together since its very beginnings.

Pace's vision includes a future in which cities, public agencies, businesses and institutions invest heavily into traditionally marginalized communities to ensure equal access to opportunity for all. This includes more funding for public transit, specifically targeted towards communities of greatest need.

Below are a few examples of how Pace is addressing social justice issues, which we will continue to expand upon in the coming years:

- **TITLE VI POLICY** | According to the Federal Transit Administration (FTA): "Title VI of the Civil Rights Act of 1964 protects people from discrimination based on race, color, and national origin in programs and activities receiving federal financial assistance."² Pace's coordinating Title VI policy is posted on the agency's website. As part of this framework, we document all instances when proposed service changes may have a disproportionate impact on protected communities, as well as how such impacts may be offset or even improved upon by service changes.
- **PROJECTS BENEFITING MARGINALIZED COMMUNITIES** | Pace is working with our regional partners to expand high-quality transit to communities with critical needs. Fair Transit South Cook, a three-year pilot project sponsored by Cook County, aims to reduce costs and make transit more convenient for residents and essential workers in south Cook and north Will counties. Pace Route 352 is benefitting from more frequent service as a result of this partnership, which constitutes a large portion of the South Halsted Bus Corridor project, discussed later on in this plan.
- **PACE OFFICE OF DIVERSITY & INCLUSION** | Initially launched in 2019, this department supports Pace's diverse and inclusive work environment. Staff coordinate opportunities to enhance employee understanding and acceptance of diverse backgrounds, and seek new ways to support employee professional development.

² [www.transit.dot.gov/
title6](http://www.transit.dot.gov/title6)

S O U L C I T Y C H U R C H



One of many murals produced across Chicagoland over the summer of 2020. Depicted here is “Be the Bridge” by artist Jenny Vyas, in partnership with with Soul City Church in Chicago’s West Loop neighborhood. (Chicago Sun Times, “Black Lives Matter movement street art, murals see a surge in Chicago post-George Floyd” August 7, 2020).

A Tribute to Those We’ve Lost

Pace has been saddened and outraged at continued reports of innocent Black Americans being murdered since the release of Vision 2020 in 2002.

In the summer of 2020, predominantly peaceful protest marches and demonstrations occurred in most American cities, including Chicago and its suburban cities and villages. These events shared a common theme that people of all skin colors, beliefs and backgrounds seek to address racism in American society.

Importantly, these protests and the subsequent national discourse has highlighted that such violence and loss are a byproduct of a problem that is more vast in its reach and persistent in its duration throughout history. And yet, both the protests and the calls for action from businesses, private citizens and elected leaders alike offer hope for renewed action to address the underlying causes of racism and associated violence.

Pace will do our part to address this national crisis by prioritizing the needs of all minorities who ride our system, in addition to the agency's own employees. This is being accomplished in several ways through both existing and new policies and programs at Pace, which are further described in this section. Pace is also committed to exploring new ways to expand mobility choices and high-quality service to the people of our region who have the greatest need for better public transit options.

In the meantime, we memorialize the lives of those whom have elevated this ongoing tragedy, and stand in solidarity with the families who have lost loved ones and all those advancing the cause of social justice.

The City of Chicago Equitable Transit-Oriented Development (ETOD) Policy Plan

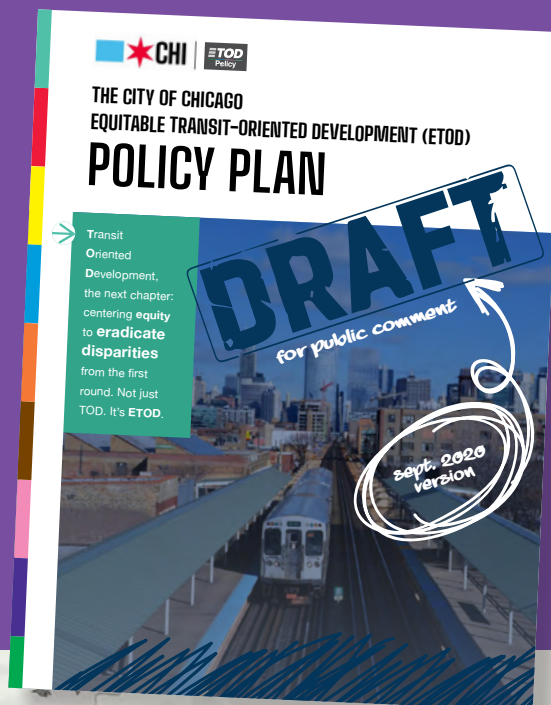
Movements towards social justice have been ongoing since well before the summer protests of 2020. Similarly, many recently-released public policy works have been in progress since before the pandemic.

The City of Chicago has been a regional leader with efforts such as the Equitable Transit-Oriented Development (ETOD) policy plan and INVEST South/West initiatives. These efforts seek to underscore the need for investment in predominantly Black and brown communities, in particular near transit stations. eTOD also seeks to encourage investment in areas that have not seen the economic development benefits of TOD as well as protecting affordability of areas that have seen rapid growth.

With Pace providing fixed-route service to these target areas of Chicago, in addition to the city-wide Chicago ADA Paratransit service, the agency will continue working the City to find new and innovative ways to support disinvested communities with improvements to public transit stations, stops, and services.

Pace is proud to serve along with the other service boards and stakeholders in supporting this important work.





Urgent Action on Climate Change

While environmental activism has been around for centuries, there has been a crescendo of voices and rising alarm in recent decades at the devastating consequences of human-induced global warming through carbon emissions. The very way of life for most citizens of the industrialized world poses a threat to further degradation of the environment, rising temperatures, and with it an array of destructive forces to life on Earth.

By its very nature as a public transit agency, Pace helps to address the climate crisis by offering alternatives for people who drive alone to get to work, school, medical appointments, entertainment, and many other destinations. And yet, most of Pace's vehicle fleet -- powered by diesel -- relies on the same fossil fuels that are being burned by cars and trucks, thus contributing to the release of carbon and other pollutants into the Earth.

Over the past decade, Pace has invested heavily in compressed natural gas (CNG), an alternative which is cleaner-burning than other fossil fuels. The agency's entire South Division operates CNG-powered vehicles serving Chicago's southside and south suburban communities, and its new Northwest Division garage in Wheeling will exclusively operate using CNG. Additionally, Pace operates a low-emissions fleet out of its North Division garage, for which the agency was awarded Waukegan Township's Drum Major award in 2021.

Critically, Pace is ramping up its research efforts into battery electric bus (BEB) technology. These zero emissions vehicles may ultimately be powered from renewable sources like wind, solar, geothermal, and other clean energy solutions. Electric vehicles are rapidly growing in popularity in the United States and worldwide with a number of major corporations and governments pledging full-scale transition over the coming decades. Other new and innovative vehicle technologies also beckon, and the potential for clean and renewable operations is becoming increasingly tangible.

Beyond its fleet, Pace must also upgrade its facilities to be more energy efficient and reduce impacts to the environment. Pending further study, Pace will consider establishing commitments for fleet and facility standards.

Collectively, these efforts represent a foundation for Pace to further build upon in reducing both its emissions and dependence on fossil fuels, and overall contributing towards a cleaner and sustainable future.





II. Planning Context & Process



From *Vision 2020* to *Driving Innovation*

In 2002, Pace produced a strategic plan titled *Vision 2020: Blueprint for the Future*. At that time and continuing today, the plan's initiatives were broad, ambitious and far-reaching for the Northeastern Illinois region.

Vision 2020's goal was to serve the needs of Illinois residents and visitors and create a system that can provide public transportation options throughout the region. To accomplish this goal, the plan explicitly called out serving the first and last mile of trips, strengthening core corridors, improving passenger facilities, and increasing travel speed between suburban communities.

The plan also recognized the challenges of serving suburban contexts, sought to create value in transit access, and focused infrastructure priorities on the needs of people walking and bicycling.

Driving Innovation is founded on these *Vision 2020* tenets, which will continue to guide Pace in taking the next steps towards improved suburban mobility.



Pace Executive Director Rocky Donahue (left) and former Executive Director T.J. Ross (right) viewing the I-90 Jane Addams Memorial Tollway from the Barrington Road Station pedestrian bridge.

Agency Progress since *Vision 2020*

Pace has made significant strides in updating both how the organization functions and how it serves customers. On the organization side, Pace transitioned from a patchwork of several disparate suburban transit operations when the agency was formed in 1984 to a fully-integrated agency with streamlined management of operations, communications, planning and administrative functions. Most of the calls to action from *Vision 2020* have been achieved or at least addressed over the past 20 years.

Examples include operations staff upholding industry best practices for vehicle and facilities maintenance, establishing a stellar safety record and providing exemplary bus operator training. Internal Information Technology functions have vastly improved in recent years to keep up with advances in the industry, while other administrative functions such as Audit, Budget, Capital Infrastructure, Ethics, Finance, Human Resources, Legal, Operations, Planning and Procurement continue keeping the agency's house in good order. Pace also maintains excellent communications with elected officials, business and other stakeholders through its Communications, Government Affairs and External Relations departments which helps facilitate the many intertwined relationships that help Pace provide service to customers.



Pace and its partners of the Village of Plainfield and firms involved with building the Pace Plainfield Park-n-Ride project were awarded a 2019 Project of the Year by the American Public Works Association, as well as a 2020 Engineering Excellence Award by the American Council of Engineering Companies.

Short-list of Achievements Outlined in Pace's 2002 *Vision 2020 Plan*

- Equipped all fixed route buses with automatic passenger counter technology, audio announcements of stops, free Wi-Fi, and other intelligent bus system (IBS) technology features
- Improved regional transit system access through Ventra® payment integration
- Absorbed and streamlined City of Chicago ADA services
- Launched eleven reservation-based On Demand service zones providing enhanced community-based service
- Launched successful expressway-based service along I-55, I-90 and I-94 corridors
- Launched arterial bus rapid transit service with the Pulse Milwaukee Line
- Launched fixed-route service in new markets
- Improved systemwide speed and reliability with Transit Signal Priority (TSP), schedule optimizations, and sub-regional service restructuring initiatives
- Improved internal information technology (IT) functions
- Procured a modern fleet of attractive, comfortable and recognizable vehicles

VISION 2020

Moving into the future.



TRANSIT TECHNOLOGIES

Since 2002, Pace has implemented a modern fleet of recognizable blue buses equipped with audio announcements of stops and free Wi-Fi. Pace's intelligent bus system (IBS) technology features include GPS-equipped automatic vehicle location (AVL), infrared automatic passenger counters (APC) and other vehicle systems monitoring.

These features have allowed for vastly improved tracking of boardings/alightings, on-time performance, lift usage, and other key data points. Customers can track Pace vehicles on their mobile device or via computer by harnessing General Transit Feed Specification (GTFS) feed on both Pace-administered systems, such as Pace Bus Tracker, and third-party applications.

Service information is posted at PaceBus.com and notifications, passenger alerts and other information is distributed through various electronic means including social media and digital subscriber lists. Pace also makes wide use of a vastly expanded data reporting and analytics and has robust partnerships with the Regional Transportation Authority (RTA), Chicago Transit Authority (CTA) and Metra to share and disseminate data. Electronic fare payment methods through Ventra have also unlocked a dramatic new ability for passengers to leverage the regional transit system of buses and trains.

Significantly, the agency successfully integrated all City of Chicago ADA Paratransit services in addition to streamlining its suburban ADA Paratransit services. Pace now provides all ADA Paratransit service in the RTA system for individuals with a disability that may prevent them from using ADA-accessible Pace and CTA buses, and fulfilling the federal requirement for such services.

Pace has also gotten cleaner with age; as mentioned in the previous chapter, an ever-increasing percentage of the agency's fixed route buses now run on compressed natural gas (CNG). Pace is poised to continue its commitment to helping getting more cars off the road and thus improving air quality by providing fast, frequent and convenient transit services.

Vision 2020 called for new types of service that were innovative for 2002 and continue to lead transit agencies forward to this day.

SERVICE TYPOLOGIES

Vision 2020 called for new types of service that were innovative for 2002 and continue to lead transit agencies forward to this day. These types of service primarily included community-based services and a regional network of express bus and arterial rapid transit (ART) services.

Today, Pace operates eleven reservation-based, shared-ride services called Pace On Demand which help achieve the goal of providing more community-based services. Users of Pace Vanpool can connect with other commuters via Pace RideShare. Pace also operates popular bus-on-shoulder expressway-based services along I-55, I-90 and I-94 with plans to expand these types of services, thanks in large part to its partnerships with Illinois Department of Transportation (IDOT) and the Illinois Tollway Authority.

Most recently, Pace launched the first of its planned ART lines, the Pulse Milwaukee Line, with plans to implement Pulse lines on several more key corridors in the region. Both Pulse and regular fixed-route buses are now starting to see the benefits of Transit Signal Priority (TSP) technology thanks to the joint-partnership of Pace and the RTA, CTA, Chicago Department of Transportation (CDOT) and IDOT.

Lastly, the agency has rolled out various sub-regional service restructurings and introduced many new fixed-route services to tap into new markets, improve speed and efficiency, and meet the changing needs of the region.



Pace's "family of services" includes regular fixed route, Express, Pulse, Special Event, On Demand, Paratransit, and Vanpool.

A CULTURE OF RESPONSIVENESS

The ability to implement major changes is achieved primarily through Pace's ability to remain an efficient and nimble organization. This is critical given the agency's service area — a vast territory the size of the state of Connecticut spanning the six counties and 272 municipalities that comprise the Chicago metropolitan area of Northeastern Illinois. Regional partnerships and the support of Pace's Board of Directors has also been crucial to continually improving service.

Change itself is nonetheless challenging, and Pace continues to face a future in which the agency will need to evolve not only to remain relevant but to also lead the direction of the region's transit system. There are still many opportunities for both the community-based and regional Pace services to address current and future travel needs.

Fortunately, Pace has the support of the State of Illinois through the Rebuild Illinois state capital program, which will invest more than \$300 million into Pace's projects in the next few years. These projects, in combination with the initiatives laid out in this plan will assist Pace in transitioning from *Vision 2020* to *Driving Innovation*.



Pulse Dempster Line public meeting.

The Necessity for a New Plan

Transit planning efforts are never static. Plans must be constantly refreshed, challenged, and re-imagined as communities, land uses, and mobility technologies evolve. Since Pace adopted *Vision 2020*, transit agencies across the US have seen overall declines in transit ridership, with especially precipitous drops after COVID-19. Pace has not been immune to this trend, with system ridership having fallen despite intermittent upticks and local success stories well before the pandemic started taking its toll.

A complex set of factors contribute to ridership trends, many of them beyond Pace's control. For example, some areas of Northeastern Illinois have seen significant population and employment growth that has mirrored national development patterns in commercial, institutional, and residential sprawl, while others have seen dramatic declines in population and activity.

The region is responding to these trends and improving its support for transit usage. Local governments have begun prioritizing infill development while auto-oriented greenfield developments have waned in popularity. There are also successful examples of transit-oriented development (TOD) adjacent to high-capacity transit stations and corridors. These and other developments are making public transit and complementary multi-modal methods of traveling more attractive and competitive with the personal automobile.



Pace transports thousands of Paratransit customers every day across Northeastern Illinois.

Vision Update Study

The *Driving Innovation* plan was informed by the 2018-2019 Vision Update Study and subsequent work involving Pace staff and leadership. The study was conducted by Sam Schwartz Consulting, in collaboration with Blue Daring, Muse Community + Design, and STV Inc. The study portion of the plan's development was facilitated by the following three key sequences.

- **Advancing a Vision.** Goals and objectives were identified and vetted through a robust engagement effort among internal Pace stakeholders to reveal agency aspirations, capabilities, and desired future direction. This helped set an overall vision, calibrate proposed initiatives, and develop implementation strategies. See Chapter III for a complete summary of the *Driving Innovation* goals and objectives.
- **Analyses and Assessments.** Several data-intensive efforts were conducted to understand ridership and land use trends, identify current service gaps and confirm how resources are allocated. Additionally, the project team conducted a broad research effort to grasp the main trends shaping the public transit industry nationally. Five peer agencies from Pace's benchmarking group were interviewed to identify key technology initiatives that have led to successful outcomes, and a review of numerous other trends happening nationally was conducted.
- **Proposed Initiatives.** The final sequence synthesized previous work to support a set of potential future transit initiatives. The goal of this sequence was to propose future-oriented initiatives and develop a structure with which Pace can evaluate and prioritize innovative transit services. Understanding that some initiatives are a high priority for Pace while others require significant additional investigation, varying levels of commitment have been established for each initiative. See Chapter IV for a complete review of the plan's initiatives.

**Sam
Schwartz**



MUSE
COMMUNITY + DESIGN



Pace Staff and Leadership Participation

The Driving Innovation planning process has involved a high degree of open discussion and collaboration between Pace staff and leadership. Pace's staff shaped this plan through focused and continuous agency-wide participation.

A key engagement structure was an internal steering committee, comprised of ten staff members from various departments who provided a representative cross-section of the agency. Each also represented five larger working groups that assessed, discussed and advocated cross-departmental interests, ideas, problems, and solutions. Throughout the year-long engagement, staff participation allowed the project team to test ideas, gain input on proposed initiatives, and calibrate the results of technical analyses into practical realities.

Pace's Board of Directors also directly participated in the development of the plan, with a Committee on Planning established specifically to understand, track, and guide this plan's trajectory and the many initiatives that it encompasses.



Driving Innovation internal planning process meetings.



The Southbound Touhy Station served by the Pulse Milwaukee Line, adjacent to the Niles Veteran Memorial Waterfall plaza in Niles, Illinois.

External Partnerships

Also key to Pace's success is the commitment of its local government sponsors and regional agency and civic advocacy partners. Representing all six counties of Northeastern Illinois including Cook, DuPage, Kane, Lake, McHenry and Will, Pace's Board of Directors and the communities they represent have also been steadfast in representing the public interest to support innovative and effective transit services.

Driving Innovation will use this successful foundation to generate consensus around strategic transit improvements to address the challenges that region faces. Following are some highlights of how external partners have supported Pace:

- IDOT has supported Pace with grant funding for studies and implementation support for rapid transit services, including bus-on-shoulder operations. The agency has led coordination efforts to implement bus stop improvements in conjunction with roadway and intersection projects. IDOT and regional municipalities have also increasingly embraced protective pedestrian infrastructure and bicycle paths that make it easier to access Pace's transit services.
- Illinois Tollway has supported Pace by constructing Flex Lanes on I-90 and soon along I-294 for the benefit of providing express bus service. The agency also supports Pace express bus operations through SmartRoad technology and sharing right-of-way for joint-use facilities.
- RTA, CTA and Metra regularly coordinate service, facility and administrative issues with Pace, including strategic planning efforts. The service boards and RTA are also unified in pursuing more investment in public transit through the RTA's leadership.
- CDOT has been upgrading Chicago streets with bus priority infrastructure, leading the way for more of these types of improvements in both the City and suburbs. Both CTA and Pace buses will benefit from these and other innovative approaches CDOT is taking to address transportation issues.
- Civic organizations like the Active Transportation Alliance (ATA), Metropolitan Planning Council (MPC), Shared-Use Mobility Center (SUMC), Access Living, and others provide advocacy, community support and technical capacity for championing transportation solutions at the human scale and are vital to supporting public transit.



COORDINATION WITH RTA and *Invest in Transit*

Pace works closely with the Regional Transportation Authority (RTA) to harness planning resources and expertise to advance the expansion of transit investments throughout the service area. This includes partnerships through RTA-led initiatives such as the Community Planning and Access to Transit programs, and importantly, *Invest in Transit*, the RTA 2018-2023 Regional Transit Strategic Plan. This plan reflects projects, goals and initiatives of all three service boards and facilitates a broad array of coordinated strategic planning initiatives with *Driving Innovation*.

COORDINATION WITH CMAP and *ON TO 2050*

As the region's designated metropolitan planning organization (MPO), the Chicago Metropolitan Agency for Planning (CMAP) funds and coordinates critical transportation projects and planning work across Northeastern Illinois. The agency's comprehensive plan for the region, *ON TO 2050*, lays out a future which is highly supportive of public transit both through transit-supportive land use policies and initiatives, and through grant funding programs such as the Local Technical Assistance (LTA), Transportation Improvement Program (TIP), and many others of which are valuable resources for the work Pace does.

COORDINATION WITH STATE, COUNTY, AND OTHER REGIONAL PLANS

Driving Innovation will support and coordinate with the planning efforts of its local government partners, such as the long range transportation plans of IDOT and Cook, DuPage, Kane, Lake, McHenry and Will Counties, and many other regional plans and initiatives from other sponsors.



Symbols, Icons and Logos Used in this Document

Agency logos and other icons and symbols are displayed in the left and right page margins throughout this plan document. These have been placed in order to help identify partnership opportunities and acknowledge Pace's external supporters and collaborators.

The graphic below displays public agency logos and the respective organizations each represents. These are the most referenced in the *Driving Innovation* plan document:



Chicago
Metropolitan
Agency for Planning
(CMAP)



Illinois Department
of Transportation

Illinois Department
of Transportation
(IDOT)



Chicago Transit
Authority (CTA)



Illinois State
Toll Highway
Authority (ISTHA)



Metra



Regional
Transportation
Authority (RTA)

Pace will continue strengthening these and many other partnerships and actively cultivate new programs and relationships to expand public transit opportunities in the region.



III. Goals & Objectives



Organization of Goals & Objectives

To support the development of the *Driving Innovation* plan's strategic initiatives, goals and objectives were established collaboratively with Pace's internal stakeholders. Goals are organized into two categories: Service, which focuses on what Pace does; and, Organization, which focuses on how Pace administers its business practices.

Objectives are listed for each goal, which provide specific ways in what goals may be achieved.

These goals and objectives reflect not only Pace's future, but also it's past, as the agency and its staff have been upholding these ideals since Pace's inception.

Service Goals and Objectives

ACCESSIBILITY

Definition: *Maximize transit access for residents and employers.*

Accessibility for Pace includes both how close and convenient a transit stop or station is to passengers' points of origin and destination, as well as how accessibly vehicles and passenger facilities are for people with disabilities, otherwise referred to as Americans with Disabilities Act (ADA) accessibility.

In continually working to achieve this goal, Pace has been modernizing its system of bus stops and stations since *Vision 2020*, which has been accelerated by the agency's Posted Stops Program.

This process has involved detailed data analysis and fieldwork of geographic locations Pace has recorded passengers boarding and alighting buses. Previously, all Pace buses operated under a flag-stop policy, where passengers waiting along the road could wave at a bus to stop and pick them up. Now, most Pace bus routes, including all of its busiest, operate with a posted-stop only policy. This means passengers may only board or alight the bus at bus stop locations posted with bus stop signage and cataloged as part of the list of stops for a particular bus route.

Other ways in which Pace may continue to pursue the goal of Accessibility may include:

- Identify minimum density thresholds for destinations, population, and employment to support access to specific types of transit.
- Continue to develop innovative services for first/last mile.
- Continue updating stops and passenger facilities to comply with Americans with Disabilities Act (ADA) standards
- Refine internal strategies for providing coverage and addressing low-demand areas.
- Support customer technology solutions that use common communication protocols and that are compatible with regional mobility service aggregators, including potential Mobility as a Service (MaaS) providers, to ensure regional access and system integration.

EQUITY

Definition: *Support an inclusive transit system that provides low cost connections across the service area that prioritizes communities of highest need.*

Equity in this sense primary relates to how service is distributed. *Driving Innovation* envisions that this goal is achieved through the following means:

- Continue to ensure equitable access to high-quality transit.
- Continue to prioritize communities with higher levels of need and those traditionally disadvantaged.
- Plan new and adjust existing services to fit community context.
- Collaborate with other regional stakeholders and transit providers to supplement traditional fixed-route transit.
- Ensure equitable fare policy and service affordability for all, including populations that are unbanked or lack smartphones.
- Ensure sustainable resource stream to exceed ADA requirements – both for provision of service and trip planning.

PRODUCTIVITY

Definition: *Efficiently move large numbers of customers.*

The very essence of public transit is the ability for members of the public to share a ride within a set geography. Regardless of whether groups are as small as two, or as large as fifty, the ultimate objective of productivity is to provide an efficient form of transportation that is fast, convenient, does not require one to own a vehicle, and can move multiple people per trip.

Driving Innovation seeks to measure Productivity in the following ways:

- Develop milestones and growth plan to support high number of passengers per hour of service.
- Identify benchmarks that manage per passenger subsidies.
- Grow successful service types in response to high demand such as Pulse Lines, Express services, and Bus on Shoulder.
- Identify areas where demand supports frequent transit.
- Identify areas where demand supports demand-responsive services.



RESPONSIVENESS

Definition: *Provide superior experiences for all customers.*

Pace prides itself in providing exceptional customer service. For instance, passenger notes of appreciation for bus operators going above and beyond to ensure their safety and comfort have significantly increased during the pandemic. Externally-focused Pace staff also facilitate extensive communications on everything from press releases and social media posts to project updates, passenger notices on vehicles and open house events.

Advances in technology are also providing new and exciting ways for Pace to further develop how it responds to customers and promotes a better experience both communicating with staff and riding the system.

Below are some ways in which Responsiveness is defined for this plan:

- Improve customer service and satisfaction.
- Develop performance targets for different service types (such as average travel times per route length, or travel time differences with other modes, like single occupancy vehicles (SOVs).
- Continue pursuing reliability improvements for Pace services.
- Refine performance measurement for staff in key public-facing roles, such as customer service or bus operators.
- Modernize/consolidate customer interface.



SAFETY

Definition: Operate and maintain a system that prioritizes safety above all else.

Safety has been one of the hallmarks of Pace service since the agency's inception. It is a crucial element of the US transportation system at large, and Pace takes great care to uphold the highest industry standards to ensuring its customers and staff are kept safe and secure at all times.

Below are some of the ways in which Pace will continue advancing Safety through initiatives identified in *Driving Innovation*:

- Continue maintaining fleet, ensuring a state of good repair, and completing preventive maintenance operations.
- Continue bus operator safety screenings, trainings, and performance reviews.
- Continue collaborating with regional stakeholders to address issues related to urban form and transit access, including ADA-accessible bus stops and safe pedestrian crossings.
- Continue researching and implementing vehicle design features that increase customer safety.
- Continue rigorous daily cleaning and sanitizing practices on vehicles and at facilities, and adhering to guidelines provided by state, local and federal public health officials to limit the spread of COVID-19.





A Pace Express bus operating along the shoulder of I-55 with nearby CTA and Metra trains (photo credit: RTA Invest in Transit).

Organization Goals and Objectives



ADAPTABILITY

Definition: *Embrace innovation to advance Pace's goals.*

One of Pace's strengths as a public transit provider has been the ability to try new things and establish programs with different vehicle types and technologies to deliver service in innovative ways.

Going forward, this spirit of innovation will continue to empower *Driving Innovation* initiatives, including through the following means:

- Develop methods of collaborating with private mobility companies to explore cost efficient coverage services.
- Refine use of big data/telematics such as cell phone tower, smartphone location-based services (LBS) data, etc., to improve transit demand models and support service equity and efficiency.
- Provide an open platform for mobile/flexible payment.
- Develop accelerated/expedited procurement processes to accommodate new service types and new forms of public-private partnerships.
- Repurpose or replace obsolete/underused assets, such as in-service fleet, operations vehicles, bus shelters, street furniture, and other assets.
- Research, identify, pursue and adopt climate adaptation strategies. These may also coordinate with the Environmental Stewardship goal of Driving Innovation.

***The spirit of innovation will
continue to empower
Driving Innovation initiatives.***

COLLABORATION

Definition: *Seek creative and mutually beneficial relationships.*

Pace and its regional partners have a long history of close coordination on capital projects, service operations, policies, funding requests, and many other important components of upholding a regional transit system.

Pace also works closely with the private sector in augmenting its abilities and ensuring that public funding is being expended to receive the best quality products and services. New business ventures and opportunities are continually being generated and hold the promise of increasingly better methods of conducting business operations at lower costs.

