

Network Concepts Report Executive Summary

ReVision is a plan to reimagine the Chicago region's suburban bus network.

What is Pace?

Pace Suburban Bus serves two critical functions in the Chicagoland transportation system.

- Pace provides **general public transit** in suburban Cook County, as well as DuPage, Kane, Lake, McHenry and Will counties. This service is available to everyone.
- Pace also provides **ADA paratransit**¹ in these six counties, including in the City of Chicago. This specialized service is available to qualifying people with disabilities.

Pace is one of the three transit service boards that operate under the Regional Transportation Authority (RTA) in the Chicago region. The other two are:

- Chicago Transit Authority (CTA), which provides bus and rail service, mostly in the City of Chicago.
- Metra, which provides commuter rail services connecting the city and its suburbs.

Pace Suburban Service

Suburban Bus Network

ReVision focuses on transit that is available to everyone, including:

- **Bus routes** that operate on a fixed schedule, with a fixed set of bus stops². This includes

¹ ADA is the Americans with Disabilities Act. ADA regulations require public transit agencies to better serve people with disabilities, as a civil right. This includes the requirement for paratransit, which exists to serve people who are not able to use general public transit. Paratransit is usually provided as a reservation-based door-to-door service between any two locations within 3/4-mile of all-day bus and rail service.

² In some outer suburban and rural areas where bus stops have not yet been installed, Pace bus routes also can stop at locations requested by passengers. These are called "flag stops".

both regular bus routes and Pace's new Pulse rapid routes³.

- **On Demand** zones, where Pace operates a bus that people can use to reach any location within a fixed area. This includes connections to nearby bus and rail routes.

See page 9 for a complete overview map of the suburban bus network. Detailed sub-regional maps are available in Appendix A to the full Network Concepts Report.

Other Suburban Services

This report does not cover the following services that are used only by advanced reservation:

- Dial-A-Ride. These are similar to On Demand zones, but they usually require advance trip reservations and may only be available to specialized population groups such as seniors and people with disabilities. Dial-A-Rides are typically a partnership with Pace and are largely funded by municipal, township and county governments.
- Vanpools. These programs allow commuters who regularly travel to the same places at similar times to share use of a van owned by Pace. Occasional vanpool trips can also be reserved through VanGo.

ReVision focuses on where and how often Pace buses operate, and where to provide regular, express or On Demand bus service.

³ Pulse is Pace's arterial rapid transit (ART) program. Pulse routes operate every 15 minutes or better most of the day, seven days per week. Pulse routes also make fewer stops and operate faster than traditional routes thanks to improvements like transit signal priority.

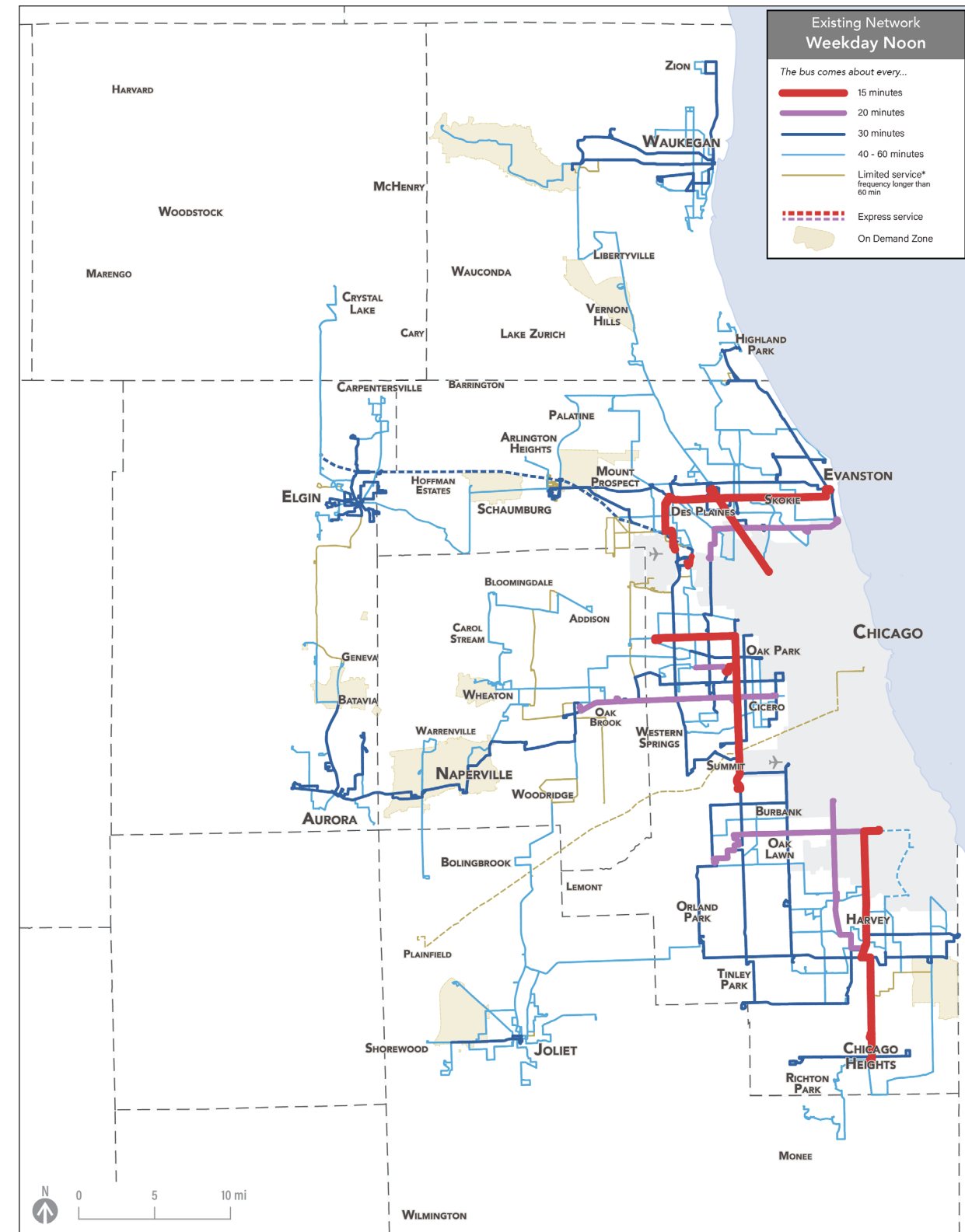


Figure 1: Simplified map of Pace's existing service as of Spring 2024, based on service frequency on weekdays at noon. See following page and Appendix A for more detailed maps.

Why does the suburban bus network need to change?

1. Pace's funding is inadequate for the area it serves.

Pace covers a large area with very little service.

Pace's service area covers 3,450 square miles, and about 5.7 million suburban residents. Despite this, Pace's suburban services receive less than 10% of regional public funding for transit operations¹. This is due to a regional formula that has limited bus transit funding in suburban areas despite decades of suburban population growth. As a result, **Pace's resources are much less than those of other agencies serving comparable suburban areas.**

¹ The Regional Transportation Authority (RTA)'s 2024 budget allocates \$233 million of public funding to Pace operations, out of a regional total of \$2.40 billion. Public funding accounts for nearly 70% of Pace's total operating expenses.

For example, Pace's service area is similar in scale to Connecticut, or half of New Jersey². These suburban states have a similar range of land uses, and are also served by extensive commuter rail systems connecting to a transit-rich inner city. But, as shown in Figure 2, **transit agencies in Connecticut and New Jersey provide 50 to 100% more bus service per capita than Pace.**

The difference is even more stark comparing Pace with the Toronto suburbs, where local agencies provide over four times as much bus service per resident, and transit ridership is over ten times higher than in Pace's service area³.

² Connecticut has a land area of about 4,800 square miles and a population of about 3.6 million. New Jersey has a land area of 7,400 square miles and a population of about 9.3 million.