These and other objectives are summarized as follows:

- Continue strengthening partnerships with counties, municipalities, civic organizations, businesses, institutions, and local stakeholders.
- Continue strengthening partnerships with CMAP, CTA, IDOT, Illinois Tollway, Metra, RTA, and others.
- Continue seeking out public-private partnerships that pool resources and offer enhanced opportunities to improve public transit.
- Develop a range of pilot projects that maximize Federal grant opportunities and funding initiatives.



DIVERSITY

Definition: *Build and nurture an exemplary workforce.*

In order to be the best possible organization it can be and unlock its full potential, Pace will continue to prioritize diversity among all employees. Additionally, the agency will continue to invest in its employees, both through training and policies, to ensure well-being, productivity, and a culture where all feel welcomed, included and engaged.

These and other objectives that may achieve this goal include:

- Foster management practices that build trust, accountability, innovation, productivity, and efficiency.
- Ensure that Pace's practices are culturally responsive, inclusive, and consistent across the agency.
- Support representational diversity among position types, including management and leadership roles.
- Support an attractive workplace and benefits, transparent hiring practices, and opportunities for training and advancement.
- Maintain inclusive environments in Pace departments to support the working needs of all employees.



ENVIRONMENTAL STEWARDSHIP

Definition: *Plan and operate in a way that protects the environment.*

The global climate crisis has continued to accelerate over the past few decades, requiring urgent, consistent and concerted efforts and resources to address. It is among the largest and most complex challenge posed to humanity, and there is much Pace can do to help.

The following objectives will guide Pace in meeting this goal:

- Provide effective alternatives that reduce the region's dependency on personal vehicles, vehicle miles traveled, single-occupant car trips, and greenhouse gas emissions.
- Achieve fleet performance efficiency goals through vehicle power usage, emissions and other means.
- Support efficiency upgrades for buses/vans including CNG, clean diesel, electric supply, battery disposal, and others.
- Pursue facility performance efficiency goals and formalize sustainable policies and practices in the areas of design, construction, operations, maintenance, American Public Transit Association (APTA) sustainability commitment, Leadership in Energy and Environmental Design v4 for Building Operations and Maintenance (LEED v4 O+M), and others.



FISCAL SOLVENCY

Definition: *Deploy financial resources in a fiscally responsible way.*

Pace's ability to provide service depends largely on the competent management of its finances. Although funding levels are often tied to the fate of the regional economy, Pace has a longstanding tradition of making exceptional use of all available resources, a feature that has been even more prominent during the pandemic.

Driving Innovation will continue to support such fiscal solvency through the following means:

- Align budget and staff resources with strategic vision plan priorities and make service investments based on overall strategy.
- Advocate for and expend resources that prioritize capital improvements that support fleet operations and passenger access to service.
- Implement/integrate transit asset management (TAM) plan(s) and continue to efficiently maintain assets.
- Continue to maintain a budget that optimizes the resources available.
- Explore partnerships with the private sector and other innovative financing opportunities.
- Seek grant funding opportunities to augment financial capabilities.



INTEGRITY

Definition: *Promote transparency in decision-making and foster a culture and practice of good governance.*

Throughout the pandemic, one of Pace's top priorities has been transparency, particularly with disseminating important information about service operations, COVID-19 cases, and public safety measures.

The *Driving Innovation* plan is also a means for Pace to promote transparency and integrity through communicating the agency's intentions and commitments for future planning initiatives.

Additionally, Pace is committed to continually modernizing and updating its ways of doing business, and stands ready to embrace new ideas and successful practices that public and private sector partners have pioneered. Where possible, Pace will also strive to lead the region and industry with its own innovative solutions to providing high-quality public transit.

Integrity for Pace may also be achieved through the following objectives:

- Support internal processes that are formalized, streamlined, and timely.
- Actively engage with passengers and the general public.
- Responsibly modernize systems and organization.







IV. Initiatives



A Strategic Vision for Initiatives to Uphold

Driving Innovation calls for innovating fixed-route transit in the highest demand markets, while concurrently harnessing technology and new mobility solutions to provide cheaper yet more effective coverage services in lower-demand areas. Furthermore, the plan advocates for and incentivizes communities to upgrade land-uses, pedestrian environments and development patterns that make public transit a more viable option.

Pace has many resources invested in innovative programs like On Demand, Paratransit, Dial-a-Ride, RideShare, Vanpool, Pulse and Express Bus services. The agency continues to refine the delivery of its service based on customer feedback and optimized user interfaces to ease trip-booking.

The agency has also witnessed an unexpected and significant loss of revenue due to COVID-19, and thus faced with an even greater need to assess how to invest diminished resources. Now more than ever there is a need to reallocate spending to prioritize ridership-focused services over coverage-based services, while overall helping to get as many people back to work as possible.

At the same time, Pace has grown its technical capacity to collect data, capture important transit performance statistics, and integrate new technologies and innovative business practices. The agency will continue to develop this institutional capacity to provide an environment where emerging mobility solutions can be harnessed to support ridership growth and yield reliability and travel time savings, potentially at a lower cost.

Overall, Pace will continue to leverage its assets and external partnerships to strengthen public transit in Northeastern Illinois at both the local and regional levels.

Driving Innovation calls for innovating fixed-route transit in the highest demand markets, while concurrently harnessing technology and new mobility solutions.

Organization of Initiatives

The following section provides details on the 20 major planning initiatives called for in the *Driving Innovation* plan. These initiatives are grouped into four categories:

- Agency Priority Initiatives
- Programs, Policies & Frameworks
- Service & Infrastructure
- Technology & Insight

While some of these initiatives are continuations of existing programs and efforts at Pace, others are new and may require additional development. Additionally, some initiatives contain discrete action items that collectively constitute a package of interrelated strategies. The number of initiatives may grow or shrink as time goes on and Pace's needs change.

Initiatives and action items are intentionally selected and organized in order to achieve a strategic vision consisting of mutually-supportive components. Where possible, coordination opportunities with other initiatives and external partnerships are identified.



Components of Each Initiative



COMMITMENT LEVELS

Pace's overall commitment for each initiative is identified using three different levels, described below and denoted using the following symbols:

- **Implement Now** | These are new initiatives that Pace is committed to getting underway in the near-term time, 5-year timeframe of approximately 2021-2026. Many have already been launched and have been progressing throughout 2020 and 2021.



- **Implement Later** | While committed for implementation, the timing of these initiatives is currently unknown, and most will likely require other initiatives or preliminary work to be completed before these can start.



- **Further Investigate** | While Pace may not yet be committed to implementing, the agency is committed to further investigating these ideas to ascertain if they should be programmed. If accepted, these initiatives may advance to either Implement Now or Implement Later



FULFILLMENT OF GOALS

Each initiative begins by listing the plan goals that may be achieved through its implementation. Descriptions of the objective that most fulfills the goals addressed by each initiative are evaluated in a table at the end of each of the four initiatives sections. Finally, a consolidated matrix is presented at the end of this chapter that compiles how all 20 initiatives fulfill the plan's goals.



Pace compressed natural gas (CNG) fueled vehicles serving the Pace Harvey Transportation Center, in Harvey, Illinois.

Agency Priority Initiatives



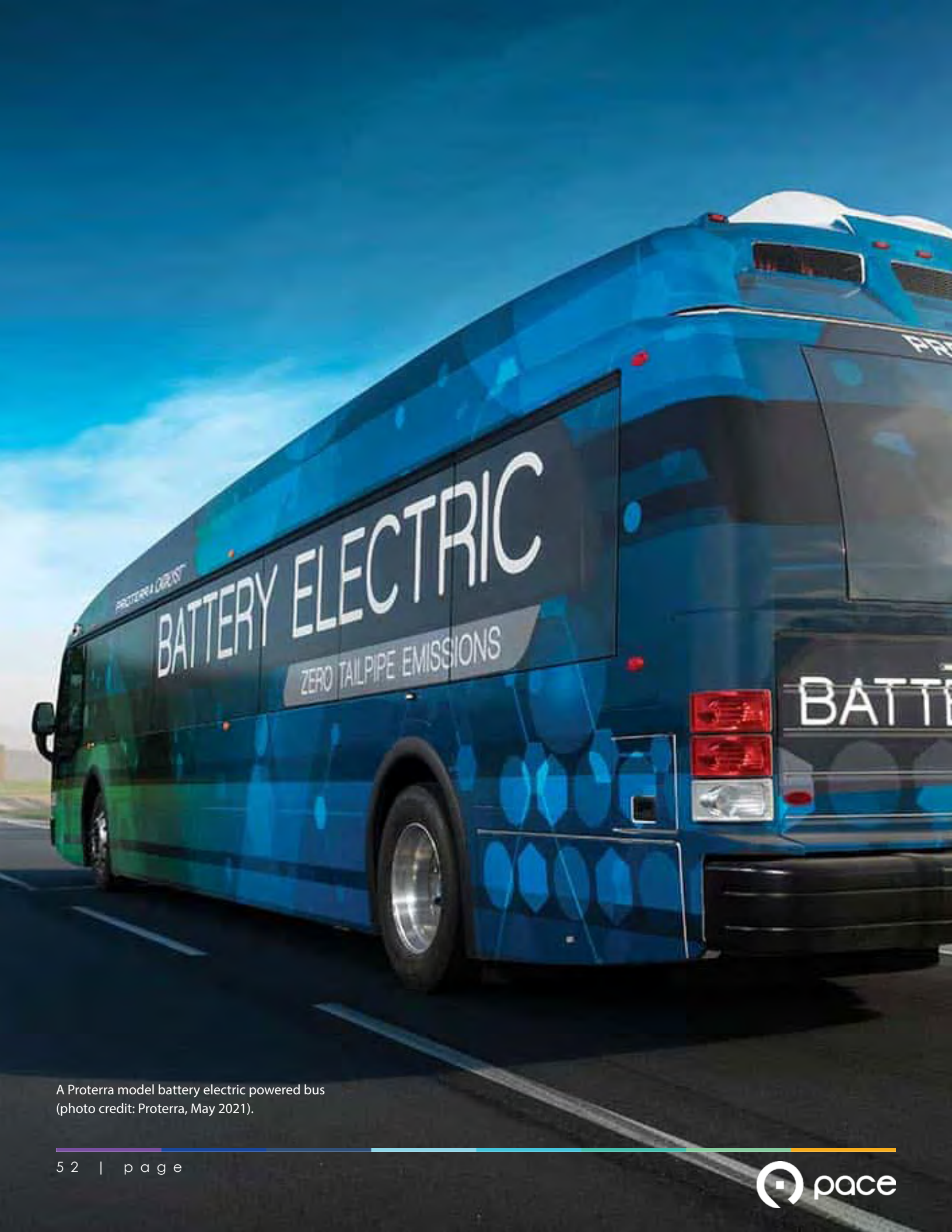
Pace is committed to upgrading its facilities, infrastructure investments, service typologies and plans. This section discusses how Pace will deliver and plan for capital projects that will allow the agency to continue to grow and meet the expanding transit needs of the region.

Details are also provided for Pace's vision of how specific types of services can and should be developed and upgraded, as well as the approach to be taken for planning its network.

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Initiatives in this category include:

- A-1 Electric Bus & Fleet Transition Planning
- A-2 Capital Improvement Projects
- A-3 Rapid Transit Program
- A-4 Service Standards Framework
- A-5 Network Revitalization & Service Restructuring



A Proterra model battery electric powered bus
(photo credit: Proterra, May 2021).

A-1 Electric Bus & Fleet Transition Planning

Initiative: Assess the feasibility of transitioning Pace's fleet toward battery electric and additional CNG technologies, as well as develop a transition plan for operations and facilities. Study other emerging technologies that can improve Pace's environmental impact.

**IMPLEMENT
NOW**

implement
later

further
investigate

Supports Goals:

Responsiveness, Safety, Adaptability, Collaboration, Environmental Stewardship, Fiscal Solvency, and Integrity

ACTION ITEM 1 Investigate and Plan for Battery Electric Bus (BEB)

Pace is committed to the goals of environmental stewardship and economic sustainability, and recognizes how interest to electrify vehicles across private industry and US federal, state, and local governments has been intensifying throughout 2020-2021. Looking ahead, the agency will holistically evaluate a transition path to converting its fleet to battery electric buses (BEB).

As a first step, Action Item 2 of the A-2 Capital Improvement Projects initiative describes Pace's forthcoming Facilities Plan. This effort will include an investigation of the prerequisites that BEB technology requires to successfully operate. Once established, Pace will further plan what next steps and actions to take in pursuit of this vehicle propulsion system.

A Union of Concerned Scientists 2017 study³ indicates that BEB's have 70 percent lower global warming emissions than CNG or diesel hybrid buses even when considering the lifecycle emissions required to generate the necessary electricity. Similarly, a 2018 US PIRG Education Fund Study⁴ indicates that implementing BEB's lower operational costs yields fuel and maintenance savings over a vehicle's life cycle.

Pace praises the efforts of many other transit agencies across the nation and world who are investing heavily in transitioning their fleets to BEB and other green, renewable, and environmentally-cognizant sources of vehicle propulsion. We will coordinate closely with the CTA who is already pioneering this technology in the Chicago region, as well as IDOT, Illinois Tollway and other regional partners to identify opportunities to share resources, ideas and expertise for electrifying public fleets.



³ Chandler, Sara et al. *Delivering Opportunity: How Electric Buses and Trucks Can Create Jobs and Improve Public Health in California*. Union of Concerned Scientists. 2017

⁴ Casale, Matt & Mahoney, Brendan. *Paying for Electric Buses - Financing Tools for Cities and Agencies to Ditch Diesel*. U.S. PIRG Education Fund. 2018.

Alternative Fuels | Battery Electric Bus and Compressed Natural Gas



Top photo - A CTA battery electric bus (BEB) vehicle. The CTA is pioneering the use of this technology in the Chicago region with vehicles now in revenue service. As part of the pilot project, quick-charging units have been installed at key points along the busy #66 Chicago Avenue route which operates using BEB vehicles. For this work, the CTA was awarded the 2020 Innovative Solutions Award from METRO Magazine.

Bottom-left photo - TransLink in Vancouver has had BEB's in service since 2019 as part of a Canadian national pilot project. Fast-charge infrastructure is seen above the vehicle.

Bottom-right photo - A Pace compressed natural gas (CNG) powered vehicle along South Halsted Street in Harvey. Pace has been operating CNG out of its South Division garage since 2018 and is converting its Northwest Division to exclusively operate using CNG in the coming years.

ACTION ITEM 2 Compressed Natural Gas (CNG) Expansion

Pace has made major investments in CNG vehicles recently. In 2018, Pace completed a compressed natural gas (CNG) bus garage in Markham that houses 98 CNG buses. Benefits including lower fuel cost, lower maintenance cost, and reduced emissions. Pace has also acquired land in Wheeling to replace its current Northwest Division, which will feature exclusive CNG technology.

Moving forward, CNG will continue to play an integral role in Pace's commitment to the Environmental Stewardship goal.

ACTION ITEM 3 Investigate Emerging Technologies

Pace recognizes that other vehicle propulsion technologies may have potential to one day replace or augment Pace's transit fleet beyond the current diesel and CNG technologies, as well as forthcoming BEB technology.

Transit agencies across the nation have been investigating, piloting and operating alternatives such as hydrogen fueled vehicles, referred to as fuel cell buses, and hybrid variants of diesel electric and hydrogen electric. There may also be long-term cost efficiencies in retooling CNG facilities with fuel cell technologies that are worth further investigation.

Moreover, completely new and innovative technologies may be invented and developed in the coming years which may be of interest for Pace to explore.

Overall, Pace will carefully weigh the implications of operating multiple vehicle technologies under any scenario, and ensure its ability to maintain the highest standards in safety, training, and maintenance prior to making new commitments.

The upcoming Pace Facilities Plan will provide the first step in investigating the prerequisites that battery electric buses need to successfully operate.



Buses staged at Pace's East Dundee garage facility, managed by Pace River Division. Pace's existing River Division garage will be expanded to allow more space for services operating along I-90 and locally in Elgin and the surrounding area.

A-2 Capital Improvement Projects

Initiative: Implement all Pace capital projects funded through Rebuild Illinois, and produce a Facilities Plan to determine how Pace facilities will be used to support other service plans and initiatives.

**IMPLEMENT
NOW**

implement
later

further
investigate

Supports Goals:

Equity, Productivity, Responsiveness, Safety, Environmental Stewardship, and Fiscal Solvency

ACTION ITEM 1 *Rebuild Illinois State Capital Program*

Illinois's nearly \$45 billion capital construction program, *Rebuild Illinois*, earmarks \$2.6 billion for public transit, of which \$228 million has been allocated for Pace. Metra and CTA also received a combined \$240 million in earmarks for capital projects through this funding source. As transit riders often make connections between CTA, Metra and Pace services, investments for all three service boards are expected to help improve the quality of public transportation regionally. Capital funding from the state is in addition to separate sources of funding all three agencies receive.

Additionally, *Rebuild Illinois* will allow new sources of annual revenues to fund capital projects, primarily through the Transportation Renewal Fund, which will reserve 18 percent of receipts towards public transportation projects in Northeastern Illinois.

Pace is working with IDOT, RTA, CTA and Metra to ensure program funding is expended quickly, effectively, and equitably across the region.



Illinois Governor JB Pritzker speaking about the \$45 billion Rebuild Illinois capital plan (Illinois Business Journal, 2020)

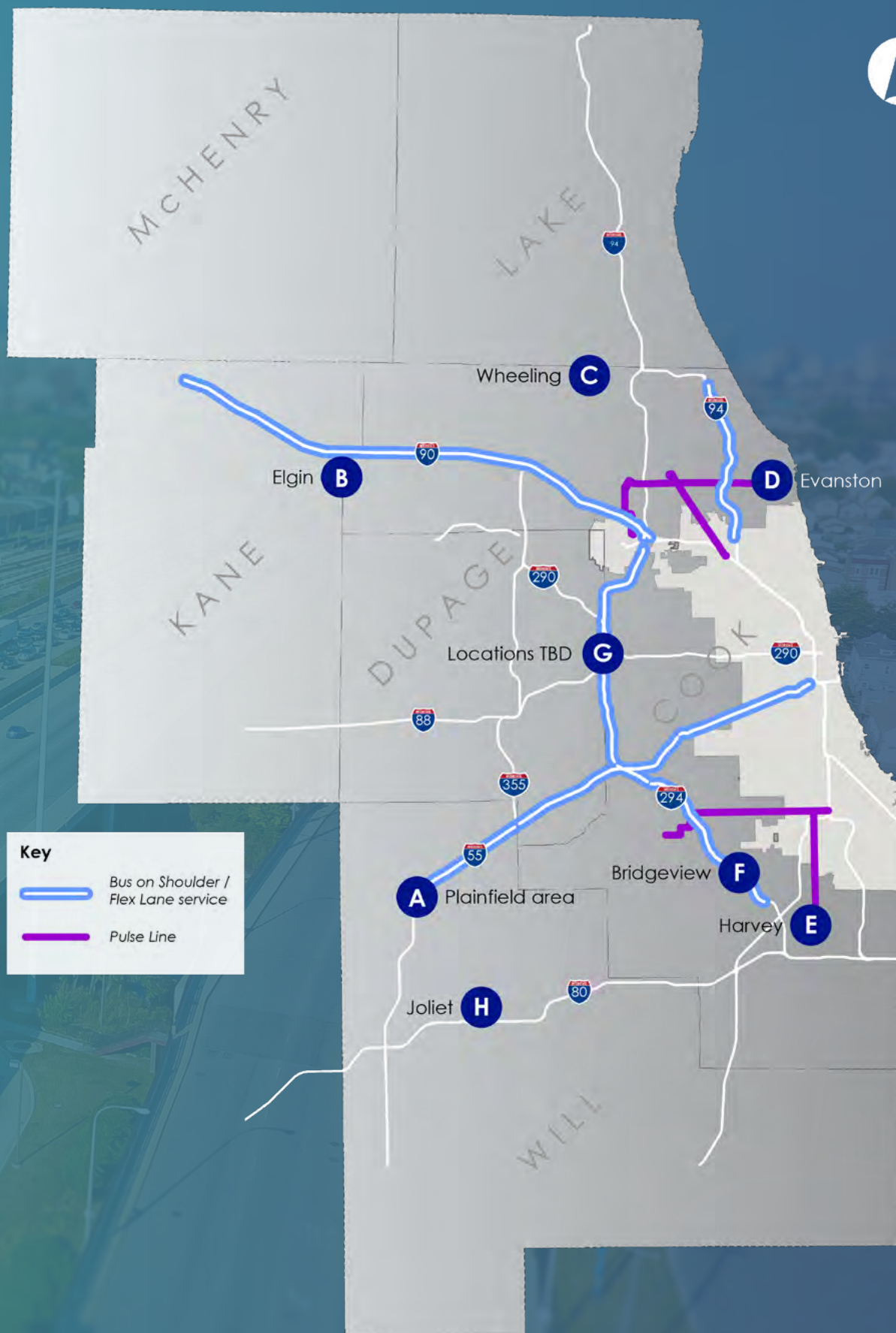
Pace Capital Projects funded through Rebuild Illinois

○ ●

- A I-55 garage & infrastructure**
Supports I-55 service expansion
- B River Division expansion**
Supports I-90 service
- C Wheeling garage, infrastructure, and CNG-powered fleet**
Supports Pulse Milwaukee Line, Pulse Dempster Line implementation
- D North Shore Division expansion**
Supports I-94 service expansion, Pulse Dempster Line implementation
- E Harvey Transit Center improvements**
Supports I-294 service expansion, Pulse Halsted Line implementation
- F Southwest Division expansion**
Supports I-294 service expansion, Pulse 95th Street Line implementation
- G I-294 Tri-State service expansion**
New stations, park-n-ride lots
- H Joliet Multimodal Center**

Systemwide Improvements
Paratransit communications technology
Farebox system upgrade





I-55 Express Bus Garage and Infrastructure



Pace Heritage Division has exceeded its garage capacity and cannot support further growth of Pace's successful I-55 Bus on Shoulder service. A new garage facility will be built in Plainfield, Illinois and allow Pace to further expand this service, reduce deadhead times, and alleviate overcrowding on buses.

River Division Expansion and Improvements



Pace is in the process of purchasing a 2.7-acre property adjacent to River Division, located in Elgin. Expanding the garage would support the agency's new I-90 Express service and consolidate buses currently using space in East Dundee, eliminating significant leasing costs.

Wheeling Garage, Infrastructure and CNG-powered fleet



Pace has purchased a 23-acre site in Wheeling with an existing 430,000-square foot building to replace its existing Northwest Division, which is overcrowded and functionally obsolete. Pace plans to convert the existing building in Wheeling into a CNG bus garage and improve adjacent roads. Improvements support the implementation of Pace rapid transit service on the Pulse Milwaukee and Dempster Lines.

North Shore Division Expansion and Improvements



Pace North Shore Division, located in Evanston, is currently at capacity and expansion is needed to support future growth, including rapid transit service such as new Pulse lines and future expansion of Express bus service on I-94 Edens Expressway. Additionally, necessary improvements will be made to the existing 80,000-square-foot building.

Pace Capital Projects to Support Rapid Transit, Fixed Route, and Other Services



Top photo - The former Allstate building in Wheeling, Illinois is being converted to Pace's new Northwest Division garage and will feature compressed natural gas (CNG) fueled bus vehicles. Future Pulse lines may eventually be operated using this and other new and expanded facilities.

Bottom-left photo - A Pace motorcoach bus operates in the left shoulder of Interstate 55. A dedicated garage facility for I-55 Express bus service is being constructed, along with other service and facility improvements along the corridor.

Bottom-right photo - Pace's existing CNG fueling facilities at the agency's South Division garage in Markham.

Harvey Transportation Center Improvements



The 20-year-old Harvey Transportation Center has been designated as being in poor condition according to Pace's Transit Asset Management (TAM) plan. Necessary improvements include pavement, lighting, platforms, shelters, restrooms, structures and systems. These improvements are needed to support the implementation of future rapid transit service on the Pulse Halsted Line, as well as I-294 Tri-State Express bus service.

Pace and Metra are partnering to redesign both the Pace Transit Center and Metra Harvey Station to better facilitate transfers between both agencies' services, in coordination with IDOT and the City of Harvey.

Southwest Division Expansion and Improvements



Southwest Division, located in Bridgeview, is currently at capacity and expansion is needed to support future growth, including rapid transit service on the Pulse Network and future expansion of Express bus service on the I-294 Tri-State Tollway. Additionally, necessary improvements will be made to the existing 80,000-square-foot building.

I-294 Tri-State Passenger Facilities



Pace will expand its expressway-based service network based on the success of its I-90 Flex Lane, I-55 and I-94 Bus-on-Shoulder service models. As part of the Central Tri-State project, the Illinois Tollway is constructing Flex Lanes along 22 miles of I-294 from Balmoral Avenue to 95th Street which will be available for Pace buses to operate on, similar to the I-90 service.

Pace and RTA are also teaming up with a new planning study to be completed in 2021 which identifies emerging transportation markets along this corridor that would benefit from the ability to bypass congestion along the Tri-State. This effort also proposes locations for constructing new facilities, and service concepts that could take advantage of these infrastructure improvements.

Joliet Multimodal Center

Pace, in partnership with Metra and the City of Joliet, is developing a new bus terminal and multimodal center in downtown Joliet. The center will be constructed adjacent to the railroad at New Street, directly adjacent to the historic Union Station and Grand Ballroom and nearby Metra station. From this location, passengers will have improved access and amenities to foster transfers between local Pace service and the Metra Rock Island and Heritage lines, as well as Amtrak Lincoln and Texas Eagle services.



ADA Communications Technology and Transfer Locations

Based on input from the riding public, Pace's two ADA Advisory Committees, and disability advocacy groups, Pace is developing several technology and transfer facility upgrades to improve the customer experience.

Please refer to the S-3 Paratransit Upgrades initiative for more details on these projects.

Farebox System Upgrade

Pace is currently in the process of replacing its 37-year-old fareboxes. Pace has maintained these fare collection devices well-beyond their standard 15-year lifespans, to the point where replacement parts are no longer available. While the amount of cash collected has declined over the years as electronic fare media has become more widely used, providing fareboxes helps maintain an equitable way to collect fares throughout the region.

The project calls for all new physical equipment on buses and in garages, as well as new system architecture for the collection, maintenance, and reporting of data that should tie in with Ventra, the automated fare collection system used in region. The new system will be more reliable and provide more information compared with existing systems.

The project is a regional partnership with the CTA, and is expected to be awarded in late 2021 and completed between late 2022 and early 2023.



ACTION ITEM 2 Facilities Plan

Pace will conduct a systemwide Facilities Plan, which will identify existing capital projects and associated future vehicle capacity to aid in developing a plan that sequences and integrates future capital needs with service upgrades. It will employ a data-driven approach to evaluate how garage maintenance facilities will be used to support service plans and other strategic initiatives will allow Pace to both continue deploying public resources in an efficient and equitable manner across the region while expanding the system to meet emerging markets.

For example, the timelines and development of specific garage expansions and vehicle allotments can be coordinated with individual Rapid Transit Program projects and planning initiatives. Similarly, other Pace fixed route and non-traditional services face changing needs in the future, and can be better paired with the construction and expansion of garage facilities.

Additionally, Pace currently operates a mixed fleet of vehicle technologies fueled by both diesel and compressed natural gas (CNG). Additional CNG facilities are planned or in development, and *Driving Innovation* calls for further exploration of battery electric bus (BEB) technology and applicability for Pace and the broader Northeastern Illinois service area. A Facilities Plan will be useful in conducting a case study for investigating specific impacts of BEB for an individual garage location. For more information on BEB, please refer to the A-1 Electric Bus & Fleet Transition Planning initiative.

In this way, Pace will prepare for new vehicle technologies and associated facility needs as it advances major capital projects. Ultimately, a plan document with a prioritized list of projects will be developed from this synthesis to assist Pace in strategically investing capital dollars and services.

Pace will prepare for new vehicle technologies and associated facility needs as it advances major capital projects.



A clean diesel bus at Pace North Division in Waukegan, Illinois.

Building on Success: Pace I-90 Barrington Road Station

Opened in 2018, the realization of Pace's I-90 Barrington Road Station was a multi-jurisdictional effort that is the region's first-ever highway-based bus rapid transit station. The station includes two in-line station platforms, served by Pace Routes 603, 605, 607 and 610, a 170-space park-n-ride lot on the north side of the station and a kiss-n-ride area on the south side. A climate-controlled, ADA-accessible pedestrian bridge over the tollway and two tunnels passing beneath ramps allow commuters to easily access eastbound and westbound buses and connect with other Pace services. Pace buses enjoy the benefit of never exiting the tollway to serve the station platforms, utilizing Pace and Tollway-only slip-ramps that branch from the regular interchange ramps.

This project was the result of extensive stakeholder collaboration between Pace, the Illinois Tollway and the Village of Hoffman Estates, who continues to champion for transit-supportive development.



This page: Aerial view of the Pace / I-90 Barrington Road Station in Hoffman Estates, Illinois.

Pace and its partners have been honored to receive several distinguished awards for their collective work on this project, including:

- American Planning Association, Illinois Chapter (APA-IL) 2018 Implementation Award for the Illinois Tollway SmartRoad & Pace I-90 Market Expansion Program Collaboration.
- American Council of Engineering Companies of Illinois (ACEC) 2019 Honor Award for Transportation.
- ACEC Illinois 2019 Lincoln Grand Conceptor Award (Project of the year for the State of Illinois).
- ACEC 2019 Engineering Excellence Awards, Honor Award (the Barrington Road project placed 17th nationally amongst 197 other award winners).
- American Public Works Association (APWA) Suburban Branch Chapter, 2019 Project of the Year, Transportation \$25 Million to \$75 Million.
- APWA Chicago Chapter- 2019 Project of the Year, Transportation \$25 Million to \$75 Million.
- American Public Transportation Association (APTA), 2020 Innovation Award.



Passengers alight the Pulse Milwaukee Line at the Southbound Devon Station in Chicago, Illinois.

A-3 Rapid Transit Program

Initiative: Continue planning, designing, implementing and operating Pulse Lines and expressway-based services.

**IMPLEMENT
NOW**

implement
later

further
investigate

Supports Goals:

Accessibility, Equity, Productivity, Responsiveness, Adaptability, Collaboration, Diversity, Environmental Stewardship, Fiscal Solvency, and Integrity

OVERVIEW

Since *Vision 2020*, Pace has established an internal Rapid Transit Program (RTP) office tasked with managing the funding, planning, administration and delivery of Pace's arterial rapid transit service called Pulse, as well as expressway-based services benefiting from bus priority infrastructure.

The RTP office has coordinated with agency staff and external partner agencies to deliver projects such as the I-90 Market Expansion, Barrington Road Station, park-n-ride lots, and most recently, the Pulse Milwaukee Line. This office also establishes the baseline processes for advancing corridors through the multiple phases of project development, and coordinates how the larger network of rapid transit services is established and tied in with the rest of the larger regional transit system.

Pace utilizes corridor studies to identify key project elements and external partnerships to enhance land-use and pedestrian environments in support of future rapid transit services. Support is also leveraged across a broad spectrum of public agencies to maximize public resources that enhance transit service for customers. In particular, the RTP office benefits from the funding and technical support from project sponsors such as CDOT, CMAP, Cook County, CTA, FTA, IDOT, RTA, and municipalities.

Pace will continue rolling out new Pulse and Express services that strengthen transit use to and from CTA and Metra stations, Pace terminals, and major activity centers in the metro area. These services will continue to use new and innovative ways to increase service frequency, speed, and reliability, while offering passengers improved boarding areas, information, and customer service. Dedicated bus lanes, articulated vehicles, battery electric technology, and queue jumps are examples of how Pace can innovate future Pulse and Express bus.



ACTION ITEM 1 Implement Near-Term Priority Pulse Network

Driving Innovation includes a proposed initiative under P-3 Strategic Administrative Functions for a Corridor Development program (Action Item 3) to facilitate an organized and focused process for planning holistic pedestrian, land-use, bus infrastructure and service improvements along the region's most utilized bus corridors. This effort is intended to replicate the Rapid Transit Office's past successes with long-range planning activities for Pulse Lines and apply it to both Pulse and regular fixed-route categories of Primary and Secondary routes.

While these priority corridors proposed by the *Driving Innovation* process are intended to provide overall guidance for developing Pace's fixed-route services, Pace will still maintain a separate sub-group of Near-term Priority Pulse corridors. These are corridors in which the agency has signaled a commitment to pursuing the additional resources needed to invest in the capital and operating requirements of Pulse service, which also feature the highest-performing Primary and Secondary routes.

Currently, Pace has implemented Pulse service along the first of seven Near-term Priority corridors with the Pulse Milwaukee Line. The remaining six corridors include:

- Dempster Street
- South Halsted Street
- 95th Street
- Cermak Road
- Harlem Avenue
- Roosevelt Road



Each corridor is at a different phase of implementation, as some are in the planning stages while others in design and project delivery (see Figure 1 for more details). Pace will continue to update this list and add new corridors to the Near-Term Priority network, as existing programmed lines are implemented.

***Dedicated bus lanes, articulated vehicles,
battery electric technology, and queue
jumps are examples of how Pace can
innovate Pulse in the future.***

Pulse Arterial Bus Rapid Transit Near-Term Corridor Development Plan

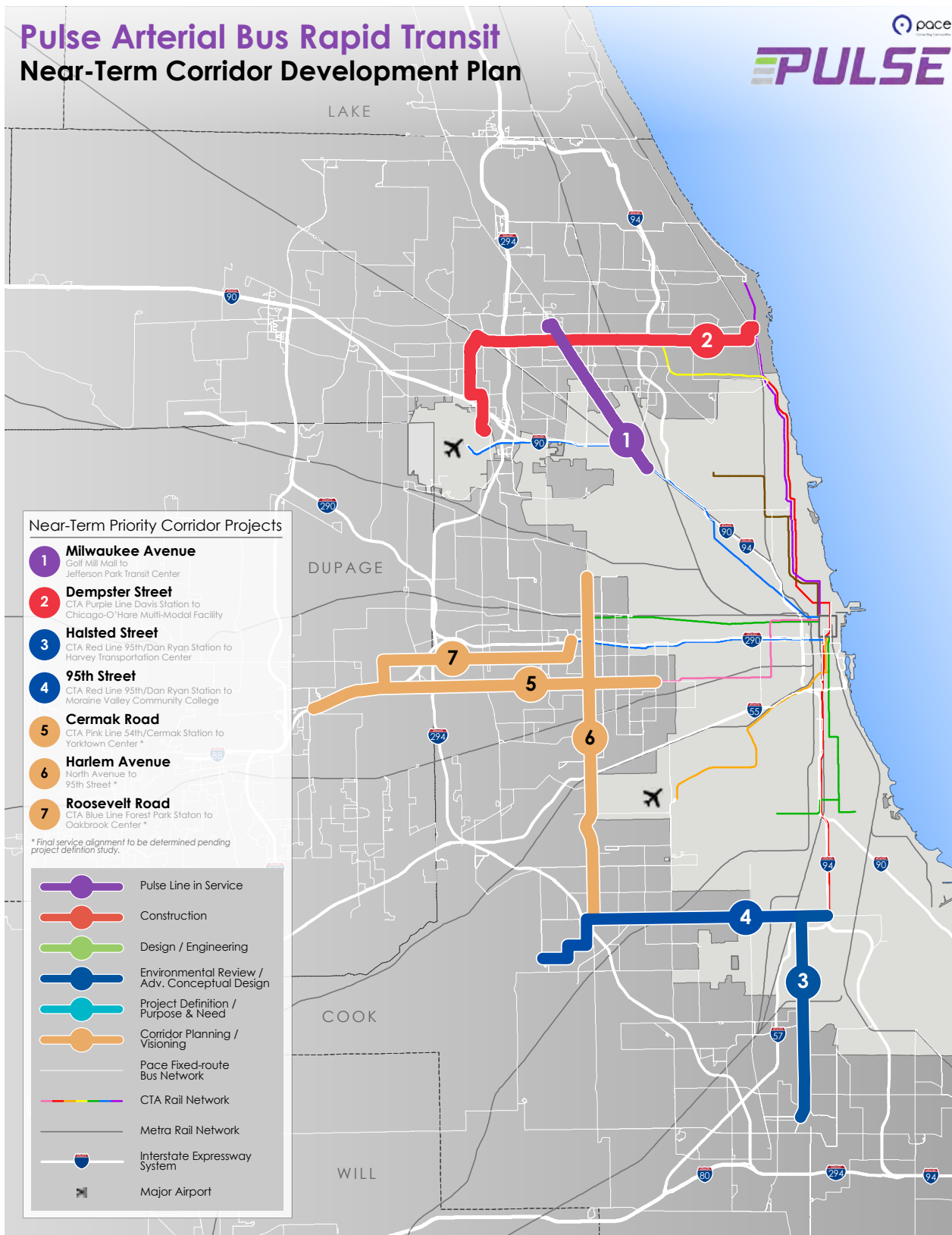


Figure 1: Pace Near-Term Priority Pulse Corridors - Project Development Status

The Pulse Milwaukee Line

Pulse is a new rapid transit network, providing fast, frequent, and reliable bus service using the latest technology and streamlined route design. In 2002, Pace identified the need for what is today known as Pulse service through the agency's Vision 2020 plan, which through subsequent planning work included a multi-line network to enhance mobility and suburb-to-suburb travel options. Driving Innovation includes an updated corridor development strategy which will be used to guide future investment and development of Pace's Pulse program.

To date, Pace has launched Pulse Milwaukee Line, which began operating in August 2019 and provides service between Golf Mill Shopping Center and Jefferson Park Transit Center.



[paceBus.com/Pulse](https://pacebus.com/Pulse)



Pace staff and members of the Pace Board of Directors pose in front of a Pulse-branded vehicle at the August 2019 Pulse Milwaukee Line launch event in Niles, Illinois.

The Pulse Milwaukee Line is one of seven priority corridors Pace is pursuing over the next ten years. Currently, three priority corridors are in project development moving forward toward implementation: the Dempster, Halsted, and 95th Street Lines.

The remaining three corridors planned for near-term development include Cermak Road, Harlem Avenue, and Roosevelt Road. These corridors are currently not funded for project development, and actual service alignments, station locations and other local transit access improvements will be developed in the future.

Pace thanks its many partners and team members who helped make the Milwaukee Line a reality.



Illinois Department
of Transportation



ACTION ITEM 2 Expand Pace Express Services

OVERVIEW

Pace is well on the way to providing a connected network of expressway-based services. A solid and expanding growth market is present along the I-55 Stevenson and I-90 Jane Addams Memorial Tollway corridors, and capital funding has been allocated for building new passenger facilities along I-294 Tri-State Tollway. This network is expected to also be reinforced by providing transfer opportunities to future Pulse lines and other Pace services at key nodes.

Other congested expressways in the region stand to benefit from deploying express bus options supported by bus priority infrastructure such as Bus-on-Shoulder lanes and Flex Lanes. The following projects will further assess and plan for implementing new or improved express service, as resources allow.

I-55 EXPANSION

Pace's Bus on Shoulder service along I-55 Stevenson Expressway has been one of the agency's biggest success stories to date, with a 600 percent ridership increase since the service was launched in 2011 (as recorded just prior to COVID-19). The initiative has been so successful that crowding has been a common issue on vehicles.

To address this challenge, Pace is building a new garage facility in Plainfield to increase vehicle capacity, which will specifically target more buses on the I-55 services. Other improvements, such as new park-n-rides and stations are also being investigated through this and other efforts.

This service is made possible in partnership with IDOT, as the department provides the shoulder space and operating conditions to allow this important transit option to flourish. By continuing to increase bus service along this corridor, Pace and IDOT help reduce traffic congestion, air pollution and offer a competitive and affordable alternative to driving.



***Congested expressways in the region
stand to benefit from deploying express
bus options supported by bus
priority infrastructure.***



A Pace Express bus operating along Michigan Avenue in downtown Chicago, part of the I-55 Bus-on-Shoulder service.

I-294 EXPANSION



Pace currently operates regular fixed-route service along the I-294 Tri-State Tollway in general purpose lanes of the roadway. In 2020, Pace and the RTA initiated a study of the Tri-State from Schaumburg (including a section of I-90) to Harvey to determine what new markets may be served by utilizing new Flex Lanes that the Illinois Tollway is constructing as part of the Central Tri-State project. The study is also identifying feasible locations for new passenger facilities that may be constructed using capital dollars through the Rebuild Illinois program, which would also leverage the separate but related project to improve the Pace Harvey Transportation Center (see A-2 Capital Improvement Projects initiative). New and improved services along this corridor are anticipated to form the backbone of an integrated Rapid Transit network of both Pulse lines and expressway-based services.

I-94 EXPANSION



Pace operates Bus on Shoulder service along the I-94 Edens Expressway. Service in this corridor was in operation prior to IDOT constructing outside shoulder riding capabilities for Pace buses, which has benefited from improvements to on-time performance and reliability. However, initial market assessments conducted in the 2016-2017 North Shore Transit Coordination Study and other staff-led efforts have noted additional demand for service along this highly-congested roadway that connects the Loop and Northwest Side of Chicago with North Shore communities and the employment-rich Lake Cook Road corridor. *Driving Innovation* calls for further study of these markets in the upcoming Network Revitalization initiative and future Rapid Transit Program efforts.



Pace I-90 Barrington Road Station in Hoffman Estates, Illinois.

I-290 EXPANSION

Pace will be conducting a market assessment and service design study for the I-290 Eisenhower Expressway corridor sometime in 2021-2022. Funded through an IDOT Technical Studies grant, the study will be timed to coincide with the Pace A-5 Network Revitalization initiative and the completion of the Tri-State study mentioned on the previous page. Any new service or passenger facilities proposed along this corridor may be coordinated with IDOT's planned reconstruction of the Eisenhower Expressway.



HARLEM AVENUE I-55 STATION FEASIBILITY

Pace will conduct a feasibility study for developing a passenger station along the I-55 Stevenson Expressway at Harlem Avenue, also funded through an IDOT Technical Studies grant. I-55 is a high-priority project given Pace's current operations along this roadway, and plans to expand service via a new garage in Plainfield. Harlem Avenue is also a Near-term Priority Pulse corridor, so an inline station connecting the Harlem Avenue Bridge with I-55 could be among the first Pulse-to-Express transfer locations. The location is partly inspired by the multi-jurisdictional coordination and success of the Barrington Road Station along I-90. Studying a potential station in this part of the region may also help prompt further ideas for expressway-based passenger facilities along other expressway and tollway corridors.



Pace has the opportunity facilitate faster and more convenient travel between Chicago and suburbs for long-distance commuters.

P-3 | Potential COVID-19 Impacts

Expressway-based projects provide Pace the opportunity facilitate faster and more convenient long-distance travel throughout the region. This will not only help keep Pace relevant in the face of the changing transportation landscape, but will also help ease traffic congestion and air pollution, as well as help the region's economy by providing great employment accessibility. Importantly, while ridership along services like those in the I-55 corridor have dropped during the pandemic, Pace anticipates that the market potential for expressway-based services will rebound. If indeed true, such long-term projects should continue to move forward.





Pace passengers waiting to board a bus.

A-4 Service Standards Framework

Initiative: Implement a service standards framework to guide service characteristics, performance, and local transit propensity.

IMPLEMENT
NOW

implement
later

further
investigate

Supports Goals:

Accessibility, Equity, Productivity, Responsiveness, Adaptability,
Collaboration, Environmental Stewardship, Fiscal Solvency, and Integrity

CONTEXT

Given the diversity of development patterns, density, land-use and socioeconomic characteristics across the region, Pace provides a variety of transit services intended to tailor service to demand.

To address this diversity of land uses, *Driving Innovation* calls for Pace to implement a Service Standards Framework. This framework will enable Pace to make decisions regarding allocation of services using an updated and consistent set of definitions of expected service levels and standards for performance. These standards will ensure that transit service decision-making is objective, transparent, equitable and aligned with agency goals.

Service standards will also aid in selecting the type of service most suitable for specific areas based on a measurable set of demand scoring metrics. In addition, the framework will re-establish service performance targets and a process for evaluating and executing proposed service changes.

PEER AGENCIES' BEST PRACTICES

The best practices of several peer agencies were considered during the development of this plan. This included topics such as evaluating route deviations, documenting service change practices, and tying service categories to demand levels. Influential agencies include Seattle's King County Metro, Portland's TriMet, Austin's Capital Metro, and the CTA.



Service standards help to ensure that the transit service decision-making is objective, transparent, equitable and aligned with agency goals.

ACTION ITEM 1 Establish New Service Categories, Update Title VI Policy

Pace has a broad range of service types to accommodate a diverse region. A concise classification system and standards and expectations for each service type will be developed to accommodate this constantly changing variety. These categories will be used for both evaluating routes and setting appropriate levels of service. *Driving Innovation* calls for Pace to combine and simplify its two existing classification systems to facilitate internal decision-making.

Existing Title VI Program Categories ⁴

Pace currently uses a set of nine route categories updated in 2016 to establish fixed-route service standards for the purposes of its required Title VI program:

- Core Line
- Primary Line
- Secondary Line
- Local Connector
- Regional Connector
- Regular Express
- Bus on Shoulder Express
- Reverse Commute Shuttle
- Traditional Commute Shuttle

Existing Performance Categories

Pace currently uses a set of five route categories developed in 2008 for benchmarking, evaluating performance, and reporting analytics for fixed-route services:

- CTA Connector
- Suburban Link
- Express Service
- Intra-Community
- Commuter Link

⁴ Title VI refers to the Civil Rights Act of 1964 that protects people from discrimination based on race, color, and national origin in programs and activities receiving federal financial assistance.



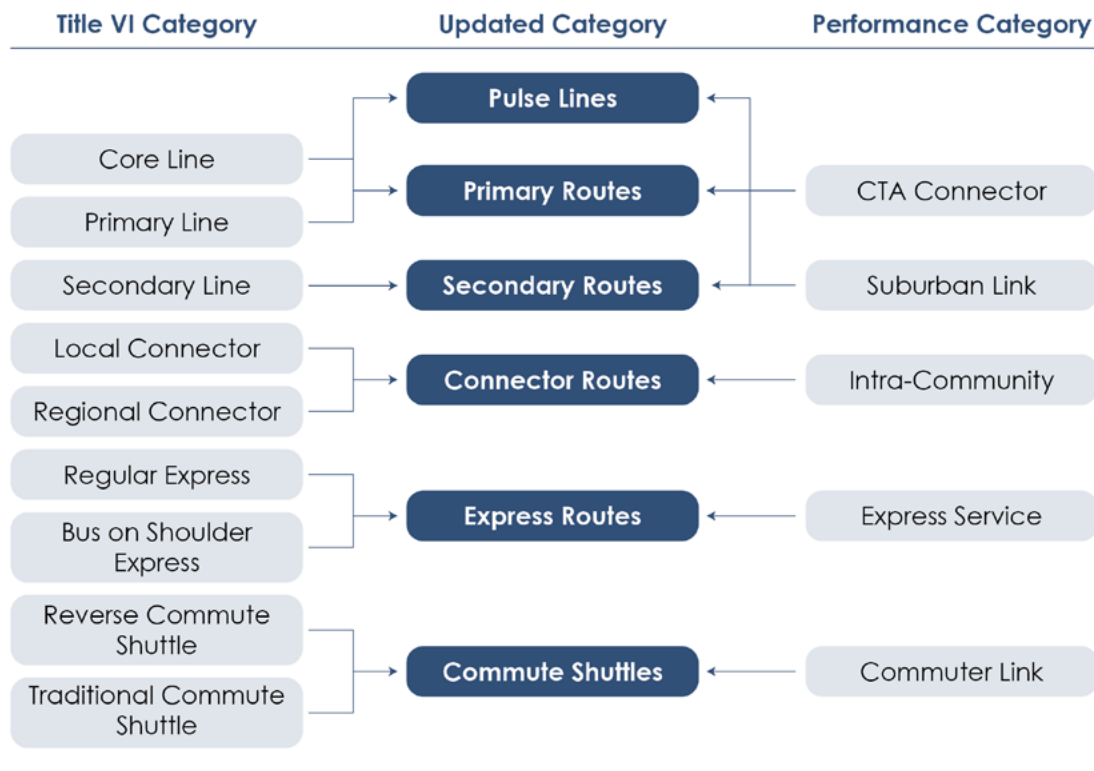


Figure 2: Updated Pace Fixed-Route Service Categories

The six fixed-route categories in the center column of Figure 2 show the proposed new service classifications for fixed route services and illustrate how these services have been consolidated.

The new service categories and performance standards will be used for all service development, performance monitoring, and public reporting purposes. This will require that Pace update its internal service evaluation process, Title VI Policy, and performance assessment to reflect the new categories.

The following pages provide an illustration of how Pace may establish and implement a Service Standards Framework in conjunction with these new service categories.

Step 1

Establish measurable criteria for each service category.

- 1a. **Transit Propensity** - Establish transit propensity score ranges and assign to each service category. See illustration on next page for more information on the proposed process.
- 1b. **Service Standards** - Establish minimum thresholds for each service standard and assign to each service category.

Step 2

Re-assign routes into service categories based on transit propensity.

Each existing Pace route will be assigned to a service category. This assignment will be based on the route's transit propensity score. Each category will have a score range. Score ranges may overlap, to allow some flexibility for determining the level of investment in any particular route, and to allow additional qualitative assessment given that every community or geographic area may have unique characteristics that influence transit use beyond what can be measured quantitatively.

Step 3

Evaluate route conformity to each standard and adjust service characteristics or propensity scoring as needed.

While some routes may feature service characteristics and amenities that match within the desired service standards for the route's respective category, many may have some area for improvement or other adjustment to meet minimum standards.

Pace will use the initial results of this analysis to target and prioritize service changes, schedule updates, passenger amenities, bus stop designs and other adjustments to meet the set standards.

Much of this work may be undertaken with the proposed Network Revitalization & System-wide Restructuring Initiative .

Step 4

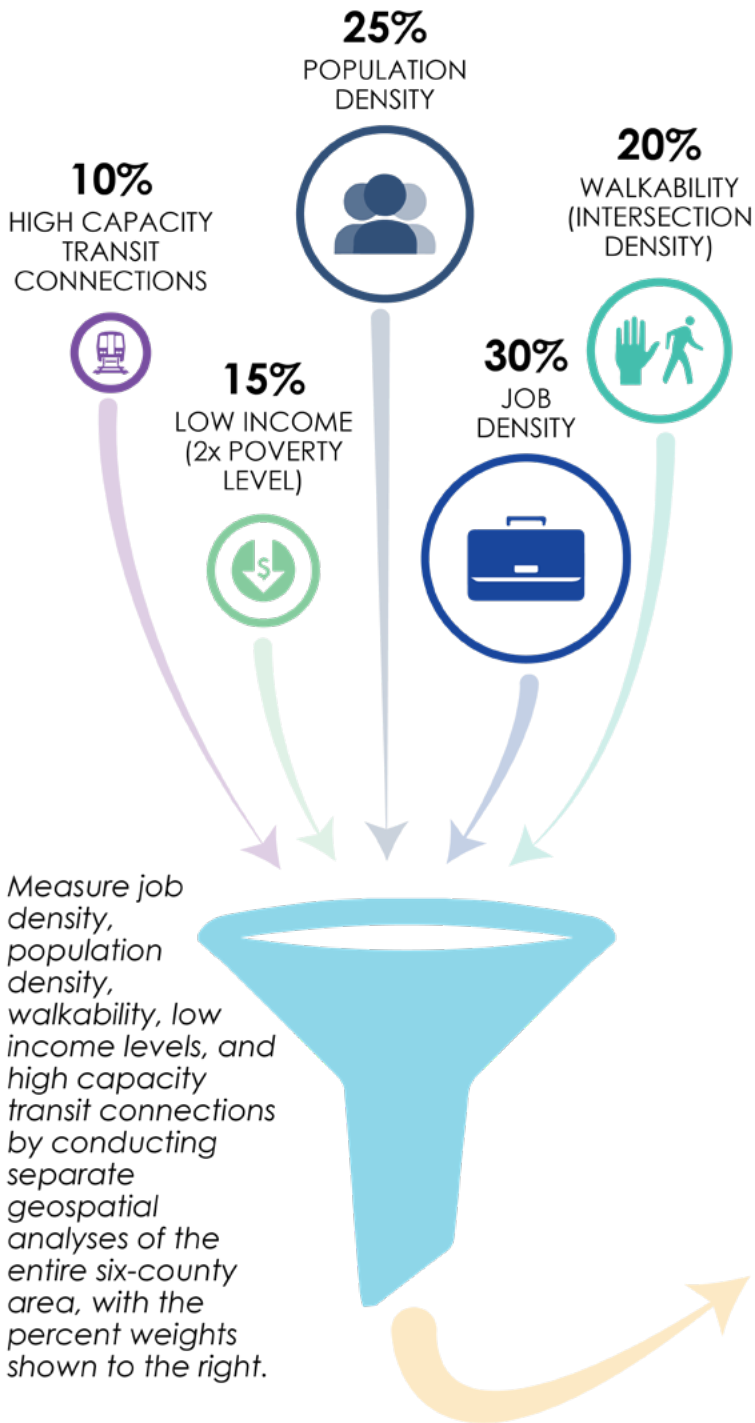
Monitor and compare transit propensity against actual performance.

Beyond the transit propensity and service standards measures, route performance metrics will continue to serve an important function in assessing whether routes are achieving a level of success that is commensurate with the financial investment.

See illustration in the following pages for more information on how performance will be measured.

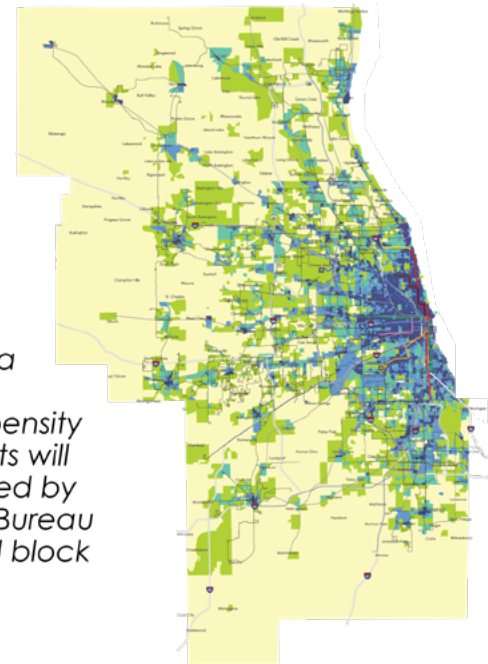
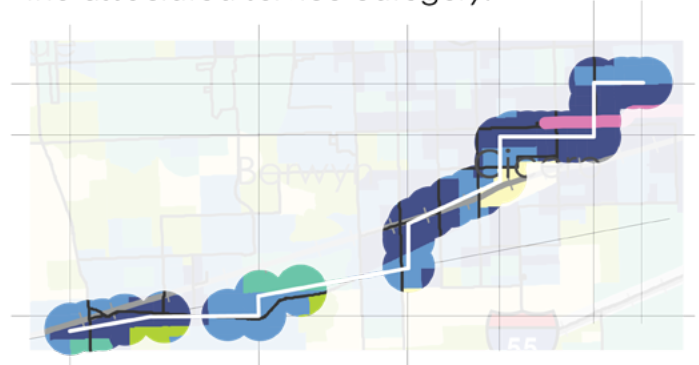
Step 1a

Illustration



Assess each route by stop, averaging results of within a 1/4 mile radius of each stop.

Use the average score to assign the route into the associated service category.



Merge the results into a composite transit propensity map. Results will be organized by US Census Bureau established block level units.

Step 1b

Illustration

For each of the proposed service categories of Pulse Line, Primary Routes, Secondary Routes, Connector Routes, Express Routes and Commute Shuttles, a minimum threshold will be evaluated and set for each criteria.

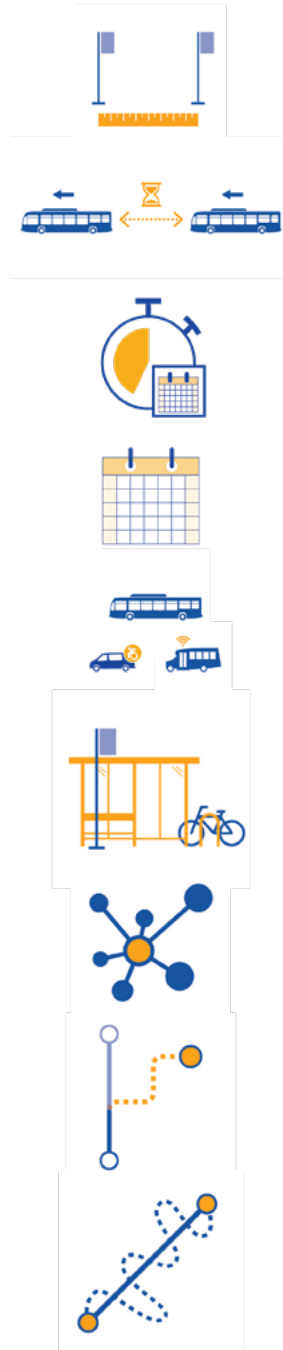
Finalized thresholds will then become the formal standard for each Pace service type.

For both existing and future Pace fixed-route services, each of the criteria shown on the right will be evaluated and recorded.

A similar process will be developed for Non-Traditional service types as well, including Paratransit, On Demand, Vanpool and Dial-a-Ride.

Routes with criteria that do not meet minimum standards will be evaluated and prioritized for further development, moved into a lower service category, or otherwise addressed to achieve targets.

This overall process will require substantial coordination with other Driving Innovation initiatives and external outreach activities.



Stop spacing

Distance between stops.

Peak Period Headways

Frequency of buses during rush hour.

Service Span by Day Type

Hours of operation.

Day Type in Service

Weekday, Saturday, Sunday.

Vehicle Type

Large bus, small transit vehicle, van, etc.

Amenities

Sign pole, shelter, street furniture, bicycle racks, real-time information, etc.

Network Connectivity

Opportunities to transfer to other services.

Route Deviation

Number of instances trips serve alternate destinations.

Route Directness

Percentage of alignment along a single, continuous segment of road.



On-time Performance

All Pace bus routes operate using a published route schedule, indicating trip arrival and/or departure times. Pace will continue to monitor early, late and on-time trips to identify where schedule adjustments may be needed per route.



Crowding

Sometimes referred to as 'load factor', crowding on buses can degrade service on-time performance, increase travel times, and create undesirable customer experiences. Pace will continue to monitor trips with crowding issues and address accordingly.



Productivity

This is the measure of how many passengers a route serves per hour of service provided. The higher the number, the more productive a route. Pace will continue to strive for high levels of productivity while balancing other performance metrics.



Farebox Recovery

Productivity is closely related to farebox recovery; the more passengers that load onto a vehicle, the higher the productivity and thus the fare payments collected. Higher farebox recovery helps to achieve Pace's goal of financial solvency and highest and best use of public funds.



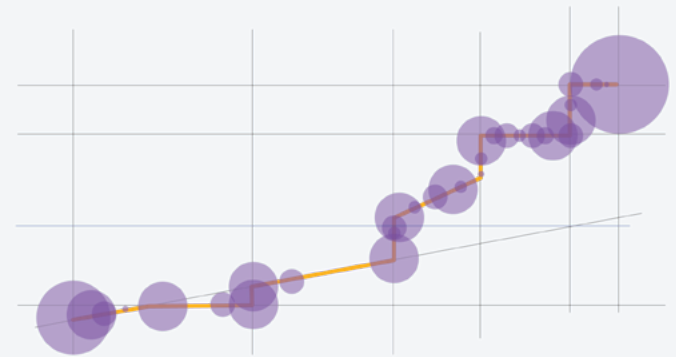
Customer Experience

While much information can be gleaned from sources of data that are automatically generated using modern technology systems, Pace is equally interested in what it's customers think of the the service. The agency employs regular and robust customer survey efforts, as well as multiple means of collecting suggestions, complaints, questions, comments and other feedback.

This information is regularly used to assess service improvements and will continue to be a key component in ensuring service is planned, communicated and operated to the satisfaction of the people who are using it.

Ridership by Stop Location

One of the most direct methods of determining if routes are achieving the highest potential will continue to be an assessment of stop-level ridership patterns. Moving forward, this information can be compared against route-level transit propensity measures.



Above - An illustration of stop-level ridership for a bus route. The size of the dots is scaled to the amount of ridership.

ACTION ITEM 2 Development and Testing

SCENARIO TESTING

In developing *Driving Innovation*, Pace assessed several test scenarios to understand the dynamics and impacts of shifting routes between proposed service categories. These hypothetical assessments were based purely on upgrading frequencies, spans or other key service indicators of all routes in an existing category, and did not account for any changes to alignment, stops or other individualized criteria for routes.

As such, much more assessment and testing will be required to derive scenarios that are more closely aligned with transit propensity and other regional needs and desires.

As Pace moves toward fully detailing and implementing a service standards framework, the outcomes of additional scenario testing will be instrumental to other initiatives, such as the A-5 Network Revitalization & System-wide Restructuring initiative.

PROPOSED SERVICE CHANGE PROCESS

The proposed Service Standards Framework will also entail a more formalized process for developing, implementing, evaluating, and changing services. New services would be developed carefully to align with minimum levels of service, design guidelines, and Pace's Title VI/Environmental Justice policies. New services would also go through a trial period, after which performance would be evaluated like any existing service. After evaluation, routes failing service performance standards would undergo a service change evaluation process to attempt to improve performance.

***Pace will continue to strive for high levels
of productivity while balancing other
performance metrics.***





P-2 | Potential COVID-19 Impacts

The effect of COVID-19 and Illinois stay-at-home orders has had a significant impact on Pace ridership across all of the agency's services, which was down by as much as 67 percent during March and April of 2020, then steadied later on through 2020 and early 2021 to about 50 percent.

Since the beginning of the pandemic and stay-at-home orders, Pace has reduced service levels on multiple fixed routes throughout the system. Reductions were targeted to services that were serving extremely low or non-existent levels of passengers. Examples includes Pace's previously popular I-55 Bus-on-Shoulder service, Metra BNSF Line feeder shuttles, school trips on regular routes and others where appropriate.

These temporary service changes allowed additional equipment to be allocated to other routes that continue to carry larger passenger volumes, which aided Pace in providing passengers with additional social distancing as fewer passengers could be aboard any given trip.

Looking ahead, Pace will carefully monitor ridership levels and performance metrics in the coming years to determine if previous service levels should be reinstated on individual routes, or if ridership does not rebound consider how to attract riders back, or in some cases make reductions permanent.

The network of services that emerges post-COVID-19 will form the basis of Pace routes to be evaluated with a new Service Standards Framework, as well as the network that the agency will build upon for pursuing the longer-term strategic vision of *Driving Innovation*.

ACTION ITEM 3 Adapt and Adopt Service Standards Framework

Once Pace's Service Standards Framework is fully developed and analyzed it should be adopted and formally implemented. Key to this process is community and stakeholder engagement to build consensus for the framework and adapt it based on customer feedback.

Clear service standards are also valuable to manage expectations from Pace's community stakeholders. Not every community should have a Pulse line, for example — standards would show that Pulse service is appropriate along densely developed urban corridors. For lower-density communities, the service standards would suggest context-appropriate types of service that might include coverage-focused models. In the long term, these standards may also help communities determine how to shape land use policies, zoning codes, form-based codes, or other development guidelines to support graduated levels of future transit service.

ACTION ITEM 4 Standards for Express Service to Popular Destinations

Pace's Express Service to Popular Destinations connects customers to a range of special events, including professional sports and concerts. These special services provide a convenient way for event attendees to avoid traffic and parking. However, special services also require significant effort to coordinate. In addition, customer demand for these events is quite challenging to predict – some event destinations are popular enough to fill buses to capacity, while others may see marginal demand.

Because of the one-off nature of these services, evaluating their effectiveness may require a more customized set of standards. These may be based on ridership, vehicle capacity, community partnerships and federal guidance. Pace will continue operating special event services that experience strong customer demand.



A-5 Network Revitalization & Service Restructuring

Initiative: Conduct a system-wide market assessment to understand current service demand, design alternatives for restructuring the entire Pace service network, and use a Corridor Development program to prioritize investment areas.

IMPLEMENT
NOW

implement
later

further
investigate

Supports Goals:

Accessibility, Equity, Productivity, Responsiveness, Adaptability, Collaboration, Diversity, Environmental Stewardship, Fiscal Solvency, and Integrity

CONTEXT

Pace will initiate a major undertaking to study and plan for a system-wide restructuring of its entire network of services. Each of the Capital Improvement Projects (A-2), Rapid Transit Program (A-3), Service Standards Framework (A-4), Strategic Administrative Functions (P-2), and Coverage Service Improvements (S-2) initiatives are among the key components that will help facilitate a successful redesign.

ACTION ITEM 1 Conduct Market Analysis

The Network Revitalization and Service Restructuring Initiative would utilize a comprehensive travel market analysis to understand both local and regional dynamics that influence where transit users across the system are coming from and needing to go. This market analysis will build upon the work of several upcoming market studies Pace will be initiating in 2020-2022, which include the I-294 Tri-State and I-290 Eisenhower market studies, as well as recently completed or ongoing studies such as the Joliet Intermodal Facility Market Study, North Shore Transit Coordination Study, and others as applicable. This work will also build upon Pace's existing and ongoing Customer Satisfaction Survey (CSS) work and tap into IDOT's emerging state-wide travel model, and other partner agency work as needed.

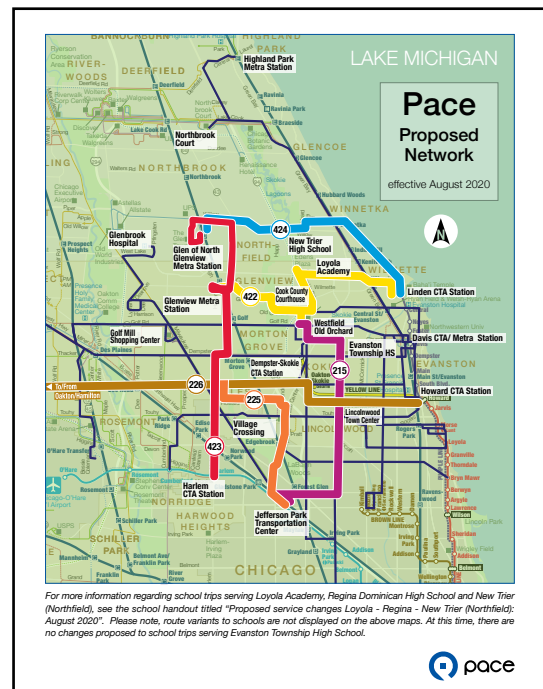
Pace will initiate a major undertaking to study and plan for a system-wide restructuring of its entire network of services.

ACTION ITEM 2 Coordinate Service with Capital Improvements

As covered in A-2, Pace will produce a system-wide Facilities Plan in 2021-2022 that will inform the Network Revitalization & Service Restructuring Initiative by understanding how upcoming investments in facilities will impact vehicle capacity and thus Pace's ability to operate service in any given area. Coordination will also include determining additional bus turn-around facilities, operator relief locations and park-and-ride locations. For example, the Facilities Plan will conduct a case study assessment for identifying potential impacts of pursuing battery electric bus from a given Pace bus garage, which is expected to help inform Network Revitalization initiative decisions on how far vehicles can travel before re-charging.

ACTION ITEM 3 Local Stakeholder Outreach

This initiative will include a robust external outreach effort. Pace intends to start a series of conversations with both local stakeholders and the riding public to gain a first-hand understanding of what issues are important to the people that the agency serves on a daily basis. These conversations will cultivate an understanding for how Pace's Service Standards will reflect local land-use environments, but ultimately progress into discussions for how Pace's services could be operated at the local level to transform the network to achieve the *Driving Innovation* goals.



Left - North Shore Transit Coordination & Market Analysis Plan report cover. Right - North Shore Phase 2 proposed service changes.

ACTION ITEM 4 Regional Service Coordination

RTA, CTA, Metra and Pace coordinate on a variety of aspects of providing regional transit service. Staff from each agency regularly meet and share information for important functions such as collecting farebox revenue, grants management, capital investments, policy frameworks, marketing, service plans, trip schedules, and many other aspects.

For example, Pace works closely with Metra to update schedules for commuter routes that serve certain BNSF line stations when Metra needs to update the train schedules. Other commuter services like Pace Shuttle Bug routes are closely coordinated with Metra lines, in partnership with the Lake County Transportation Management Association (Lake County TMA).

One area of particular focus is bus service and scheduled trip coordination between CTA and Pace. The photos on the opposite page depict the most recent major effort the agencies jointly managed, the Pace/CTA North Shore Transit Coordination Study and implementation efforts. The agencies are also partnering to study improvements along the South Halsted Corridor, where Pace's planned third Pulse line is slated. CTA and Pace also continuously coordinate for aligning bus services in shared parts of the region, sharing bus bay space at rail terminals, and sharing data to jointly assess regional needs.

Looking ahead, CTA initiated a study to review the bus and rail system and develop an approach for how to improve bus service that reflects the values and priorities of the region. CTA and Pace will continue to work closely to coordinate service for the region.



A Pace Route 352 bus dwelling at the new CTA 95th Dan Ryan Red Line station bus terminal.

Agency Priority Initiatives

		A-1 Electric Bus & Fleet Transition Planning	A-2 Capital Improvement Projects
Service Goals	ACCESSIBILITY		
	EQUITY		✓ More vehicle space for deploying service equitably.
	PRODUCTIVITY		✓ Grow successful service type based on high demand.
	RESPONSIVENESS	✓ Pursue reliability improvements for Pace services.	✓ Pursue reliability improvements for Pace services.
	SAFETY	✓ Continue maintaining fleet, ensuring a state of good repair.	✓ Continue maintaining fleet, ensuring a state of good repair.
Organization Goals	ADAPTABILITY	✓ Replace obsolete/underused assets, in-service fleet, and operations vehicles.	
	COLLABORATION	✓ Develop pilot projects that maximize grant opportunities and funding initiatives.	
	DIVERSITY		
	ENVIRONMENTAL STEWARDSHIP	✓ Support efficiency upgrades for buses/vans.	✓ Pursue facility performance efficiency goals.
	FISCAL SOLVENCY	✓ Expend resources that prioritize capital improvements that support operations.	✓ Expend resources that prioritize capital improvements.
	INTEGRITY	✓ Responsibly modernize systems and organization.	

	A-3 Rapid Transit Program	A-4 Service Standards Framework	A-5 Network Revitalization & Service Restructuring
	✓ Use measurable thresholds to support access to specific types of transit.	✓ Use measurable thresholds to support access to specific types of transit.	✓ Use measurable thresholds to support access to specific types of transit.
y.	✓ Continue to ensure equitable access to high-quality transit.	✓ Prioritize communities of highest need.	✓ Plan new and adjust existing services to fit community context.
es	✓ Grow successful service types based on high demand.	✓ Develop growth plan to support high number of passengers per hour.	✓ Identify areas where market demand supports frequent transit.
ents	✓ Continue pursuing reliability improvements for Pace services.	✓ Develop performance targets for different service types.	✓ Develop performance targets for different service types.
pair.	✓ Collaborate with stakeholders to address urban form and transit access.		
		✓ Further utilize large data telematics to improve transit demand models.	✓ Further utilize large data telematics to improve transit demand models.
	✓ Support deeper communications with local governments and other institutions.	✓ Support deeper communications with local governments and other institutions.	✓ Collaboratively balance cost reductions with service improvements.
	✓ Foster management practices that build trust, accountability, innovation, efficiency.		✓ Foster management practices that build trust, accountability, innovation, efficiency.
	✓ Support efficiency upgrades for vehicles and plan for alternative fleets.	✓ Provide alternatives to personal vehicles, VMT, and emissions.	✓ Provide alternatives to personal vehicles that reduce greenhouse gas emissions.
itize	✓ Expend resources that prioritize capital improvements.	✓ Align budget and staff resources with the priorities of the strategic vision plan.	✓ Make service investments based on overall strategy.
	✓ Responsibly modernize systems and organization.	✓ Support formalized, streamlined, timely internal processes.	✓ Support processes that are formalized, streamlined, and timely.



Initiatives: Programs, Policies & Frameworks



Driving Innovation calls for Pace to update its programs and policies to reposition the agency's vision and capitalize on the forward momentum of its current projects and past successes.

Furthermore, these policies and programs are partly designed to provide preliminary means of administering many of the Driving Innovation initiatives discussed in the Service & infrastructure and Technology & Insight sections.

+ ■ + ■ + ■ + ■ + ■ + ■ + ■ + ■ +

Initiatives in this category include:

- P-1 Mobility Agency Transition
- P-2 Strategic Administrative Functions
- P-3 Transit-Supportive Development Engagement
- P-4 Transit Fare Equity Programs
- P-5 Funding and Finance



Pace passengers disembark an On Demand vehicle.

P-1 Mobility Agency Transition

Initiative: Formally recognize Pace's current role as a regional mobility provider and move beyond the perception of a suburban bus company.

implement
now

**IMPLEMENT
LATER**

further
investigate

Supports Goals:

Accessibility, Equity, Productivity, Responsiveness, Safety, Adaptability, Collaboration, Diversity, Environmental Stewardship, Fiscal Solvency, and Integrity

ACTION ITEM 1 Recognize and Embrace Pace's Multi-modal Role

As the region and transportation landscape have changed, Pace has growing competition. The agency will build on its history of operating different service models by innovating both fixed route and demand response services, in conjunction with other regional mobility providers. Pace will investigate the impacts of formally recognizing its role as a regional mobility provider that oversees various transportation modes, which the agency has commonly referred to as the "Pace family of services." As part of this initiative, Pace will investigate formalizing its engagement process with other private and micro-mobility providers in the region.

Agencies across the United States (including King County Metro in Seattle, Miami-Dade Transit, Cap Metro in Austin, and many others) are also embracing an expanded role in coordinating mobility services. With the growing number of options in the mobility ecosystem, there is also a growing need for a common user interface and booking system that encompasses all transportation choices.

Given the much larger size and scale of Northeastern Illinois compared to most other metro areas, the region's structure for providing public transit service makes it even more dynamic than some of the above-mentioned places. As such, Pace will closely coordinate with the RTA, CTA, Metra and other partners to ensure this reimagined role is not only compatible with the functions of each organization, but one that benefits transit users in Northeastern Illinois generally.

Figure 3 illustrates this overall proposed role and relationship with other service providers and modes of travel.



Pace will build on its history of operating different service models by innovating both fixed route and demand response services, in conjunction with other regional mobility providers.

Pace Family of Services

External Partnerships with Service Providers (Dark Blue)



Figure 3: Conceptual relationship of Pace-administered services and partnerships with other mobility providers and modes of travel, based largely on TriMet model diagram of the Mobility on Demand trip planner application (trimet.org/mod).

ACTION ITEM 2 Promote Regional Regulation of For-Hire Vehicles

Pace will advocate for the advancement of a regional approach to regulating the operations of for-hire vehicles (FHV), such as taxis, transportation network companies (TNCs) like Uber, Lyft and Via, and private shuttle companies. There is currently a lack of regional coordination for how local municipalities regulate these services. As a result, piecemeal services and FHVs that collect data on vehicle speeds, trip origins and destinations are not shared with a regional agencies.

Charging a regional entity with this responsibility would free municipalities of the regulatory burdens and would allow other regional agencies like Pace to better understand what modes are available to potential customers and how they may be used together to bring customers onto more effective and efficient modes such as mass transit.

This new regional service may involve aggregation of the various sources of transportation data. In the future as more public and private transportation providers (and operators) will be collecting and sharing operational data, development of this capacity will become increasingly important. Currently no process exists to collect and aggregate these data sets across the region's transit service area.

While this new responsibility may or may not be appropriate for Pace to take on, it nonetheless is something that a regional agency should consider. Pace is open to ideas from its partner agencies on what the best approach to this issue may be. Paramount to success is advancing strategies that are favorable to both public transit and the FHV industry.

This initiative is supported by MPC's Universal Mobility Report, in which "All transportation providers, whether they are affiliated with Pace or not, should report ridership data in a concise and standardized way to the RTA for analysis."⁵ While MPC's report focuses on mobility for people with disabilities, the concept also applies more broadly for all mobility in the region.

CMAA's ON TO 2050 plan calls for more regional data collection practices and regulation of data sharing standards in its Emerging Transportation Technology Strategy Paper, including the establishment of "a regulatory environment that facilitates innovation and supports regional priorities" and "identifying and requiring information needed to understand and set policies on private mobility services, such as TNCs."⁴

Finally, ON TO 2050 recommends that "private sector partners share data that aids planning for transit, the road network and emerging mobility services" as well as the recommendation that local government and transportation agencies "contractually require data sharing as a condition for private companies access to public infrastructure or to subsidies."

⁵ *Toward Universal Mobility: Charting a Path to Improve Transportation Accessibility*, Metropolitan Planning Council (MPC). December, 2019. www.metroplanning.org. Page 55.

⁶ *Emerging Transportation Technology Strategy Paper*. Chicago Metropolitan Agency for Planning (CMAA). November 2017. www.cmap.illinois.gov. Page 27.

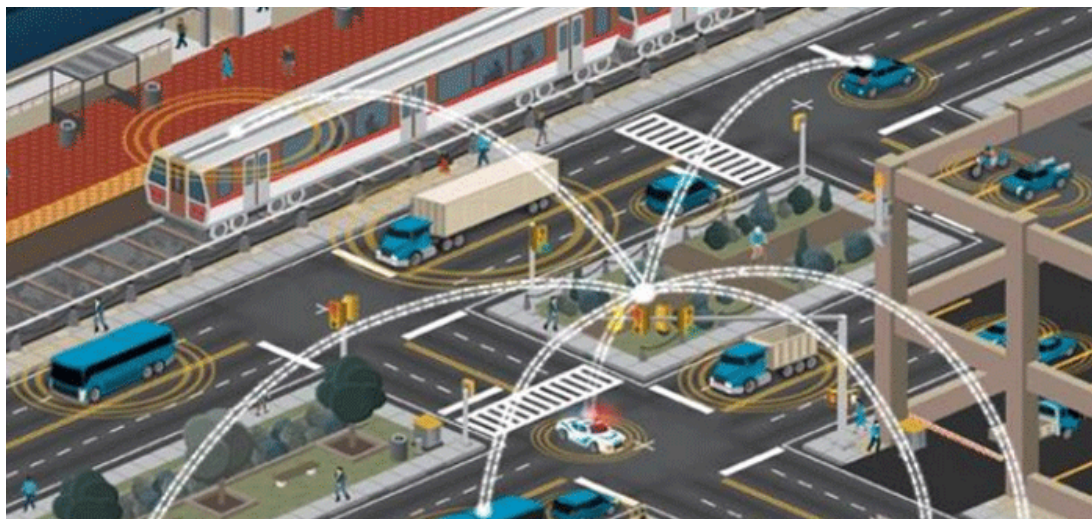
ACTION ITEM 3 Develop an Emerging Mobility Pilot Data Policy

While a regional regulatory framework for collecting travel data from FHV and associated mobility services would require additional investigation and regional coordination, Pace can investigate ways of improving the collection, management, and usage of existing mobility data in the meantime, in an effort to better integrate transit and emerging mobility services.

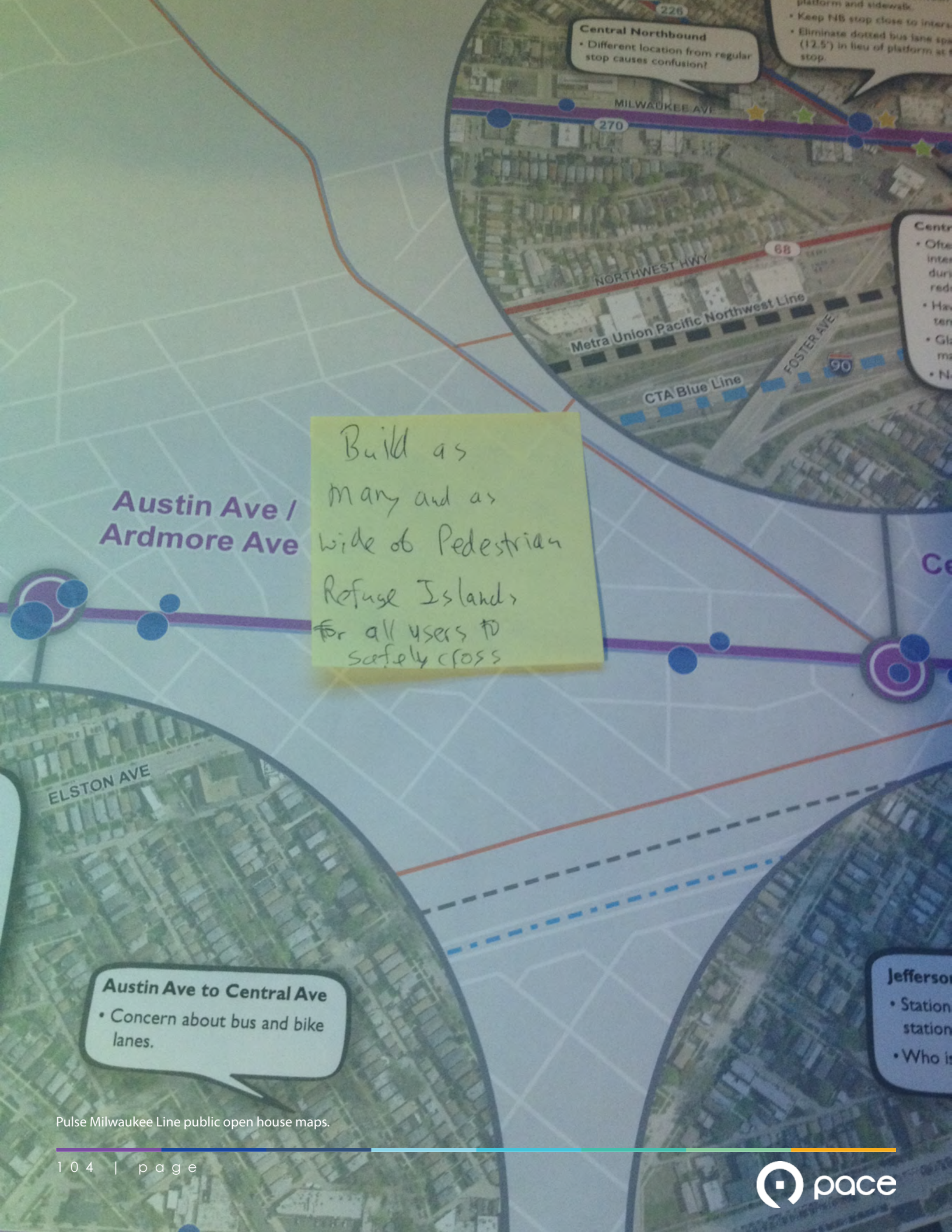
Pace recognizes the power of integrating all public and private transit options into one common user interface, referred to as Mobility as a Service (MaaS). By bundling many mobility options together and allowing users to subscribe to various packages, customers' multi-modal transportation experience is simplified. This initiative will assist Pace in supporting MaaS and managing regional mobility needs.

For example, Pace's On Demand, Dial-a-Ride, and Vanpool programs may be appropriate service typologies for piloting MaaS concepts and technologies. The results of testing these efforts could then inform the development of a broader policy and framework.

Pace will also establish clear policy and minimum requirements related to the collection and usage of existing sources of mobility data. This will allow Pace to take an informed and proactive approach to transit and shared mobility, and it will ensure the agency is able to shape those services to support meeting *Driving Innovation* organization and service goals.



Collecting the diverse and dense body of mobility data being produced. (US DOT ITS).



Build as many and as wide of Pedestrian Refuge Islands for all users to safely cross

Austin Ave / Ardmore Ave

Central Northbound
• Different location from regular stop causes confusion?

platform and sidewalk.
Keep NB stop close to intera
• Eliminate dotted bus lane spa
(12.5') in lieu of platform at f
stop.

Centr
• Offer
inter
durin
red
• Hav
ten
• Glo
ma
• N

Austin Ave to Central Ave
• Concern about bus and bike lanes.

Jefferson
• Station
station
• Who is

P-2 Strategic Administrative Functions

Initiative: Develop and launch new agency programs and associated administrative support functions to support emerging strategic initiatives.

IMPLEMENT
NOW

implement
later

further
investigate

Supports Goals:

Accessibility, Equity, Productivity, Responsiveness, Safety, Adaptability, Collaboration, Diversity, Fiscal Solvency, and Integrity

ACTION ITEM 1 Establish a Priority Project Management Office (PPMO)

Pace has successfully implemented capital-intensive projects in recent years with its South Division upgrades, park-n-ride lots, Bridgeview Transit Center, Barrington Road Station, Pulse Milwaukee Line and many others. However, the agency's upcoming list of capital projects has grown significantly. In 2019, Pace received a historic infusion of capital funding from the State of Illinois through the passage the Rebuild Illinois program.



Among the \$4.5 billion of funding allocated for public transit, Pace has been earmarked \$228 million through the year 2025, with an additional \$56 million available in discretionary funding. An annual renewal fund will also be available, which will allocate amounts based on a forthcoming performance-based method that the RTA is developing in partnership with the service boards. For a list of projects that Pace is spending this funding on, refer to the A-2 initiative. Additionally, Pace has a number of other upcoming capital projects that are being funded through other grants and programs, such as the Rapid Transit Program projects discussed in the A-3 initiative.

In order to efficiently and effectively spend capital dollars and deliver projects that will provide significant and substantive benefits to its customers, Pace has established a Priority Project Management Office (PPMO). This office coordinates planning, engineering, finance, procurement, outreach and other functions related to the delivery of the agency's upcoming major capital projects and strategic initiatives, including *Driving Innovation*. The PPMO will complement existing functions within the agency's administrative structure, and in general will help streamline processes and outcomes.

Ultimately, this office will help ensure successful delivery of these important projects in a timely manner and set the agency on a path to expand transit options and improve the quality of Pace service throughout the region.

ACTION ITEM 2 Investigate Innovation and Mobility Programs

Pace will investigate an administrative framework to manage opportunities for harnessing emerging technologies that address the agency's current and anticipated mobility issues.

Other transit agencies such as LA Metro, AC Transit, DART, and TriMet have successfully utilized innovation units to harness the potential of evolving mobility services. A similar structure may allow Pace to test out new ideas and support collaboration among departments, across other agencies, and with the private sector.

Innovation and Mobility programs may also support future pilot project agreements and develop a set of innovation standards guided by Pace's evolving service standards. It may also help integrate department functions, facilitate standardization and interoperability of new technologies, and cultivate an environment for future technological adoption with a people-centric approach.

COVID-19
Impact

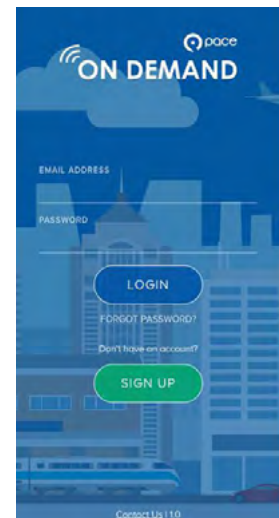


P-4 | Potential COVID-19 Impacts

Through survey efforts and other external outreach, Pace is gauging customer feelings about personal safety and COVID-19 while aboard transit vehicles. This information may help assess when and how New Mobility options should be implemented. Pace's RideShare application, along with other emerging technology and marketing programs, may attract customers back to using smaller vehicles, particularly if such feature convenient access to rail stations and other fast long distance transit options like Pace Express.



Above - Pace St. Charles - Geneva On Demand service. Right - The Pace On Demand mobile application interface.



ACTION ITEM 3 Investigate a Corridor Development Program

Pace will explore developing of a program focused on strengthening the core network of high capacity transit lines. As part of employing a system-wide approach to planning, this program would assess key corridor factors that create successful transit services such as needed improvements to pedestrian infrastructure and bus stops, land use impacts to the pedestrian environment and appropriate service types and levels.

The program would feature a continual stakeholder engagement process to help set clear expectations and apply transparent criteria to determine how Pace should most effectively develop and implement new corridors.

Through the *Driving Innovation* planning process, Pace has developed a corridor prioritization metric to determine the highest potential performing corridors across the six-county region (Figure 4). For this assessment, corridor segments were evaluated using a weighted criterion of daily ridership, walkability, gaps in service, population, employment, and land-use. The segments were then grouped alike to form preliminary corridors with potential for enhanced Secondary or Primary service, or Pulse lines.

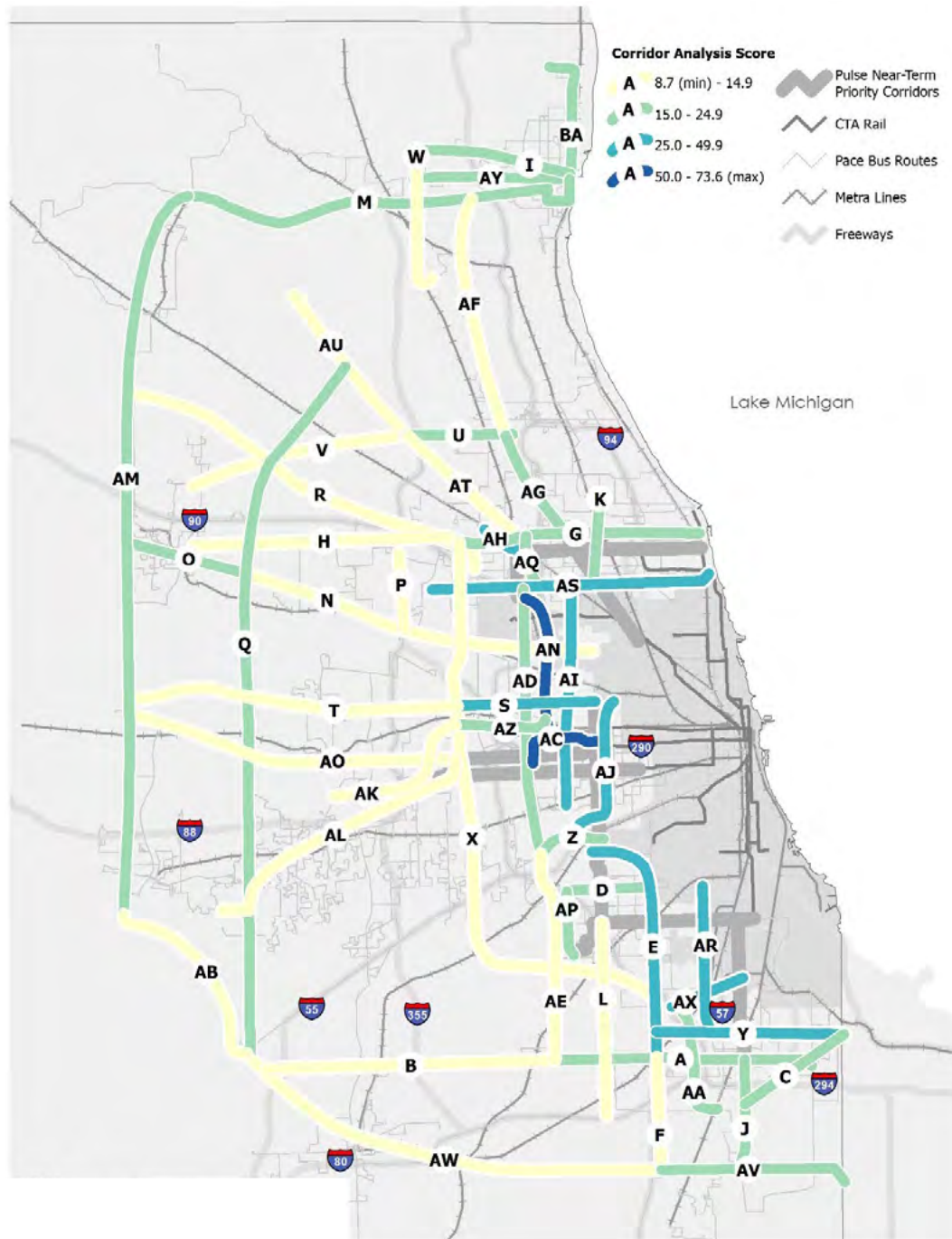
The Corridor Development Program will use this set of preliminary priority corridors for two purposes:

- Determine the next corridors that Pace may program into the Near-Term Priority Pulse Network
- Upgrade and graduate other promising fixed-route corridors that meet proposed Pace Service Standards of Primary or Secondary categories





The Milwaukee Line operates along a corridor where high passenger activity has been observed for many years prior to the launch of the new service and showcases an environment suitable for Pulse treatments.


Figure 4: Preliminary Prioritized Corridors



#	Main Roadway serving Corridor Segment	Endpoint 1	Endpoint 2
A	159th Street	South La Grange Road	Torrence Avenue
B	159th Street (West Extension)	Lincoln Highway	South La Grange Road
C	170th Street	Halsted Street	State Line Road
D	79th Street	South 88th Avenue	Cicero Avenue
E	Cicero Avenue	Archer Avenue	159th Street
F	Cicero Avenue (South Extension)	Lincoln Highway	159th Street
G	Golf Road	Busse Road	Green Bay Road
H	Golf Road (West Extension)	Liberty Street	Busse Road
I	Grand Avenue (Lake County)	US 45	Amstutz Expressway
J	Halsted Street	US 30	159th Street
K	Harlem Avenue (North Extension)	East Lake Avenue	Howard Street
L	Harlem Avenue (South Extension)	Moline Express	I-294
M	IL 120	IL 31	Washington Street
N	IL 19 / Irving Park Road	Sutton Road	Harlem Avenue
O	IL 19 / Irving Park Road (West Extension)	Randall Road	IL 59
P	IL 53	Higgins Road	Irving Park Road
Q	IL 59	West Lockport Street	North Rand Road
R	IL 62	Randall Road	Elmhurst Road
S	IL 64 / North Avenue	IL 83	North Harlem Avenue
T	IL 64 / North Avenue (West Extension)	Randall Road	IL 83
U	IL 68	US 12	Milwaukee Avenue
V	IL 68 (West Extension)	Higgins Road	Rand Road
W	IL 83 (North Extension)	Grand Avenue	Park Avenue
X	IL 83	Golf Road	Cicero Avenue
Y	IL 83 (South)	135th Street	State Line Road
Z	Joliet Road	South La Grange Road	Harlem Avenue
AA	Kedzie Avenue	183rd Street	West 147th Street
AB	Lincoln Highway	US 30	South Division Street
AC	Madison Street	Westchester Boulevard	South Harlem Avenue
AD	Mannheim / La Grange Rd	Joliet Road	Touhy Avenue
AE	Mannheim / La Grange Rd (South Extension)	159th Street	Joliet Road
AF	Milwaukee Avenue (Additional North Extension)	Dundee Road	IL 120
AG	Milwaukee Avenue (North Extension)	Dundee Road	Golf Road
AH	Miner St	IL 83	River Road
AI	North Cumberland Avenue	Brookfield Avenue	Touhy Avenue
AJ	North Oak Park Avenue	1st Avenue	West North Avenue
AK	Oak Brook	Naperville Road	Robert Kingery Highway
AL	Ogden Avenue	IL 59	IL 38
AM	Randall Road	IL 31	US 30
AN	River Road	I-294	Madison Street
AO	Roosevelt Road (West Extension)	Randall Road	Summit Avenue
AP	South 88th Avenue	West 111th Street	Archer Road
AQ	South Des Plains River Road	Golf Road	Touhy Avenue
AR	South Western Avenue	West 147th Street	79th Street
AS	Touhy Avenue	Busse Road	Rogers Park
AT	US 12	Dundee Road	South Des Plains Road
AU	US 12 (Northwest Extension)	IL 176	Dundee Road
AV	US Highway 30	Crawford Avenue	State Line Road
AW	US Highway 30 (West Extension)	Division Street	Cicero Avenue
AX	Vermont Street	I-294	South Halsted Street
AY	Washington Street	IL 83	Zion
AZ	West St. Charles Road	IL 83	Lake Street
BA	Zion	Rosecrans Avenue	Belvidere Road

 = High score | 50.0 - 73.6 (maximum); (Over 75 percent range)

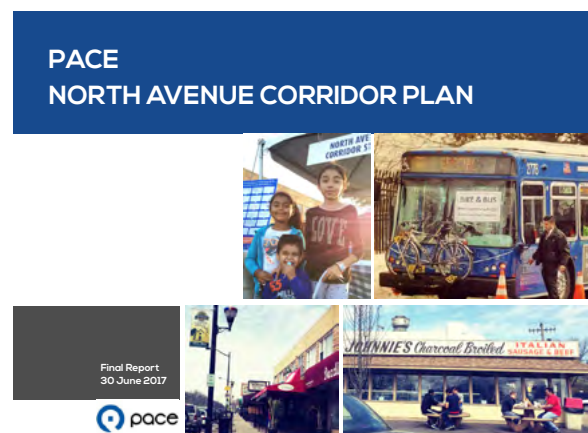
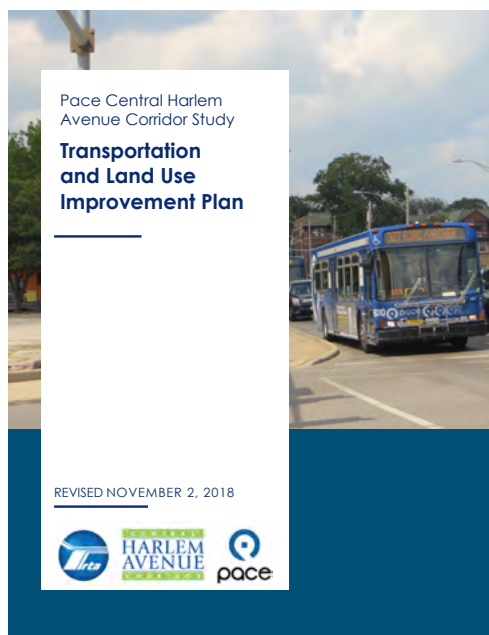
 = Medium score | 25.0 - 49.9 (25 - 75 percent range)

 = Low score | 8.7 - 24.9, (Less than 25 percent range)

This approach to corridor development borrows from Pace's Rapid Transit Program, where several future Pulse corridors have been evaluated using a similar planning process, such as the North Avenue and Central Harlem Avenue Corridor Plans (see images below). While these efforts primarily focused on identifying preliminary Pulse station locations, they also included a review of land use, pedestrian crossings, new developments, traffic congestion, safety, accessibility, sidewalk gaps, and transit demand/propensity, as well as a focused and comprehensive stakeholder outreach process with municipalities, county departments, agencies and other public and private organizations influencing corridor conditions.

Moving forward, Pace will further develop the preliminary set of priority corridors in the region, which will be reevaluated and updated as needed to ensure advancement in capital improvements along corridors are paired properly with Pace service improvements. Pace may adjust the criterion over time to more closely match current conditions within the region.

Priority corridors will also factor into other initiatives *Driving Innovation* calls for, including A-3 Rapid Transit Program, A-4 Service Standards Framework, A-5 Network Revitalization & Service Restructuring, P-3 Transit-Supportive Development Engagement, and S-1 Tactical Transit Improvements.



Left - Cover for the Central Harlem Avenue Corridor Study Plan. Above - Cover for the North Avenue Corridor Study Plan.

South Halsted Bus Corridor

CTA and Pace initiated the South Halsted Corridor project in 2017, which is a multi-phased effort to plan and design for service and infrastructure improvements along South Halsted Street between 79th Street and the Pace Harvey Transportation Center, including segments of 79th and 95th Streets between Halsted and the respective CTA Red Line stations.

Pace plans to roll out Pulse service in this corridor, and both agencies are working with CDOT and IDOT to determine the feasibility of bus-priority infrastructure in this corridor.

Public meeting materials from January of 2020 are shown on this page. This project is funded in part by CMAP and Cook County.



Potential Improvements

Dedicated Bus Lane

- Dedicated bus lanes help buses avoid traffic delays, allowing buses to carry the same number of people, more efficiently



Queue Jumps

- WHAT ARE QUEUE JUMPS?** They are special lanes at signalized intersections that allow buses to bypass general traffic

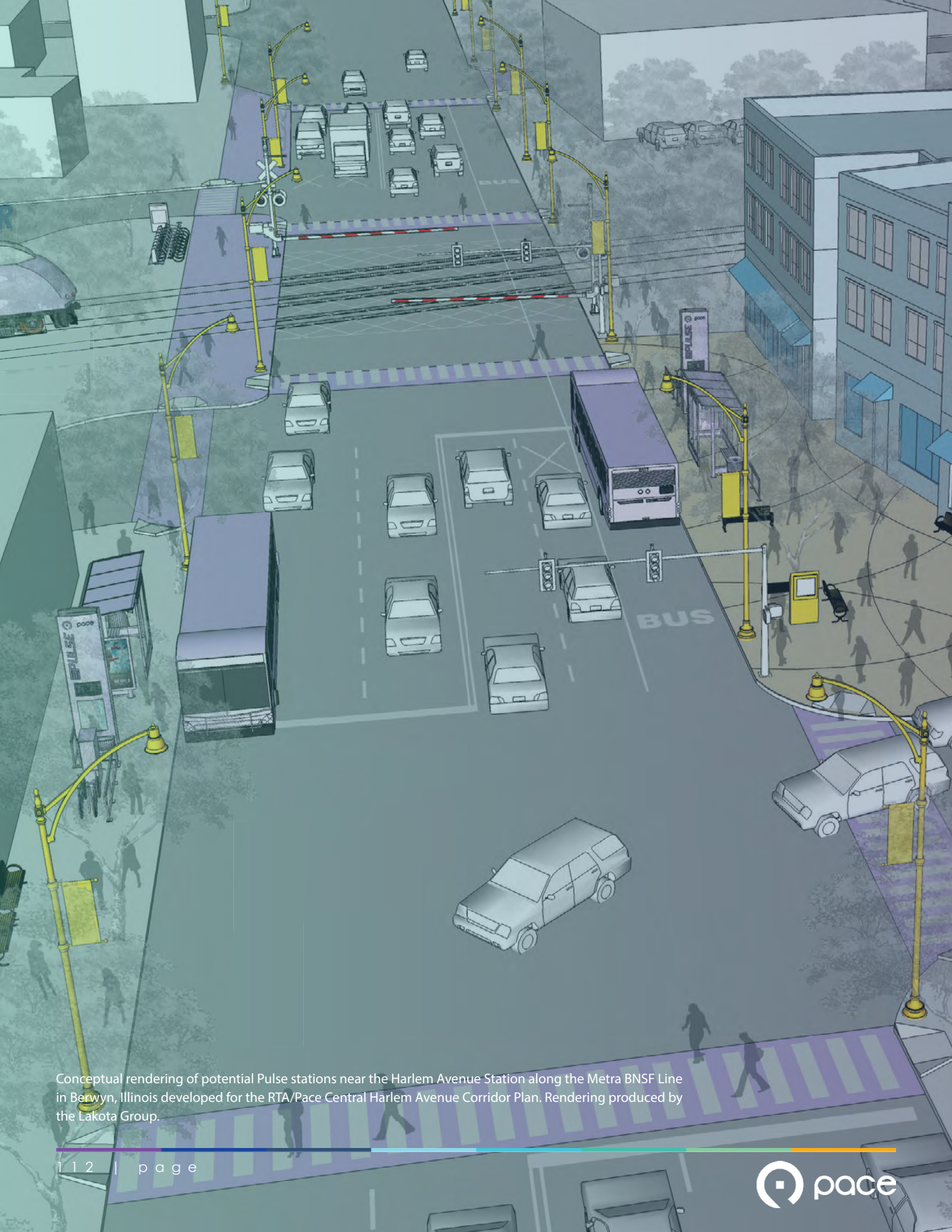
Transit Signal Priority

- Modifies traffic signal timing when buses are present to give them extra green time to keep on schedule
- Improves both speed and reliability
- Pedestrian crossing times would not be reduced

Signal Optimization

- Adjust traffic signals to be better coordinated and keep traffic (bus and auto) moving
- Buses will always be given a lower priority than emergency vehicles, and the traffic signal system will only change signal light times for buses if the change does not significantly interfere with other traffic





Conceptual rendering of potential Pulse stations near the Harlem Avenue Station along the Metra BNSF Line in Berwyn, Illinois developed for the RTA/Pace Central Harlem Avenue Corridor Plan. Rendering produced by the Lakota Group.

P-3 Transit-Supportive Development Engagement

Initiative: Support *Driving Innovation* service development initiatives by establishing clear expectations for level of service and transit amenities that municipalities and the development community can expect for building transit-supportive developments.

**IMPLEMENT
NOW**

implement
later

further
investigate

Supports Goals:

Accessibility, Equity, Productivity, Safety, Adaptability, Collaboration, Diversity, and Integrity

Overview

Transit systems are dependent on the physical and social characteristics of the regions that they serve. Choices that communities make about infrastructure, development patterns and land use can make or break transit as a successful mode. The aim of this set of initiatives is to encourage community characteristics that are supportive of transit.

ACTION 1 Establish Transit and Land-Use Typologies

Since Pace adopted its *Vision 2020* plan, transit agencies and decision makers have come to better understand the deeply intertwined relationship between land-use policy and transit use. While this is a well-known phenomenon⁶, the role of these factors has been recently supported by robust datasets and other evidence. While land-use is often beyond transit agencies' control, there are still opportunities to advocate for intersectional approaches proven to make transit better for all.

The rural-to-urban transect is a system that helps classify characteristics of the built environment in useful order, from most rural to most urban. Municipalities can have many types of development typologies spread across different landscapes. Using transect cross-sections of urban development help frame potential transit service designs and mobility solutions.

⁶ Zupan, J. and Pushkarev, B. (1977) *Public Transportation and Land-Use Policy*, Regional Plan Association (New York, N.Y.) Indiana University Press

In 2013, Pace published its Transit-Supportive Guidelines which utilizes a transect-like approach to classify the vast area that the agency serves. This innovative document communicates to municipalities in Pace's service area how development and land-use decisions impact Pace's ability to provide effective public transit. However, in the years since its release, transit ridership is declining, and Pace's service area is still growing in ways that both support and hinder fixed-route transit service. Additional measures may help to further assist municipalities to utilize these guidelines and focus regional development in transit-supportive ways.

As land-use patterns continue to affect transit ridership, new mobility services have become increasingly popular. For example, Uber, Lyft, Via and similar services are more frequently used and may directly compete as substitutes for transit⁷. State regulation of for-hire vehicles does not require data sharing, and with some exceptions local municipalities do not have the capacity to take on the administrative burden of managing this growing industry⁸. Thus, the full impacts of these services on Pace's ridership are uncertain.

The Northeastern Illinois regional context presents significant challenges in best meeting the transit needs of residents and visitors. Much of the region needs improvement when it comes to walkability and land-use, as transit customers frequently face missing sidewalks and sprawling developments. Thus, there are few incentives to coordinate these new mobility choices with existing transit services. These are challenging circumstances — most of which are out of Pace's control.

The transect diagram (Figure 5) shows how Pace's array of service options can meet the needs of the various regional land-use and development contexts. It also illustrates that a bulk of Pace's fixed-route service categories currently serve lower-density and less transit-supportive areas.

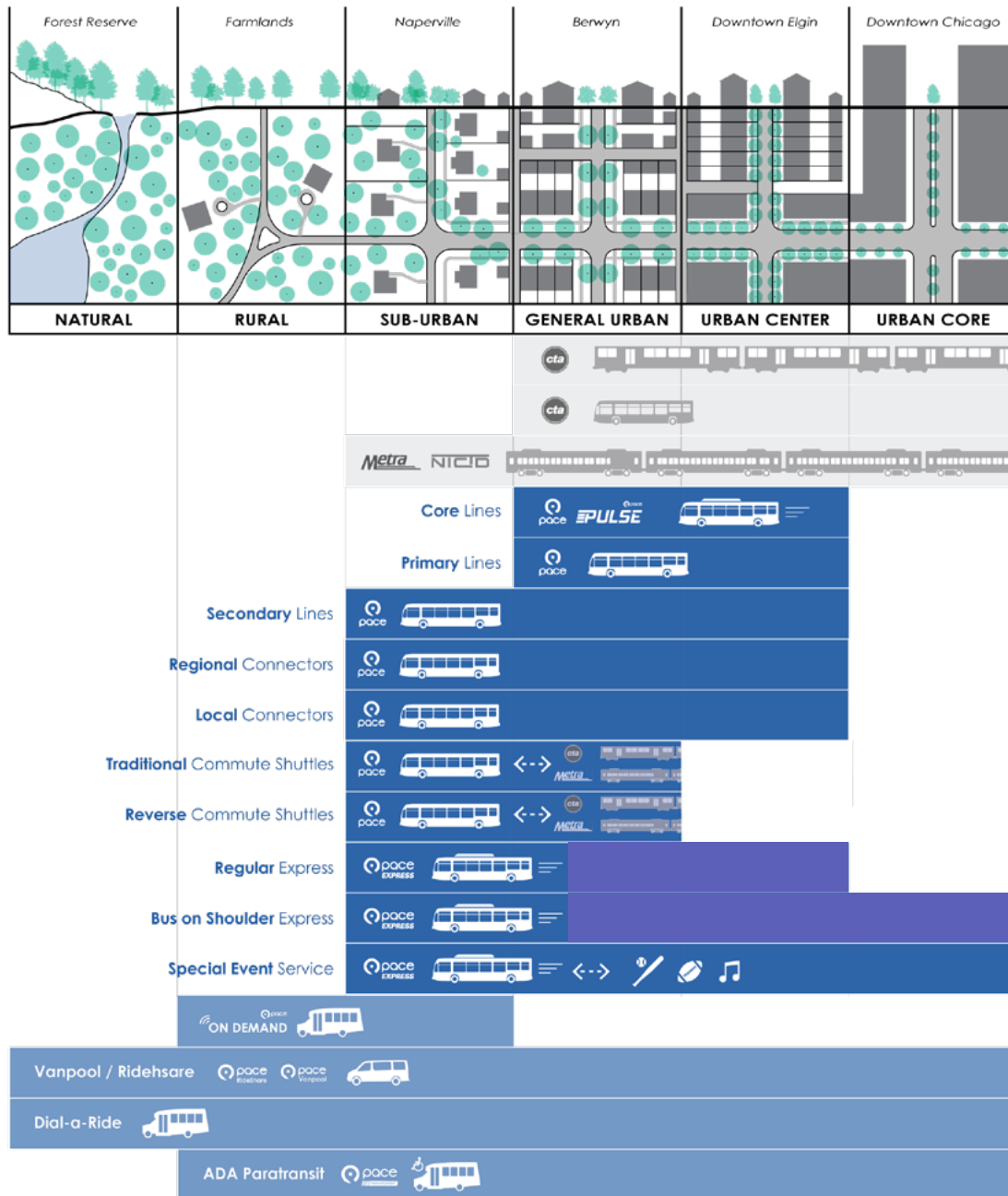
Critical to the approach of the *Driving Innovation* plan is to develop a strategy to help Pace deploy transit resources in the most efficient and equitable manner.

Pace must find the right balance of fixed-route and non-traditional transit services to ensure resources are available to the greatest number of people, and that services meet the needs of communities that most depend on transit.

⁷ Transportation Network Providers and Congestion in the City of Chicago (2019) <https://www.chicago.gov/content/dam/city/depts/mayor/Press%20Room/Press%20Releases/2019/eTNPCongestionReport.pdf>

⁸ Baron, D. (2017) "When Ridesharing Comes to Main Street" http://www.deckandbaronlaw.com/news_pdf/baronDec17REPRINT.fTNPCongestionReport.pdf

Figure 5: Existing Pace Transit Typology by Urban Transect



Note - The top portion of the above illustration is modeled on the "Rural-to-Urban Transect" concept as featured in the Congress for the New Urbanism (CNU) Public Square Journal, and developed by DPZ Partners (cnu.org, 2017).

The specific municipalities displayed in the column headers are used for illustrative / example purposes only.

Innovative Approaches to Transit Supportive Development



Above: Two land-use approaches are depicted above. The left photo shows a typical suburban development pattern, while the right photo illustrates how infill development in the same area can be achieved and provide an environment more conducive to transit. (plusurbia.com)



Left: Pace’s Transit Supportive Guidelines, completed in 2013, has provided municipalities, roadway agencies and developers with the tools to promote better bus infrastructure and design and strategies for making such complementary with planned developments.

Below: Other land use concepts, such as the Missing Middle Housing (illustrated by Opticos Design, Inc.), promote a gradation of architectural forms that can help streamline urban environments from detached single-family residential all the way up to mid-rise.

This particular blend of housing, land use, and urban form is relevant to the vast majority of Pace’s service area. (missingmiddlehousing.com, 2020)



ACTION ITEM 2 Update Pace's Transit-Supportive Guidelines

Pace will update and expand the 2013 Transit-Supportive Guidelines (TSG) framework to provide municipalities, roadway agencies and developers clear guidance for how to properly design for and access Pace services and promote transit-supportive land uses. An expanded TSG program will provide a blueprint for communities to upgrade from one service category to another, based on the emerging Pace Service Standards Framework.

This process is intended to help manage expectations for how service is aligned with development. It will purposely incentivize higher-intensity land use and development patterns for communities that desire better public transit. The approach taken is also intended to increase awareness and attention to traditional fixed-route bus corridors as viable areas for investing in transit-oriented development (TOD).

Metra and CTA rail stations are typically targeted and invested in as TOD sites in Northeastern Illinois given the presence of station infrastructure and the potential for high-frequency, high-speed transit. Pace's fixed-route services are also increasingly moving toward this pattern of high-frequency and high-speed characteristics, with substantial passenger stations and infrastructure to anchor nearby development opportunities.

Examples of this include the Barrington Road Station and Pulse Milwaukee Line, along with planned projects such as future Pulse lines and expressway-based services and passenger facilities. Furthermore, even smaller-scale pedestrian and bus stop improvements along regular fixed routes with relatively good frequency can be enticing for development.

Pace will continue to coordinate with partner agencies such as RTA, CMAP, IDOT, county DOT's and municipalities to assist in communicating Pace's priority corridors as target areas for TOD and transit-supportive infrastructure.



P-5 | Potential COVID-19 Impacts

Many traditional forms of land use are primed for re-purposing. Suburban shopping malls have received renewed attention as the replacement of in-person shopping with online retail activity has accelerated during the pandemic. Office spaces have been similarly scrutinized, as many workers have permanently shifted to working remotely. Both provide examples of where Pace currently invests significant resources to serve. Pace will closely monitor how to adjust service in conjunction with the initiatives of this plan that are aimed at transit-supportive land use and the changes unfolding.



ACTION ITEM 3 Establish Transit Friendly Streets Standards

All transit users are pedestrians during their journeys. Thus, transit friendly street designs must facilitate transit access for pedestrians, bicyclists and others, as well as ensure effective transit service operations. Pace will create specific guidance for municipalities, counties and state highway departments related to transit.

Transit Friendly Streets standards could be a component of Pace's Transit Supportive Guidelines (TSG), or a stand-alone document. Whereas Pace's TSG provides a broader variety of guidance covering land use, bus infrastructure design, roadway design strategies and a proposed framework tied to Pace Service Standards, the Transit Friendly Street standards would be more narrowly focused on and provide greater detail for roadway geometry solutions.

The goal of the standards is to balance the competition for public space and prioritize moving people over any single mode of transportation. This may mean updating the geometric alignment of a street to make transit access and use more efficient and convenient⁹. This document will set a new vision and consistent standard for how transportation decision-makers across the Pace service area can leverage the immense potential of transit to create active and efficient streets across the transect of uses¹⁰. Recommended design and traffic management strategies include:

- Provide Adequately Sized and Maintained Sidewalks
- Provide Amenities for Pedestrians and Transit Riders
- Create Priority Lanes for Transit Vehicles
- Initiate Traffic-Calming Measures for Automobiles
- Redesign Intersections and Modify Signalization

Pace will work closely with IDOT to ensure coordinating with the department's Complete Streets Policy, as well as the Active Transportation Alliance to ensure its standards are holistic, actionable and complementary to the efforts these and other organizations and agencies in the region are implementing. Pace will also utilize CMAP's sidewalk inventory data to assist in coordinating plans for improved and accessible transit infrastructure.

⁹ Seattle DPD - Transit Friendly Design Guidelines. <https://www.seattle.gov/Documents/Departments/OPCD/Vault/AuroraAvenueUrbanDesign/TransitFriendlyDesignGuidelines.pdf>

¹⁰ NACTO Transit Street Design Guide. <https://nacto.org/publication/transit-street-design-guide/>

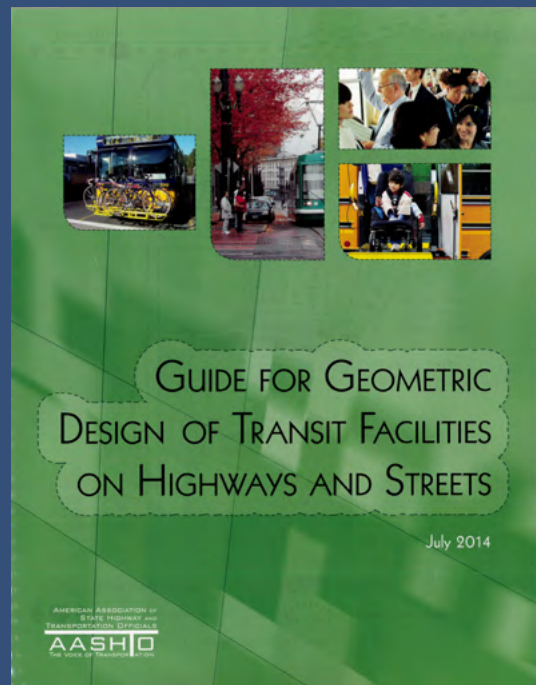


Applying Design Standards for Transit Streets

Many national resources exist to help transit providers, roadway agencies, consulting firms, counties and municipalities apply universal standards of design for building and maintaining transit infrastructure in the public right-of-way.

Among the more prominent resources are the Transit Street Design Guide written by the National Association of City Transportation Officials (NACTO) and the Guide for Geometric Design of Transit Facilities on Highways and Streets written by the American Association of State Highway and Transportation Officials (AASHTO).

Both publications apply best practices across North America for determining things like how far back a bus shelter should be placed from a street curb, the length of time a pedestrian should have to cross a street, geometric designs for traffic lanes, sidewalks, bicycle lanes, and many other topics.





A Pace passenger boards a Niles Free Bus in Niles, Illinois.

P-4 Transit Fare Equity Programs

Initiative: Explore a range of different solutions (including establishing price caps) to provide equal access to service for persons of all incomes and reduce financial barriers.

implement
now

implement
later

**FURTHER
INVESTIGATE**

Supports Goals:

Equity, Responsiveness, Adaptability, Collaboration, Fiscal Solvency, and Integrity

Pace currently has the ability to setup multiple fare payment policies and classifications, and has for years facilitated many different fare payment policies that allow special groups of individuals lower priced fares. Examples include the Seniors Ride Free program and reduced cost transit fares for high school students.

Moreover, connected electronic fare media offers Pace many options for promoting transit equity. Weekly or monthly passes can be effective tools for frequent riders, but the upfront cost is often too much for low-income households to afford. Moreover, passengers with low incomes often pay more per ride than those who can afford an unlimited pass.

Thus, Pace is committed to exploring the feasibility of implementing price caps for the variety of unlimited pass options that currently exist (i.e. daily, weekly, and monthly passes). Price caps represent the maximum the customer will pay within a certain time period. No matter how many individual trips they make in any time period, the customer will not be charged more than the price cap amount.

One example of a regional equity program is what C-Tran, TriMet and Portland Streetcar use with the Hop Fastpass. Passengers can ride knowing they will not have to pay more than a day pass worth of transit value in a day, can pay as they go and only pay for the trips they actually take.¹¹

Overall, Pace will continue to investigate various ways of using fare media and other practices to allow more people to access the transit system while ensuring neutral revenue streams.

¹¹ TriMet, 2020. myhopcard.com/home/save-as-you-ride

A Track Record of Balanced Budgets

Pace's 2020 Suburban Service & Regional ADA Paratransit Budget achieved a budget with no proposed fare increases. The document, developed on an annual basis, includes the 2020 Operating & Capital Program, 2020-2022 Business Plan for Operations and the 2020-2024 Capital Business Plan.

Beyond balancing its budget in spite of declining sales tax revenues and other dwindling sources of funding, Pace was able to invest in new services in 2019 in growth markets while curbing unproductive service elsewhere. The 2020 Budget achieved the funding and recovery marks identified by the Regional Transportation Authority (RTA) and utilized a variety of grant funds for various important projects.

Pace continues on in its tradition of receiving the Distinguished Budget Presentation Award from the Government Finance Officers Association of the United States and Canada (GFOA) for its annual budget in 2019, and hopes for another award for 2020.



P-5 Funding & Finance

Initiative: Consistent with Pace's annual budgeting process, develop strategic financial goals and refocused spending priorities, as well as develop a financial investment plan for new strategic initiatives.

**IMPLEMENT
NOW**

implement
later

further
investigate

Supports Goals:

Equity, Productivity, Responsiveness, Adaptability, Collaboration,
Environmental Stewardship, and Fiscal Solvency

ACTION ITEM 1 Strategic Financial Goals

Pace has developed the following set of objectives for meeting the *Driving Innovation* goal of deploying financial resources in a fiscally responsible way:

- Advocate for additional resources in Springfield and Washington D.C. that prioritize continued capital funding and ensure support for operating resources to address critical revenue losses due to COVID-19.
- Make service investments and align budget and staff resources based on the priorities and strategy laid out in the *Driving Innovation* plan.
- Implement Pace's transit asset management (TAM) plan and performance-based allocations of capital funding, in coordination with partner agencies.
- Continue to maintain a budget that optimizes the resources available.



Pace Corporate Headquarters Division in Arlington Heights, Illinois.

ACTION ITEM 2 Refocused Spending Priorities

Coverage-oriented services ensure that everyone has access to some transit service, no matter where they live. Ridership-oriented services focus on corridors and locations with the highest potential to attract more customers, and thus serve more people with the same resources.

Driving Innovation proposes for Pace to investigate dedicating 80 percent of its resources to ridership-focused services and 20 percent to coverage-focused services. Currently 72 percent of this spending goes to ridership-focused services and 28 percent goes to coverage-focused services (Figure 6). This number includes both fixed-route and demand-response services.

The proposed percentages represent initial estimates based on the technical analyses conducted with the *Driving Innovation* planning process. While further analysis is needed to refine these percentages, the overall focus is greater spending on ridership-focused services.

It is anticipated that this shift will generate higher ridership and thus higher farebox recovery and overall higher productivity. Moreover, Pace would presumably be able to serve more passengers using the same resources.

As noted elsewhere in *Driving Innovation*, coordination with CTA will be imperative in areas where both agencies are currently operating fixed-route services. Equally important will be a consideration of equity implications to any service changes.

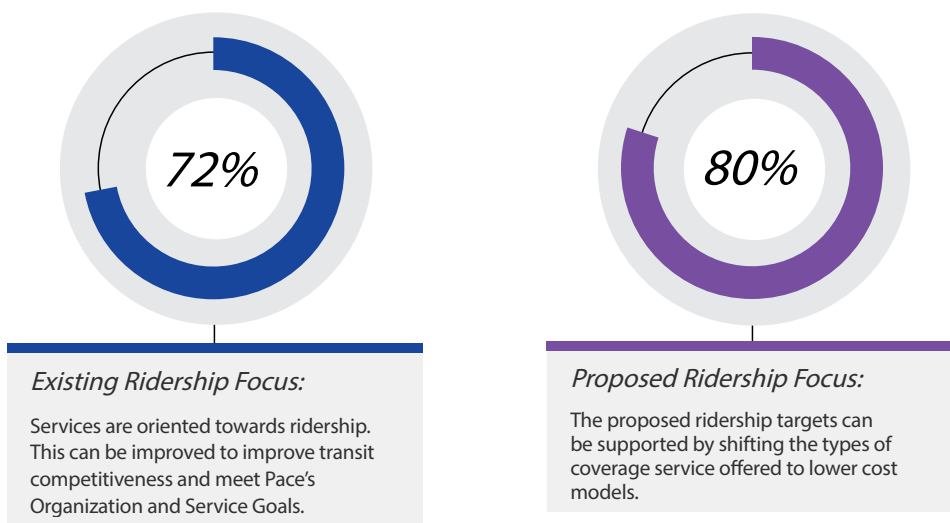


Figure 6: Share of Service Spending (Fixed-Route and Demand-Response Services)

ACTION ITEM 3 Financial Investment Plan

Pace anticipates a significant amount of new capital funding for at least the next five years, of which more than half is expected to come from state funding. As mentioned in the S-1 initiative in the following section of this document, the state capital program will fund various infrastructure projects. This program includes earmarks for Pace projects and established a Transportation Renewal Fund as an ongoing, reliable funding source for future capital needs. Additionally, federal funding for capital projects is expected to provide approximately \$44 million per year, from sources such as Section 5307/5340 Urbanized Area, Section 5339 Bus and Bus Facilities.

Most of the funding for Pace's capital program will be used for projects needed to bring the Pace system closer to a state of good repair. Major categories of expenditure include rolling stock, support facilities & equipment and stations and passenger facilities.

Although Pace faces near-term financial challenges such as flat growth in revenue and declining sales tax revenue, new capital resources and the opportunities described suggest the fiscal stability is possible in the long-term. The plan at this point can only estimate the revenue-producing or cost-saving potential of the initiatives. However, as the details are developed, it will be possible to establish more detailed five-year and long-term plans.

Cost-saving initiatives are being investigated that will free up funding for new initiatives that offer other benefits. Also, new initiatives may be matched to new funding sources, such as federal grants that support new mobility or technological advances.

P-7 | Potential COVID-19 Impacts

Pace's 2020 budget was severely impacted by COVID-19 and the associated loss of farebox revenue. The agency expects the duration of the pandemic and slow economic recovery to have long-lasting effects on subsequent budgets for 2021, 2022 and potentially beyond.

While emergency federal aid has helped offset some of this loss of revenue, additional measures may be needed in coming years which will affect many of the action items in this initiative.



Programs, Policies & Frameworks Initiative

		P-1 Mobility Agency Transition	P-2 Strategic Administrative Functions
Service Goals	ACCESSIBILITY	✓ Continue to develop innovative services for first/last mile.	✓ Support customer technology solutions using compatible common practices.
	EQUITY	✓ Plan new and adjust existing services to fit community context.	✓ Continue to ensure equitable access to high-quality transit.
	PRODUCTIVITY	✓ Grow successful service types based on high demand.	✓ Develop milestones supporting higher numbers of passengers per hour.
	RESPONSIVENESS	✓ Modernize /consolidate customer interface.	✓ Develop performance targets for different service types.
	SAFETY	✓ Collaborate with stakeholders to address urban form and transit access.	✓ Collaborate with stakeholders to address urban form and transit access.
Organization Goals	ADAPTABILITY	✓ Accommodate new service types and new forms of public-private partnerships.	✓ Further utilize large data telematics to improve transit demand models.
	COLLABORATION	✓ Strengthen partnerships with transportation agencies.	✓ Develop pilot projects that maximize grant opportunities and funding initiatives.
	DIVERSITY	✓ Provide opportunities for training, advancement.	✓ Foster management practices that build trust, accountability, innovation, efficiency.
	ENVIRONMENTAL STEWARDSHIP	✓ Provide alternatives to personal vehicles, VMT, and emissions.	
	FISCAL SOLVENCY	✓ Explore public-private partnerships and innovative financing opportunities.	✓ Align budget and staff resources with the priorities of the strategic vision plan.
	INTEGRITY	✓ Responsibly modernize systems and organization.	✓ Responsibly modernize systems and organization.

	P-3 Transit-Supportive Development Engagement	P-4 Transit Fare Equity Programs	P-5 Funding & Finance
ogy /	✓ Strategies for addressing low-demand areas.		
ole sit.	✓ Plan new and adjust existing services to fit community context.	✓ Affordability policies extended to those unbanked or lacking smartphones.	✓ Allocate resources to exceed ADA requirements.
ting ers	✓ Develop milestones supporting higher numbers of passengers per hour.		✓ Develop milestones supporting higher numbers of passengers per hour.
ets		✓ Improve customer service and satisfaction.	✓ Develop performance targets for different service types.
ers d	✓ Collaborate with stakeholders to address urban form and transit access.		
sit	✓ Further utilize large data telematics to improve transit demand models.	✓ Provide open platform for mobile/flexible payment.	✓ Expand procurement capabilities to accommodate new service types.
es	✓ Support deeper communications with local governments and other institutions.	✓ Strengthen partnerships with transportation agencies.	✓ Develop pilot projects that maximize grant opportunities and funding initiatives.
ces ity,	✓ Ensure practices are culturally responsive, inclusive, and consistent.		
			✓ Support efficiency upgrades for vehicles and plan for alternative fleets.
of		✓ More riders able to pay fares and ride the system.	✓ Align budget and staff resources with the priorities of the strategic vision plan.
ems	✓ Actively engage with passengers and the general public.	✓ Responsibly modernize systems and organization.	



Pace compressed natural gas (CNG) fueled vehicles serving the Pace Harvey Transportation Center, in Harvey, Illinois.

Initiatives: Service & Infrastructure



Pace is committed to upgrading its facilities, infrastructure investments, service typologies and plans. This section discusses how Pace will deliver and plan for capital projects that will allow the agency to continue to grow and meet the expanding transit needs of the region.

Details are also provided for Pace's vision of how specific types of services can and should be developed and upgraded, as well as the approach to be taken for planning its network.

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Initiatives in this category include:

- S-1 Tactical Transit Pilots
- S-2 Coverage Service Transformation
- S-3 Paratransit Upgrades
- S-4 Dial-a-Ride Service Consistency
- S-5 Centralized Operations Control Facility



Tactical Urbanism in Action

Tactical transit lanes (TTL) are low cost and rapid implementation bus-only lanes. TTLs are typically less than a mile in length and are strategically placed along a transit route. TTLs are typically installed by a municipal public works department in partnership with regional transit agencies.

In 2017 the City of Everett, Massachusetts and the Massachusetts Bay Transportation Authority (MBTA) carried out a TTL pilot program by designating a bus-exclusive lane with standard orange construction cones. Over the duration of the pilot, organizers found peak-hour buses ran 28 percent faster than before. Following Everett's investment in several hundred traffic cones and political capital, the cities of Boston and Cambridge began to roll out bus priority treatments.

Successful TTL project leaders indicate that a shared understanding of a project combined with shared ownership is essential. Consistent public communications and messaging from all partners will build trust, inspire confidence, and cultivate a public understanding of the project.



S-1 Tactical Transit Pilots

Initiative: Collaborate with municipalities and roadway agencies to pursue tactical measures to initiate temporary infrastructure improvements to enhance service and operations.

IMPLEMENT
NOW

implement
later

further
investigate

Supports Goals:

Equity, Productivity, Responsiveness, Safety, Adaptability, Collaboration, and Fiscal Solvency

Transit reliability and travel times are highly dependent on the infrastructure where buses are operating. To address reliability performance gaps as well as travel time competitiveness, *Driving Innovation* calls for “tactical” transit improvements. These are quick, effective and relatively inexpensive strategies that allow most of the same benefits as much more expensive and permanent infrastructure improvements. Examples include:

- Tactical transit lanes | Typically less than a mile in length, an entire lane of traffic can be cordoned off for bus-only use with orange plastic cones or paint.
- Neck-downs | Painted curb extensions, which can be buttressed by orange plastic cones or temporary bollards. These help pedestrians safely cross streets and access transit stops in the opposite direction of travel.
- Temporary bulb-outs | A transportable, rectangular raised platform placed directly on a curbside travel lane and adjacent to a bus stop.

Pace will seek out municipal and county partners that may be interested in implementing pilot projects. Near-Term Priority Pulse corridors and other key fixed route corridors may include the best places to try these strategies.

Successful tactical transit improvements may also help build support and communicate the benefits of permanent bus priority infrastructure to other regional stakeholders and potential funding sponsors.

Once pilots are tested, Pace can update the Transit-Supportive Guidelines to provide municipalities more tools to improve transit service. Consistent public communications and messaging from all partners will build trust, inspire confidence, and cultivate a public understanding of the project.¹²

Opposite Page - MBTA Tactical Bus Lane¹⁵ (top); NYCTMTA temporary bulbout¹³ (bottom-left); Crosswalk-shortening “neckdown”¹⁴ (bottom-right).

¹² *Best Practices in Implementing Tactical Transit Lanes*. UCLA Institute of Transportation Studies. 2019. www.its.ucla.edu/wp-content/uploads/sites/6/2019/02/Best-Practices-in-Implementing-Tactical-Transit-Lanes-1.pdf

¹³ *Why Tactical Transit is the Next Big Thing*. TransitCenter. 2016. transitcenter.org/2016/12/19/why-tactical-transit-is-the-next-big-thing/

¹⁴ *Guerrilla carfare: ‘Tactical urbanism’ aims for grassroots streetscape reform*. The Villager. 2017. www.thevillager.com/2017/03/guerrilla-carfare-tactical-urbanism-aims-for-grassroots-streetscape-reform/

¹⁵ Reynolds, J. (2016) MBTA Tactical Bus Lane www.bostonglobe.com/metro/regionals/north/2016/12/21/everett-hails-bus-only-lane-broadway-success/9wDjozXVolbCkz2ziPf9IJ/story.html



Pace passengers riding a Vanpool vehicle.

S-2 Coverage Service Transformation

Initiative: Further investigate how to strategically deploy coverage-focused services, such as On Demand, Vanpool, RideShare, micro-mobility and community partnerships to provide coverage service.

implement
now

implement
later

FURTHER
INVESTIGATE

Supports Goals:

Accessibility, Equity, Productivity, Responsiveness, Safety, Collaboration, Environmental Stewardship, and Fiscal Solvency

ACTION ITEM 1 Leverage Cost Effective Coverage Services

Driving Innovation calls for Pace to explore policies that will establish the desired allocation of coverage services between different contexts and urban typologies. This would allow a refined approach to improving ridership services and send a clear signal of the types of services that were appropriate for different typologies.

Pace may aspire to increase service on its successful Primary and Secondary Routes while reducing, restructuring, or replacing service for inefficient services such as commute shuttles and low ridership fixed-routes that primarily provide coverage.

For Pace, a key piece of reducing the cost of coverage services is prioritizing On Demand over Connector Routes, where feasible. On Demand services are more efficient than low-performing fixed routes, however may have a lower farebox recovery when compared one-on-one with most fixed routes.

Future market assessments and planning efforts will need to carefully consider where such replacements in service type would be desirable from both a financial and practical perspective.

Pace will explore new opportunities to partner with private transit providers and/or municipalities to reduce costs and improve service responsiveness.



ACTION ITEM 2 Continue Modernizing the On Demand Service Model

Analysis findings indicated that Pace's On Demand zones are its most efficient form of coverage, serving approximately 89 square miles per million dollars of annual operating cost. On Demand service also provides a personalized customer experience compared to hourly bus service.

As Pace assesses its funding and allocation of service resources in the wake of COVID-19, On Demand may provide one coverage-based service option for replacing fixed route services. This suitability of the service model depends on the urban typology, transit competitiveness and overall land use context. Ultimately, financial feasibility will be a major deciding factor in determining if and where On Demand should be expanded.

Pace will also explore new opportunities to partner with private transit providers and/or municipalities to reduce costs and improve service responsiveness, such as what Bedford Park is piloting (see pg. 135).

Lastly, Pace will continue the process of modernizing the On Demand service model to accept digital reservations, as well as continue its revamped marketing techniques to encourage greater utilization. These efforts will help enhance the customer experience and also improve data collection, so that Pace can better understand customer travel patterns, wait times, cancellation rates, and rejection rates.



ACTION ITEM 3 Conduct Pilots and Feasibility Studies

Pace will continue to optimize its On Demand service planning and determine ideal locations for potential service. Although Pace has previously and is currently conducting such studies independently, this type of investigation could also be conducted as part of the proposed A-5 Network Revitalization & Service Restructuring initiative or as standalone projects that coordinate with restructuring efforts. On Demand, Vanpool, and TNC partnership arrangements may be utilized to support the following scenarios.

SERVICE COVERAGE REPLACEMENT

On Demand and other alternative service designs may provide lower-cost coverage solutions for areas where demand for transit does not meet levels established by the agency's Service Standard Framework. Replacing select fixed-route service with On Demand may help Pace reallocate fixed-route resources in higher-performing markets and benefit more customers.

FIRST MILE-LAST MILE

Another strategy for On Demand services is to support first mile-last mile solutions, and the current and latent market demand for this unique portion of commute trips should be explored. A market identification process should identify the general location of markets, such as rail stations, park-and-ride locations utilized by bus and Pace vanpools, and regional employment centers that could benefit from first mile-last mile solutions.

BEYOND SERVICE SPAN

The feasibility of On Demand and TNC partnership pilots may be explored in areas where service span is a greater issue than access to higher-capacity transit. This may include areas with demand for late-night services or hours that go beyond current service spans.

Specific locations for these pilots should be determined from further analysis. Coverage-based pilot projects may provide an overlay across Pace's Secondary lines and Connector routes to span between Rural and Urban Center land-use/urban development typologies.

Importantly, a framework of evaluation should be explored to set expectations for when it may be appropriate to expend public dollars to subsidize TNC partnerships. Specifically, Pace should ensure that public dollars invested in a private partnership are equitable and avoid diminishing the quality or availability of core fixed-route service.

ACTION ITEM 4 Explore Micro-mobility Partnerships

A key to a better first- and last-mile experience is providing comfortable sidewalks and bicycle facilities and making sure they are well maintained. Advances in micro-mobility and new forms of shared mobility expand the reach of transit. Pace will explore pilot programs with micro-mobility providers. Coordinated bike-share or shared scooters may help achieve Pace's service coverage goals. Pilot programs may provide a detailed evaluation criteria to measure program effectiveness and to identify areas of improvement to address customer needs. Micro-mobility will only be a viable option in areas that are reasonably comfortable for walking and bicycling.

Pace would not be able to enter such a partnership independently; it would require collaboration and support from the local municipality. Pace will further investigate markets where micro-mobility is most appropriate.

Pace will also work with the Active Transportation Alliance, the Shared Use Mobility Center, and other civic and advocacy groups, to explore how to best approach this issue.



All Pace fixed-route buses are equipped with bicycle racks.

Village of Bedford Park

The Village of Bedford Park is a community in Cook County with only 580 residents yet over 600 businesses that attract thousands of workers who travel into the Village every day. This commuting pattern creates congestion and safety challenges.

In 2018, the Village of Bedford Park began a mobility study and pilot program to understand how emerging mobility options, such as ride hailing and sharing applications, can be used to promote transit connectivity and equal access to employment opportunities. Funded with a grant from Cook County and RTA, and in partnership with CTA, Pace, the Shared use Mobility Center and other stakeholders, this project explored innovative transportation solutions to connect businesses and visitors to transit hubs utilizing a matrix of transportation tools. The program identified key challenges in using transit to access an industrial area (using a multi-modal first mile-last mile assessment survey tool) and tested public-private partnerships between transit agencies and transportation network companies.



The Village of Bedford Park is home to hundreds of businesses that employ thousands of workers who rely on public transit service to get to their jobs.



A Pace Paratransit vehicle serving the Rosemont Transit Center, in Rosemont, Illinois.

S-3 Paratransit Upgrades

Initiative: Explore further partnerships, wheelchair-accessible vehicles and improvements to the fixed route system to serve Paratransit-eligible customers.

implement
now

implement
later

**FURTHER
INVESTIGATE**

Supports Goals:

Accessibility, Equity, Productivity, Responsiveness, Safety, Adaptability, Collaboration, Diversity, and Fiscal Solvency

Pace provides regional ADA paratransit service that is split between Chicago service (within the city limits) and Suburban service (the north, west, and south portions of Suburban Cook County and the five “collar counties”). Pace also administers a Taxi Access Program (TAP) that offers discounted taxi rides for ADA Paratransit-eligible riders in the City of Chicago.

As a regional service, the ADA paratransit program will require continued partnership with the City of Chicago, RTA, county-level partners, and civic organizations like MPC and others to advance potential changes.



MetropolitanPlanningCouncil



Pace Paratransit service.

ACTION ITEM 1 Make Fixed-Route System Easier to Use

Given the high cost of ADA paratransit service, Pace will continue exploring new and innovative ways to make its fixed route bus system easier to use for people with disabilities. Not only does this free up more Paratransit resources for those with the greatest need and allow greater independence for many current ADA passengers, it will also naturally make the fixed-route system easier to use for able-bodied passengers. This strategy embraces a “one size fits one” approach that encourages excellence in design for both vehicles and infrastructure.

Specific ways Pace will explore this action item include:

- Pace can work to reduce barriers to non-ADA transit usage in communities with the highest Paratransit utilization on Chicago's South Side. Trips with long wait times are often requested between South Side and Near West Side areas that are well-served by fixed-route transit. Pace will work with community partners to identify and address issues for how service is accessed at bus stops and transit stations in these areas.
- Pace will continue to work closely with RTA to evaluate practices for determining Paratransit eligibility against industry best practices. There may be opportunities to utilize more conditional eligibility (trip-by-trip).
- Pace will continue working with the county planning and transportation staff, the RTA, CTA, Metra, MPC and others to explore Paratransit and ADA accessibility issues.



Metropolitan Planning Council

Pace will continue working with community partners to identify and address issues for how service is accessed at bus stops and transit stations in these areas.

ACTION ITEM 2 Explore Paratransit Partnerships

Pace has begun to explore cost-effective measures to meet the needs of Paratransit customers. The cost per trip for the Taxi Access Program (TAP) trips in Chicago is approximately \$20 less than the operational cost of providing Pace's traditional Paratransit service (\$38/trip). Pace will look for ways to expand this successful program and explore partnerships with TNCs and local taxis to provide these services for all Paratransit customers.

Lessons for this type of program can be learned from the Massachusetts Bay Transit Authority (MBTA). In 2016 MBTA entered into a partnership with Uber, Lyft, and Curb to provide paratransit services.¹⁶ MBTA found that during the initial pilot program, customers experienced shorter wait times, same day booking, and faster trips. An evaluation of the first five months found that the program allowed customers to take 28 percent more trips at a reduced cost of 80 percent for MBTA. The evaluation also found that participants that required wheelchair-accessible vehicles (WAVs) experienced extended wait times and service delays, as WAVs are not widely owned by ride-share drivers due to high costs.¹⁷

For a similar program to be successful for Pace, financial incentives may be necessary to TNCs to increase availability of WAVs. TNC reimbursement can be tied directly to the number of "WAV Supply Hours," which is a measure of the availability of wheelchair-accessible vehicles for use by customers.

¹⁶ On-Demand Paratransit Pilot Program <https://www.mbta.com/accessibility/the-ride/on-demand-pilot>

¹⁷ Popular MBTA ride-share program leaving many wheelchair users with no ride. Boston 25 News. 2019. <https://www.boston25news.com/news/popular-mbta-ride-share-program-leaving-many-wheelchair-users-with-no-ride/942829494>



A wheelchair lift in operation.



An example of a wheelchair accessible vehicle equipped with adaptive driving devices.

Participants in this program could use accessible Vanpool vehicles to improve mobility options for people with disabilities who are unable to use standard ride-hailing vehicles.

ACTION ITEM 3 Integrate Wheelchair Accessible Vehicles (WAVs)

The Vanpool Advantage program uses Pace's Vanpool vehicles to allow human-service organizations to provide work-related transportation service to people with disabilities. Pace will explore utilizing this fleet to establish a new Vanpool option focused on expanding availability of Wheelchair Accessible Vehicles (WAVs) for local ride-hailing providers.

Participants in this program could use accessible Vanpool vehicles as contractors for regional TNC service. This would increase the number of WAVs available in the Pace service area and improve mobility options for people with disabilities who are unable to use standard TNC services.

To accommodate the needs of disabled drivers, Pace will investigate piloting a Vanpool program featuring vehicles with Adaptive Driving Devices for passengers who are unable to utilize standard pedals and vehicle controls. Adaptive Driving Devices may include hand controls, left foot accelerators, spinner knobs, and pedal extenders. These technologies are low cost and installed by a licensed professional.

Combining the hand-control options with WAV integration may allow disabled drivers to participate in the sharing economy. This would be a novel method for Pace to support the employment and mobility needs of people with disabilities.



Pace Vanpool service in downtown Chicago, Illinois.

Coming Soon! Pace ADA Paratransit Upgrades

In June 2019, the Illinois General Assembly passed Rebuild Illinois, a package of legislation to fund a variety of capital infrastructure projects, including mass transit. Pace is designating \$15.8 million of this funding toward the Regional ADA program in the 2021-2025 Regional ADA Paratransit Five-Year Capital Program.

Based on input from the riding public, Pace's two ADA Advisory Committees, and disability advocacy groups, Pace is developing several upgrades to improve the customer experience, including:

- **Trapeze Software:** The scheduling and database system will be upgraded to the newest version, paired with new hardware to improve service.
- **TripCheck:** This online tool, which allows riders to view or cancel trips online, will be improved with the ability to also book trips (which currently must be done via phone). Enhancements to the "Where's my Bus" feature will allow riders to track vehicle location, while a new smartphone app will be developed to make the process more user-friendly.
- **TripCheck IVR:** For customers without online access or who prefer to use the phone, the TripCheck Interactive Voice Response system will allow riders to review and cancel trips, eliminating the need to call carriers.
- **Notifications:** Riders will be able to receive text or email notifications such as trip booking confirmation, cancellation, vehicle arrival, next day itinerary, and rider no-show alerts.
- **Payments:** While customers must currently pay with cash or coupons, soon Ventra® cards will be able to be used to pay for paratransit fares. In addition, TaxiAccess Program (TAP) card upgrades will include an improved user portal.
- **Transfer Locations:** In areas with frequent transfers, funding will be used to purchase land, build facilities, and provide amenities for riders. These locations are planned to have security features, such as cameras, for improved customer safety. Pace has identified a location that is adjacent to the Northwest Transportation Center in Schaumburg that is planned to be the first of these transfer locations.



S-4 Dial-a-Ride Service Consistency

Initiative: Explore ways of streamlining DAR marketing, staffing, customer service, eligibility, reservations, and service hours across the region.

implement
now

implement
later

FURTHER
INVESTIGATE

Supports Goals:

Equity, Responsiveness, Adaptability, Collaboration, Diversity, Fiscal Solvency, and Integrity

The region's many Dial-a-Ride (DAR) zones serve a range of different purposes. These services fulfill a critical need for townships, counties and other local community organizations to provide medical and general purpose service that can be customized to individual needs. While these services do not generate high levels of ridership, they are numerous in the six-county area, are carefully crafted to suit context-sensitive needs, and provide extensive coverage-based service for those who meet eligibility criteria.

However, as MPC notes in their Universal Mobility Report, "service conditions can vary significantly within each county. With such structures, not all jurisdictions choose to participate, resulting in inequitable transportation services among communities within the same county."¹⁸ While there may be good reasons to retain customization of some DAR services, others may be ripe for streamlining in concert with the coordinated services approach that many counties in the region have been pursuing.

A working group with elected officials and human service agencies that fund DAR programs may be an option for further investigating this use. Such a group could potentially be tasked with streamlining operating policies across the region and to develop a framework for how these services should interact with each other and with the broader public transit network. The existing group that has participated in the 2021 RTA Human Service Transportation Plan effort may be a good starting point for this exercise.

The standardization process may include exploring grant opportunities so that the resources requested would align with Pace's expectations for service consistency. These steps would target supporting a more effective regional transit network and a more consistent experience for DAR customers. Improvements to marketing, branding and communicating the service can also be further investigated to support this initiative.

MetropolitanPlanningCouncil



¹⁸ *Toward Universal Mobility: Charting a Path to Improve Transportation Accessibility*. Metropolitan Planning Council (MPC). December, 2019. www.metroplanning.org. Page 38.



Pace buses serving the Elgin Transportation Center in Elgin, Illinois.

S-5 Centralized Operations Control Facility

Initiative: Investigate the feasibility of a centralized fleet management system to improve monitoring and deployment of resources.

implement
now

implement
later

FURTHER
INVESTIGATE

Supports Goals:

Responsiveness, Safety, Adaptability, Diversity, Environmental Stewardship, Fiscal Solvency, and Integrity

To improve service monitoring and performance, Pace will investigate the benefits, challenges and feasibility of transitioning from individual garage-based service management to a centralized system.

Examples of benefits of combining garage dispatch and monitoring facilities into a single point may include a more efficient use of equipment resources across the service area. Pace may apply lessons learned from the experiences of South Division staff which currently provides centralized dispatch overnight for a limited number of Pace services. Centralizing may also help coordinate service disruptions from special events, episodic traffic congestion, agency responses to construction or mechanical failures.




Challenges may include migrating dispatching functions from nine garage divisions plus contracted operations, as well as understanding cost implications. However, the implementation of other *Driving Innovation* initiatives may also change the dynamics of centralized dispatching, and will be taken into consideration as investigation into this idea moves ahead.



One of Florida Department of Transportation's Regional Transportation Management Centers (www.fdot.gov).

Service & Infrastructure Initiatives

		S-1 Tactical Transit Pilots	S-2 Coverage Service Transformation
Service Goals	ACCESSIBILITY		✓ Refine strategies for providing coverage and addressing high demand areas.
	EQUITY	✓ Plan new and adjust existing services to fit community context.	✓ Collaborate with stakeholders to supplement traditional bus routes.
	PRODUCTIVITY	✓ Grow successful service types based on high demand.	✓ Identify areas where market demand supports on-demand services.
	RESPONSIVENESS	✓ Pursue reliability improvements for Pace services.	✓ Modernize /consolidate customer interface.
	SAFETY	✓ Collaborate with stakeholders to address urban form and transit access.	✓ Collaborate with stakeholders to address urban form and transit access.
Organization Goals	ADAPTABILITY	✓ Repurpose obsolete / underused assets.	
	COLLABORATION	✓ Develop pilot projects to maximize grant opportunities and funding initiatives.	✓ Support deeper communications with local governments and other institutions.
	DIVERSITY		
	ENVIRONMENTAL STEWARDSHIP		✓ Provide alternatives to personal vehicles that reduce greenhouse gas emissions.
	FISCAL SOLVENCY	✓ Expend resources that prioritize capital improvements.	✓ Explore public-private partnerships and innovative financing opportunities.
	INTEGRITY		

	S-3 Paratransit Upgrades	S-4 Dial-a-Ride Service Consistency	S-5 Centralized Operations Control Facility
ng low-	 Support customer technology solutions using compatible / common practices.		
ers us	 Allocate resources to exceed ADA requirements.	 Prioritize higher need communities and those traditionally disadvantaged.	
et and	 Identify areas where market demand supports frequent transit.		
	 Pursue reliability improvements for Pace services.	 Modernize/consolidate customer interface.	 Pursue reliability improvements for Pace services.
ers d	 Implement vehicle design features that increase customer safety.		 Continue maintaining fleet, ensuring a state of good repair.
	 Repurpose obsolete / underused assets.	 Develop expedited processes to accommodate new partnerships.	 Further utilize large data telematics to support service efficiency.
	 Collaboratively balance cost reductions with service improvements.	 Support deeper communications with local governments and other institutions.	
	 Ensure Pace practices are inclusive.	 Foster management practices that build trust, accountability, innovation, efficiency.	 Foster practices that build accountability, innovation, efficiency, and productivity.
ce			 Achieve fleet performance efficiency goals.
e	 Explore public-private partnerships and innovative financing opportunities.	 Explore public-private partnerships and innovative financing opportunities.	 Expend resources that prioritize capital improvements that support operations.
		 Responsibly modernize systems and organization.	 Responsibly modernize systems and organization.



RELOAD YOUR
VENTRA® CARD HERE

Pace passengers waiting for the bus at the Golf Mill Station in Niles, Illinois.

Initiatives: Technology & Insight

Pace recognizes that the evolution of transportation technologies over the last decade is leading to significant changes in the methods used to plan and design future transit systems.

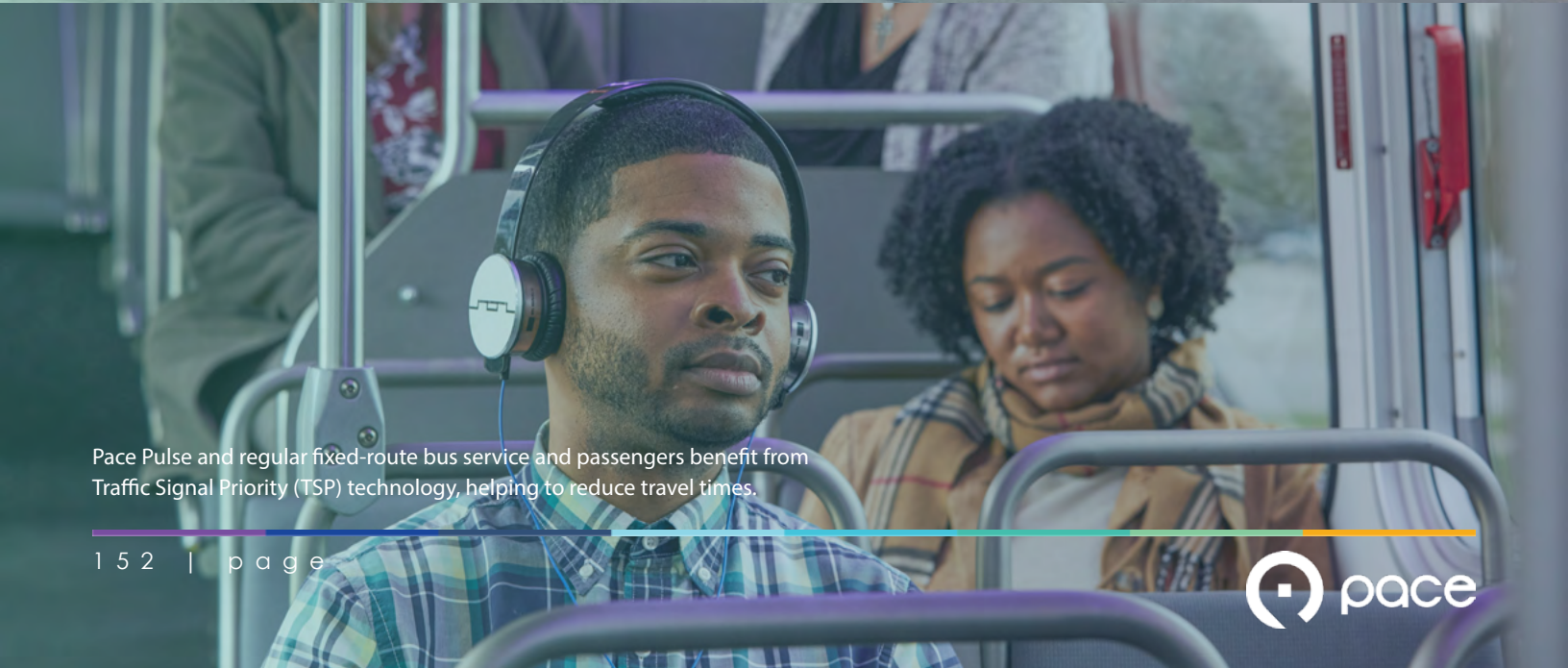
Differences in operations, passenger commuting practices, travel patterns/markets, climate, environmental conditions, fiscal resources, service standards, operations, and business plan priorities are all strong influences on the agency's appetite for technical changes.

This section touches on the most prominent and promising technology-based solutions that Pace may have the capacity for either implementing near-term or beginning to make long-term plans to accommodate.

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Initiatives in this category include:

- T-1 Current Technology Programs
- T-2 Customer Focused Engagement
- T-3 Integrated Transit Platform
- T-4 Open Source Multimodal Trip Planner
- T-5 Connected and Autonomous Transit Vehicle Pilots



Pace Pulse and regular fixed-route bus service and passengers benefit from Traffic Signal Priority (TSP) technology, helping to reduce travel times.

T-1 Current Technology Programs

Initiative: Expand and build upon the success of Pace's current technology-based initiatives to augment infrastructure and service development initiatives.

**IMPLEMENT
NOW**

implement
later

further
investigate

Supports Goals:

Accessibility, Equity, Productivity, Responsiveness, Safety, Adaptability, Collaboration, Diversity, Fiscal Solvency, and Integrity

ACTION ITEM 1 Intelligent Transportation Systems (ITS) Programs

Pace will continue to deploy Transit Signal Priority (TSP) solutions in the region, in collaboration with partner agencies, and explore further options for advancing traffic management and communications. Currently, Pace has deployed TSP along Milwaukee Avenue in Niles and Chicago. An additional 10 corridors along roadways served by Pace fixed-route bus services are programmed, with plans for additional corridors under development.

The overall approach to TSP is to provide Pace and CTA buses the longest possible green lights and shortest possible red lights at traffic signals of all major intersections. Both Pace passengers and general motorized traffic along Milwaukee and future TSP corridors unknowingly benefit from improved travel times due to TSP technology. That's partly because buses nearing an intersection will automatically request a longer green or shorter red if they are falling behind schedule, which means all nearby vehicles also benefit from favorable signal timings.

Additionally, TSP projects include optimizing the progression of all traffic signals along a corridor for all traffic. That means all motorists traveling along Milwaukee Avenue are much more likely to move through several consecutive intersections without stopping, whether or not a CTA or Pace bus is nearby triggering a change to the traffic signal.

TSP has also evolved significantly since it was first introduced more than a decade ago using infrared and wireless local area network equipment. Pace is working with regional partners to upgrade more than 300 signals with modern equipment that employs an integrated system-to-system approach.

ACTION ITEM 2 Upgraded Fare Collection System



The Ventra fare collection system features seamless fare integration between CTA and Pace, with Metra tickets available through a common mobile application. Introduced in September 2020, a new version of the mobile app allows riders to plan trips among scheduled train and bus services, as well as Chicago's popular Divvy bike-share service. Riders can also use their smartphones as a virtual Ventra card to pay for these services, without having to carry a plastic transit card.

Pace has also implemented a first-in-the-nation system interface between the Ventra and Paratransit systems that allows touchless payment for ADA paratransit customers. This comes in conjunction with the improvements to online and real-time trip booking, vehicle tracking, trip cancellation, and itinerary reviews being implemented through the Rebuild Illinois project.

Pace will continue to innovate new ways of providing flexible, fast, and convenient trip planning and fare payment options to both improve customer ease of use and speed up boarding and alighting processes.



The new Ventra mobile application

The Ventra fare collection system features seamless fare integration between CTA and Pace, with Metra tickets available through a common mobile application.

Transit Signal Priority (TSP) | A Regional Partnership

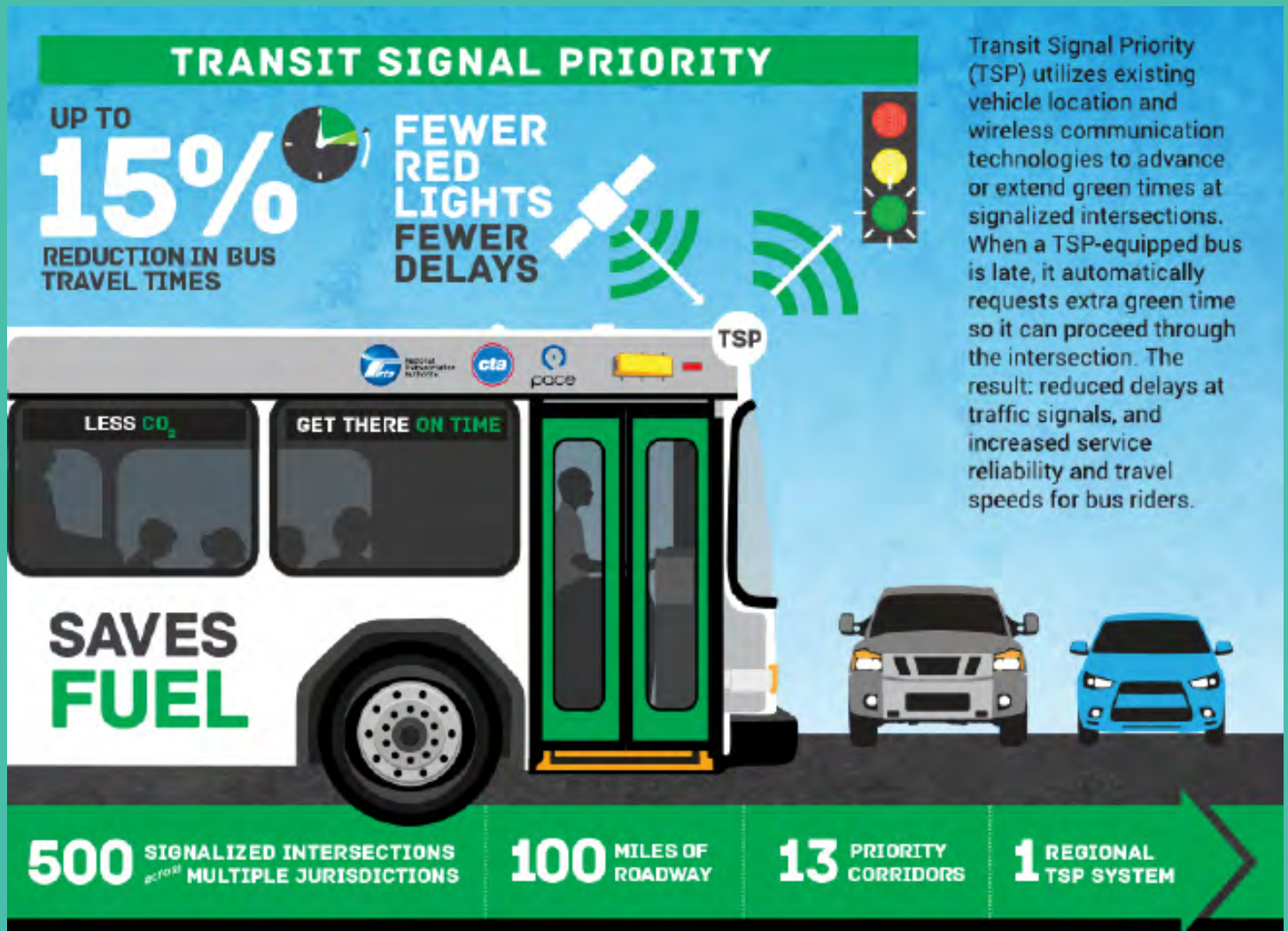


Image source: RTA (2021).



In partnership with the RTA, CTA, IDOT, CDOT, and other local county transportation agencies, Pace is implementing TSP technology on 11 corridors:

- 159th Street
- 147th Street/Sibley Boulevard
- 95th Street
- Cermak Road
- Cicero Avenue
- Dempster Street
- Grand Avenue (in Lake County)
- Milwaukee Avenue (completed)
- Roosevelt Road
- Halsted Street/Harvey
- I-90 Transit Corridor Access

ACTION ITEM 3 Integrated Data Systems and Analytics

Since adopting the *Vision 2020* Plan in 2002, Pace has implemented several major data reporting systems, hardware and other technologies to allow automatic vehicle location (AVL), electronic fare payment, and automated passenger counting (APC). Mobile ticketing and contactless payments via pay apps are also being realized. Provided by multiple vendors, these systems result in complex data flows that support a variety of administrative uses including bus operations, performance analysis, planning, scheduling, and reporting to external partners.

As more sophisticated data collection applications are continually upgraded and implemented across Pace's fleet and administrative facilities, the quality and quantity of data will continue to grow. To control costs and complexities, and to effectively analyze and benefit from the data it collects, Pace will continue to integrate current and future systems, foster institutional structures, and grow staff capacity.



Two important goals of *Driving Innovation* are Adaptability and Collaboration. In that spirit, Pace will continue its commitment to providing high-quality, accurate and complete performance data to the National Transit Database (NTD), CMAP, Regional Transportation Authority Mapping and Statistics (RTAMS) portal, municipalities, and many other organizations.

Pace is also a participant in the RTA- and IDOT-led initiative that is currently building a state-wide digital travel model, which will provide a robust and dynamic interface for accurately simulating origin and destination data which can be filtered by travel mode, season, day of week, time of day and other metrics.

With so many new and exciting joint partnership ventures, Pace will purposefully explore new and innovative data management practices, and appropriately share such data in the public domain. At the same time, Pace will continue to vigilantly protect passenger privacy and uphold stringent data anonymity standards.

***Pace will continue its commitment to providing
high-quality, accurate and complete
performance data.***

ACTION ITEM 4 On-Demand and Paratransit Scheduling Systems

Demand-responsive transportation options are gaining national attention as valuable new additions to support transit, however Pace has been operating similar services for years. To this end, Pace has upgraded its public On Demand services to support computerized scheduling and online booking, and agency Paratransit scheduling software has been customized to optimize operations. Pace will continue deploying this innovative technology to support both On Demand and Paratransit scheduling (see S-3 Paratransit Upgrades initiative for further details).

ACTION ITEM 5 Expand Real-Time Next Bus Information

Pace makes real-time information available to customers about bus locations and predicted arrival/departure times. This information is shared through many platforms, including real-time digital information signs at transit centers, CTA and Metra stations, park-n-ride lots, Pulse stations, Pulse vehicles, and regular bus stops. The information is also available through Bus Tracker on Pace's website, the Ventra mobile application, and an online feed that utilizes the GTFS.

Digital real-time information screens are a relatively simple yet effective passenger convenience that helps reduce the need to use paper bus schedules and mobile phone applications to check bus arrival and departure times. Pace will continue to deploy real-time information signs at key locations throughout the service area.



Real-time next bus digital information is displayed at a Pace bus stop in Naperville, Illinois.



On-board digital information displays depict current and upcoming Pulse stations while in transit on Pace's Pulse Milwaukee Line.



Pace passengers boarding a fixed route bus vehicle.

T-2 Customer Focused Engagement

Initiative: Upgrade customer relationship technologies and internal processes, as well as ramp up market research efforts to understand customer preferences, trip purposes and travel patterns using new and innovative practices.

**IMPLEMENT
NOW**

implement
later

further
investigate

Supports Goals:

Accessibility, Equity, Responsiveness, Adaptability, Collaboration, Diversity, Fiscal Solvency, and Integrity

ACTION ITEM 1 Update Customer Relationship Management

Pace will replace its current customer relationship management (CRM) system with updated technology and internal processes. This will shift Pace from a complaint-focused system to a CRM that facilitates responses to customers and improves coordination with other agency data systems.

This replacement solution will improve and modernize functionality, customer relationship, service, communication, data accessibility, automation, reporting and integration. Both Pace's customers and employees will benefit from this more efficient and effective tool. The solution incorporates new technologies such as mobile applications, chatbots, and automated response systems for better communication. It will also:

- Provide ticket management tools and a unified multichannel bringing together tickets submitted via email, telephone and text messaging for an all-in-one user experience
- Integration with Pace and third-party applications
- Provide users with access to ticket data, ticket data progress tracking, and ticket alerts from a mobile device
- Provide robust reporting tools and dashboards to offer real-time updates
- Integrate functions with social media

Pace regularly conducts robust external stakeholder outreach and actively investigates new opportunities for communicating information.

ACTION ITEM 2 Enhance Market Research Methods

Pace currently conducts regular Customer Satisfaction Index (CSI) surveys for both the fixed route bus system and paratransit services. Customer preferences and experiences are also regularly solicited through other survey efforts using multiple platforms.

Survey work is also regularly conducted with planning studies. While such survey efforts typically produce robust data sets from which to draw conclusions, they are both expensive to undertake and limited in their applicability since the data only provides a snapshot of customer travel behaviors and needs.

There are however many promising new ways of collecting information, not only on customer preferences, behaviors, tolerances, and demographics, but importantly on how they are currently traveling throughout the region. The source for such data is typically anonymized cellular phone data.

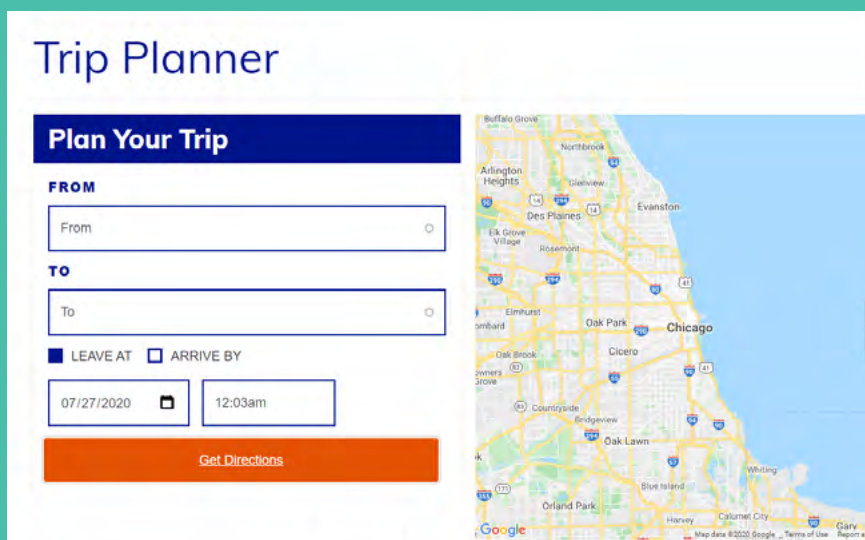
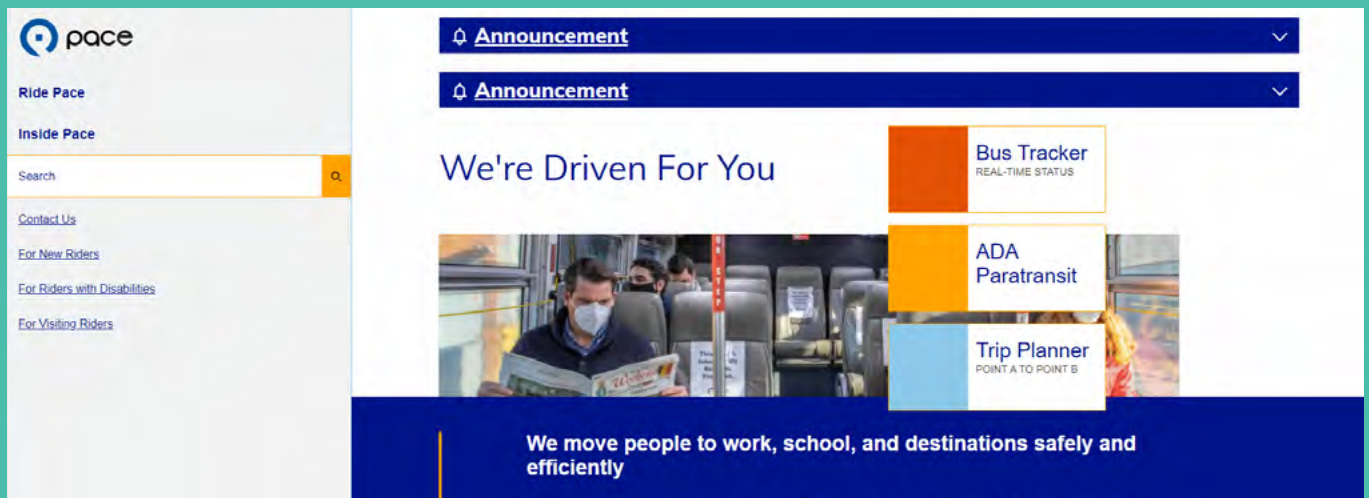
Pace will continue to explore the use of such data sets to augment and expand up it's current customer data collection practices, as well as investigate producing annual comprehensive market data for it's entire network. This will allow planners, analysts, consultants and data managers a complete and comparable set that can be used interchangeably and longitudinally across multiple studies and research efforts.

ACTION ITEM 3 Develop External Outreach Tools and Strategies

Pace regularly conducts robust external stakeholder outreach and actively investigates new opportunities for communicating information to all stakeholders. Current tools and strategies for achieving this include: alerts to passenger subscriber lists, hardcopy planning meeting notices on Pace vehicles and at passenger facilities, social media posts, press releases, website alerts, solicitation of local stakeholder meetings, open house events, electronic and hardcopy newsletters, Board of Directors and committee meeting updates, requesting partner organization support in disseminating informational materials, and various forms of advertising in large-scale distribution printed and electronic media publications.

Of perhaps paramount importance in the current information age, Pace has a new website. Beyond improved readability features for smartphones, tablets and other modern devices, the site has new capabilities for improving customer relations and experiences. Pace will continue to develop its website functions and content to ensure effective receipt and delivery of customer information.

The New Pace Website



Pace's new website features improved readability, a streamlined design, and proper interfaces that automatically format for the device used. Service information is accessed more easily, and detailed information about policies, programs and initiatives -- including Driving Innovation -- are searchable and rich with content.

The Pace website homepage (above) and current trip planner application (left) are displayed.

T-2 | Potential COVID-19 Impacts

Transit users have varying degrees of how safe they feel aboard transit vehicles, which may be particularly affected by COVID-19 and the ability to social distance while aboard buses, vans and other Pace vehicles.

Pace will actively investigate and poll customers on how safe they feel aboard vehicles, and ensure that it's cleaning, social distancing and other measures are being effectively implemented. This information will be valuable as the agency looks to adjust its service options and determine any additional changes to operations, programs, and services featuring close personal contact, such as RideShare, Paratransit and Vanpool.





A Pace passenger boarding a Vanpool vehicle in Arlington Heights, Illinois.

T-3 Integrated Transit Platform

Initiative: Establish an internal software platform to match transit services with customer travel preferences in real-time, including vehicle location, connection protection, first and last mile.

implement
now

**IMPLEMENT
LATER**

further
investigate

Supports Goals:

Accessibility, Equity, Productivity, Responsiveness, Adaptability,
Collaboration, Environmental Stewardship, and Fiscal Solvency

An integrated transit platform will help Pace to efficiently provide first and last mile connectivity and connection protection of passenger trips among coverage-based services. This will connect customers dynamically to Pace's transit network, and function similarly to ride-hailing mobile applications used by transportation network companies (TNCs) such as Uber, Lyft and Via.

Using such a platform, a customer may request service at their location via mobile application or a voice call. The driver's details are sent to the customer along with an estimated time of arrival. The system will utilize predefined parameters and could be calibrated to prioritize access to employment for individuals in economically disadvantaged areas. The payment interface could be handled by the Ventra application.

In addition, trip planning and fare payment for other modes and services will be able to be introduced and integrated automatically through simple application programming interface (API's), reducing the time and complexity of writing custom software for each new service introduced.

The primary objective is to provide travelers with an end-to-end seamless mobility service from their origin to their destination in a fast, affordable, and efficient fashion and convert single trips into multiple occupancy trips. Importantly, an integrated transit platform would allow improved connectivity to CTA, Metra and Pace fixed-route services and support the overall regional transit system. With this functionality, the number of transportation options provided through Ventra and the mobile app will be limitless, providing true Mobility-as-a-Service (MaaS) functionality.

Additionally, a dynamic pricing strategies planning model may be developed to aid Pace in planning and design of competitive fares to better match market demand for the cost of providing first-mile/last-mile services.





Pace passengers can make fare payments through the Ventra Mobile app via smartphones, as well as plan trips and access other travel information through the Pace website.

T-4 Open Source Multi-Modal Trip Planner

Initiative: Implement an open source multi-modal trip planner with integrated demand-response services.

implement
now

**IMPLEMENT
LATER**

further
investigate

Supports Goals:

Accessibility, Productivity, Responsiveness, Adaptability, Collaboration, Fiscal Solvency, and Integrity

Pace's customers currently have access to many different trip planning applications, however not all of Pace's service options can be accessed or planned for using current available applications. While the T-3 Integrated Transit Platform initiative will partly address this issue from an internal back-end systems integration perspective, Pace will also explore developing an external-facing open source multi-modal trip planner.

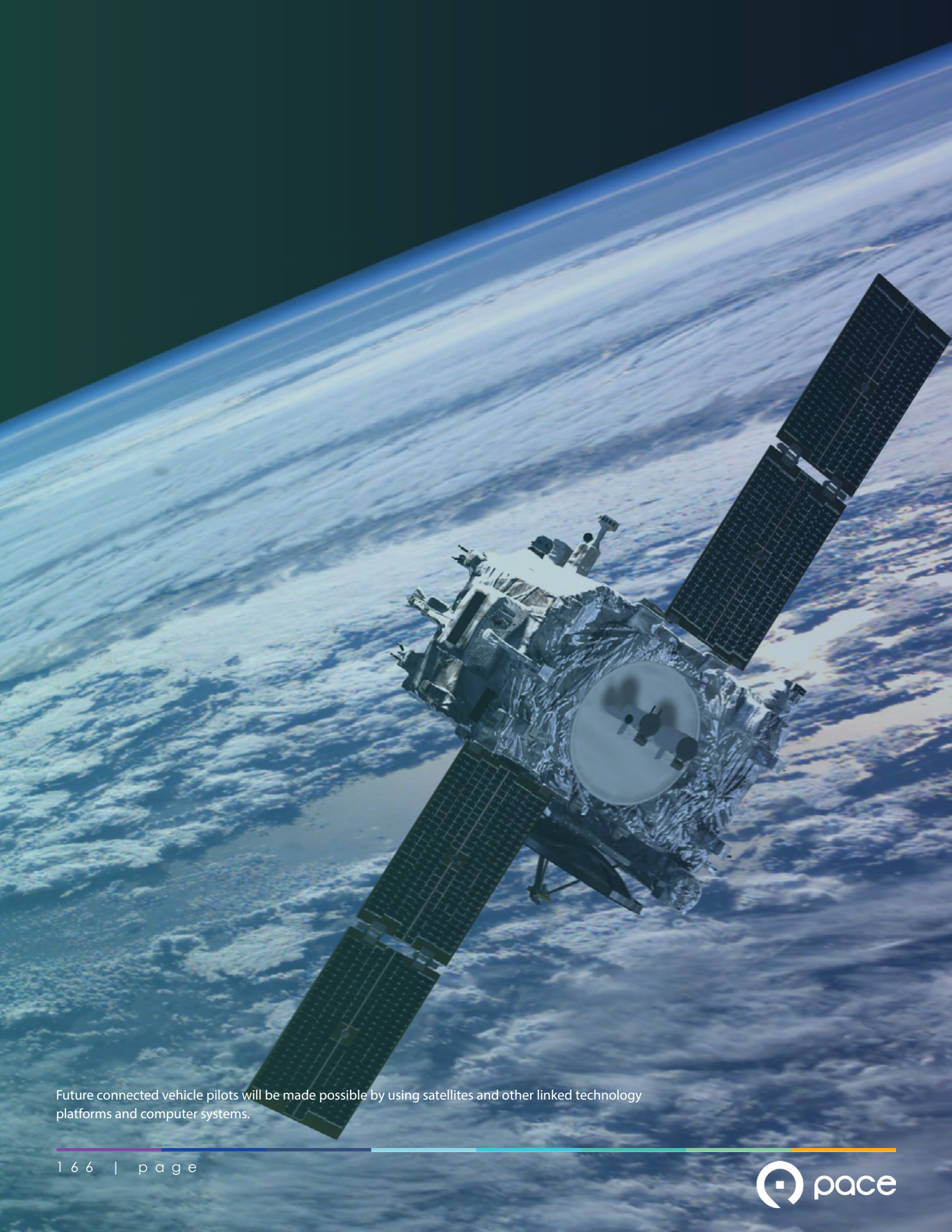
For example, the OpenTripPlanner tool was developed with resources from the US DOT's Mobility-On-Demand Sandbox grant. Agencies such as TriMet, Cap Metro, and others have incorporated this tool which allows customers to access a single interface to plan trips via transit, for-hire vehicles, shared bicycle systems, and other options. This is accomplished using an emerging data feed extension called GTFS Flex¹⁹ which allows greater accuracy for listing service options when users conduct search inquiries for transit itineraries.

¹⁹ GTFS-Flex Routing
docs.opentripplanner.org/en/latest/Flex/

For Pace, existing services that could potentially be integrated include On Demand, Dial-a-Ride and Vanpool. The carpool option with Pace's RideShare program software platform is yet another commute option to integrate with this initiative. Some additional changes to internal processes and technologies may also accompany this development.

While Pace will investigate how such an application will address the agency's immediate needs, it is also committed to working with the RTA, CTA and Metra to ensure the system is compatible and able to be integrated on a regional scale. Such an application would also provide connecting trip data for other services such as CTA and Metra, and other potential external service providers and trip planning applications.





Future connected vehicle pilots will be made possible by using satellites and other linked technology platforms and computer systems.

T-5 Connected and Autonomous Transit Vehicle Pilots

Initiative: Explore partnerships with regional transportation stakeholders to develop agency capacity in implementing connected and autonomous transit vehicle applications.

implement
now

implement
later

FURTHER
INVESTIGATE

Supports Goals:

Accessibility, Equity, Productivity, Responsiveness, Safety, Adaptability, Collaboration, Environmental Stewardship, Fiscal Solvency, and Integrity

ACTION ITEM 1 Connected Vehicle Pilots

For Pace service to benefit from Connected Vehicle (CV) enhancements, infrastructure and data communication systems must be provided along service corridors. Developing and testing safety, mobility, and environmental applications for transit vehicles is expensive and time consuming.²⁰ Nonetheless, Pace's leadership and regional partnerships with vehicle communication technologies and roadside applications provides a good foundation to work with.

Looking ahead, Pace will explore partnerships with IDOT and the Illinois Tollway, and seek federal funding to harness CV technologies to support Bus on Shoulder, Express Bus, and Pulse lines. CV technologies will help bus operators be more aware of traffic flow and potential obstructions in the shoulder and operations space. As Pace develops and retrofits new facilities, CV technologies will help bus operations staff have a better understanding of vehicle location, maintenance, and performance specifics.

²⁰ Intelligent Transportation Systems - Transit Vehicle-to-Vehicle (V2V)
www.its.dot.gov/research_archives/safety/transit_v2v_progress.htm



Visualization of connected transit vehicles, and infrastructure (US DOT ITS).

ACTION ITEM 2 Autonomous Vehicle Pilots

Combining the disruption expected by fully autonomous vehicles and the promise of cheap on-demand fleets, the transit systems 20 years from now may be dramatically different than the transit service we see today. Autonomous transit could promise safer and more inexpensive service operations in the future. While Pace seeks to understand how these nascent technologies can immediately support transit, it will also monitor advancements to these technologies and ensure safe operations are consistently proven before considering any larger-scale implementation.

While such large-scale autonomous transit solutions are still in the experimental stage, in many North American cities, such as Austin, Ann Arbor, Columbus, Houston, Las Vegas, Providence, and others, Low-Speed Autonomous Vehicles (LSAVs) are gaining experience in limited shuttle applications and pilot projects. Typically, these slow autonomous mini-buses (~6 seats) operate in contained environments such as campuses, airports, and employment centers. LSAVs utilized for public transit must be inclusively designed and fully compliant with ADA access guidelines.

With an eye on exploring options to reduce operations costs and increase service frequency, Pace may wish to study LSAV options for complementing or replacing less productive Connector routes. Pace may seek new partnerships to sponsor a pilot-deployment of this service in a supportive community. This would provide Pace an opportunity to learn about LSAVs and could highlight future potential benefits and challenges of using this vehicle form-factor for real transit service.

²¹ University of Michigan, The Michigan Engineer Newsletter. 2018 news.engin.umich.edu/2018/06/mcity-driverless-shuttle-launches-on-u-m-north-campus

²² University of Houston, Houston Public Media. *Houston's First Self-Driving Shuttle Rolls Out At Texas Southern University*. 2019.

²³ SmartCitiesWorld. *Austin to run US' largest autonomous bus pilot*. 2018. www.smartcitiesworld.net

The transit systems 20 years from now may be dramatically different than the transit service we see today.



Top-left photo - Texas Southern University tested autonomous buses during a 6-month pilot project operated by First Transit as part of a contract operated by Houston METRO.²¹

Top-right photo - The Mcity Driverless Shuttle, a research project at the University of Michigan, which operates in the Northern Campus, operated in partnership with U-M Logistics, Transportation and Parking, with the specific aim of assessing customer behavior and acceptance of the technology.²²

Bottom photo - CapMetro, the City of Austin and RATP Dev USA are working together to test autonomous vehicle (AV) technology, one of the largest pilots in the United States.²³

Evaluation Matrix | Fulfillment of Goals & Objectives

Technology & Insight Initiatives

		T-1 Current Technology Programs	T-2 Customer Focused Engagement
Service Goals	ACCESSIBILITY	✓ Support customer technology solutions using compatible / common practices.	✓ Support customer technology solutions using compatible / common practices.
	EQUITY	✓ Collaborate with stakeholders to supplement fixed-route transit.	✓ Continue to ensure equitable access to high-quality transit.
	PRODUCTIVITY	✓ Grow successful service types based on high demand.	
	RESPONSIVENESS	✓ Pursue reliability improvements for Pace services.	✓ Improve customer service and satisfaction.
	SAFETY	✓ Research and implement vehicle design features that increase safety.	
Organization Goals	ADAPTABILITY	✓ Provide open platform for mobile /flexible payment.	✓ Further utilize large data telematics to improve transit demand models.
	COLLABORATION	✓ Strengthen partnerships with transportation agencies.	✓ Support deeper communications with local governments and other institutions.
	DIVERSITY	✓ Foster practices that build accountability, innovation, efficiency, and productivity.	✓ Ensure practices are culturally responsive, inclusive, and consistent.
	ENVIRONMENTAL STEWARDSHIP		
	FISCAL SOLVENCY	✓ Explore private partnerships and innovative financing opportunities.	✓ Make service investments based on overall strategy.
	INTEGRITY	✓ Responsibly modernize systems and organization.	✓ Actively engage with passengers and the general public.

	T-3 Integrated Transit Platform	T-4 Open Source Multi-Modal Trip Planner	T-5 Connected and Autonomous Transit Pilots
gy /	✓ Continue to develop innovative services for first/last mile.	✓ Continue to develop innovative services for first/last mile.	✓ Continue to develop innovative services for first/last mile.
le it.	✓ Plan new and adjust existing services to fit community context.		✓ Plan new and adjust existing services to fit community context.
	✓ Identify areas where demand supports demand response services.	✓ Grow successful service types based on high demand.	✓ Grow successful service types based on high demand.
	✓ Pursue reliability improvements for Pace services.	✓ Improve customer service and satisfaction.	✓ Pursue reliability improvements for Pace services.
			✓ Research and implement vehicle design features that increase safety.
sit	✓ Provide open platform for mobile /flexible payment.	✓ Provide open platform for mobile /flexible payment.	✓ Replace obsolete/underused assets, in-service fleet, and operations vehicles.
	✓ Develop pilot projects that maximize grant opportunities and funding initiatives.	✓ Strengthen partnerships with transportation agencies.	✓ Develop pilot projects that maximize grant opportunities and funding initiatives.
billy			
	✓ Support efficiency upgrades for buses / vans.		✓ Provide alternatives to personal vehicles that reduce greenhouse gas emissions.
	✓ Explore private partnerships and innovative financing opportunities.	✓ Expend resources that prioritize capital improvements that support operations.	✓ Expend resources that prioritize capital improvements that support operations.
al		✓ Responsibly modernize systems and organization.	✓ Responsibly modernize systems and organization.

All Driving Innovation Initiatives

		A-1	A-2	A-3	A-4	A-5	P-1	P-2	P-3
Service Goals	ACCESSIBILITY			✓	✓	✓	✓	✓	✓
	EQUITY		✓	✓	✓	✓	✓	✓	✓
	PRODUCTIVITY		✓	✓	✓	✓	✓	✓	✓
	RESPONSIVENESS	✓	✓	✓	✓	✓	✓	✓	✓
	SAFETY	✓	✓	✓			✓	✓	✓
Organization Goals	ADAPTABILITY	✓			✓	✓	✓	✓	✓
	COLLABORATION	✓		✓	✓	✓	✓	✓	✓
	DIVERSITY			✓		✓	✓	✓	✓
	ENVIRONMENTAL STEWARDSHIP	✓	✓	✓	✓	✓	✓		✓
	FISCAL SOLVENCY	✓	✓	✓	✓	✓	✓	✓	✓
	INTEGRITY	✓		✓	✓	✓	✓	✓	✓
Number of Goals Achieved		7	6	10	9	10	11	10	11

P-3	P-4	P-5	S-1	S-2	S-3	S-4	S-5	T-1	T-2	T-3	T-4	T-5	Number of Initiatives Supporting
													13
													17
													15
													19
													12
													18
													18
													10
													11
													19
													14
8	6	7	7	8	9	7	7	10	8	8	7	10	



V. Next Steps



A Living Document

As mentioned throughout this plan, the transportation industry is witnessing dramatic changes as new mobility solutions and business practices are causing equal amounts of disruption and opportunity. This dynamic has been profoundly amplified and reshaped by the COVID-19 pandemic, a national push for social justice, and increasing urgency to address the climate crisis.

In the spirit of fulfilling the *Driving Innovation* goal of Adaptability, Pace will continue investing resources to ensure that evolving conditions in our region continue to be addressed by the plan's initiatives. To this end, Pace will update this plan on a regular basis as initiatives are progressed, completed, expanded, abandoned or otherwise modified to keep pace with ever-changing and dynamic region the agency serves.

External Review of *Driving Innovation*

One of the most significant ways in which Pace will continually update and improve upon the *Driving Innovation* plan its associated initiatives will be engaging with regional stakeholders and the general public. Both will be given opportunity to inform the agency of how well the plan serves transit passengers and the region more broadly.

Starting in 2021, Pace will begin external outreach efforts to foster discussions with partner agencies, counties, municipalities, civic organizations, advocacy groups, and the general public. The Pace website features an email address for submitting written comments and staff will evaluate and adjust the plan as needed. Furthermore, additional content will be developed and published to help further communicate initiatives and plan priorities.

Driving Innovation is expected to be formally adopted in late 2021 by Pace's Board of Directors, subject to further outreach and consideration of initiatives.

See Figure 7 on the following page for an anticipated timeline of major milestones for 2021.

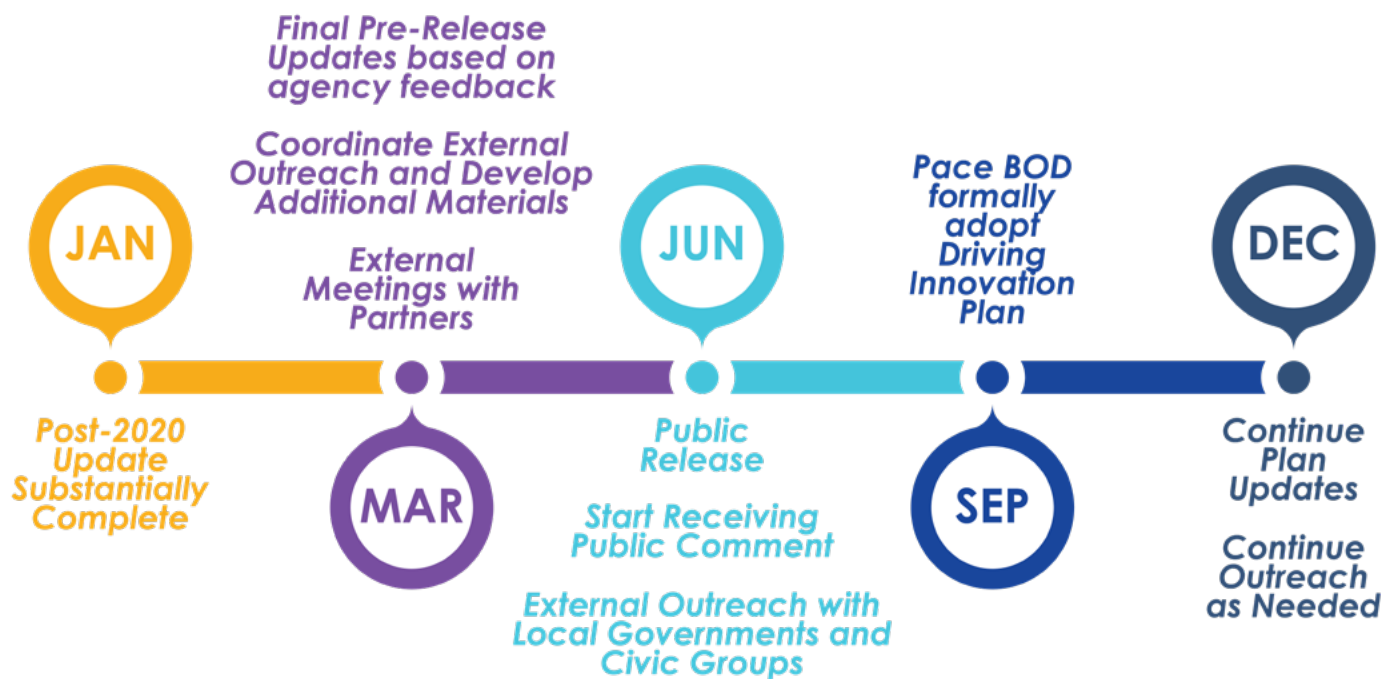


Figure 7: Anticipated timeline of major milestones for 2021.



Future Plan Updates and the Next Strategic Vision Plan

Pace plans to provide future updates of the *Driving Innovation* plan, in order to ensure that new and innovative practices and ideas that are shaping public transit are identified, considered and planned for as needed. This also provides an opportunity to adjust the plan and adapt Pace's vision based on continuous regional partnerships, stakeholder, customer and public feedback.

Just like *Vision 2020*, *Driving Innovation* is not the last word on Pace's initiatives for the foreseeable future, and Pace will annually monitor the progress of the plan's initiatives to determine when a successor plan will need to be developed.

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***Pace will continue investing
resources to ensure that evolving conditions
in our region are being addressed by Driving
Innovation's initiatives.***



Comments and questions about the
Driving Innovation plan can be submitted at:
Driving.Innovation@pacebus.com

Additional information and versions of the
Driving Innovation plan can be accessed at:
pacebus.com/driving-innovation



*Driving Innovation,
The Pace Strategic Vision Plan*

June 2021

Pace Suburban Bus