³ In 2022, Pace buses served 13.6 million boardings in a region with about 5.7 million suburban residents. Bus agencies in the Toronto suburbs served a combined 133 million boardings in a region with about 3.8 million suburban residents.

Bus Service per Resident in 2022, Pace vs. Peers
(annual revenue hours per capita)

Source: National Transit Database, CUTA Canadian Conventional Transit Statistics

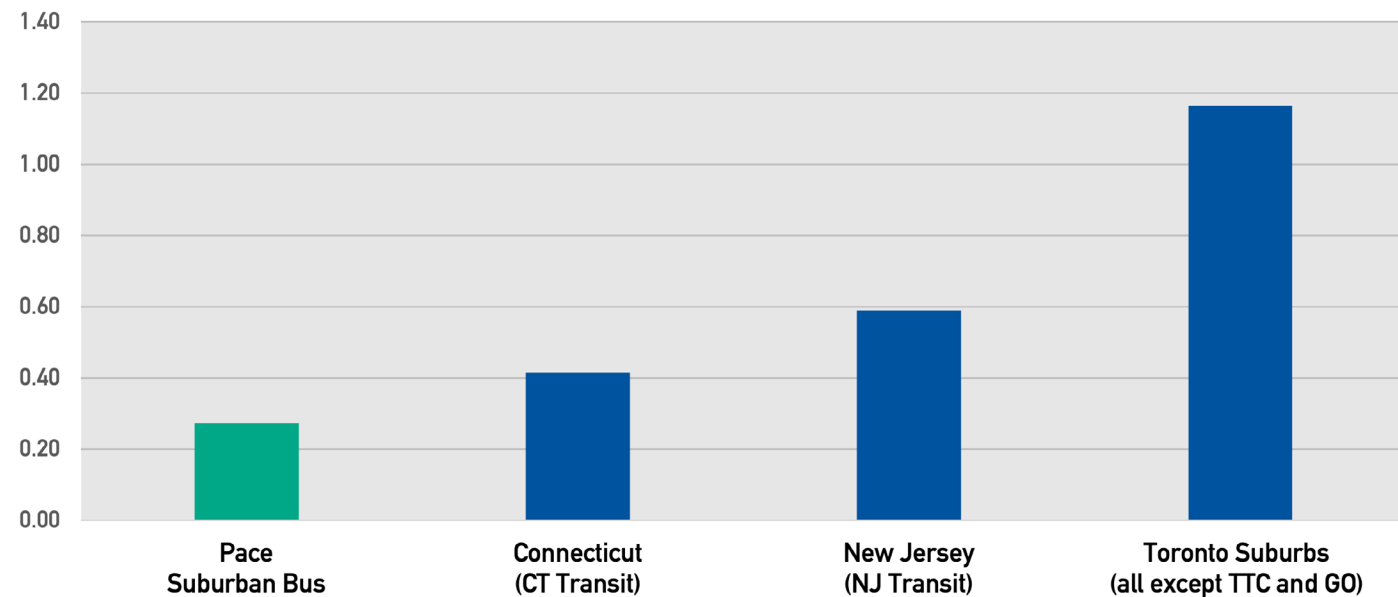


Figure 2: Chart comparing the amount of bus service available per resident of the Pace service area, compared to bus service per resident in Connecticut, New Jersey and the Toronto suburbs.

Most people and places are far from transit.

The network map on page 9, and the chart in Figure 3 below, make the consequences of this low funding clear. **Nearly 60% of people and jobs in Pace's service area are located more than a half-mile from any bus or rail service.**

The sheer scale of these numbers suggests that this is not just about low densities and scattered development. Large, continuously developed areas – where millions of people live – have little to no bus or rail service.

The numbers also suggest this is not just about people with means or privilege choosing to live in places where a car is required. **Nearly 50% of low-income suburban residents also live more than a half-mile from any bus or rail service.**

Service is very infrequent.

Fewer than 5% of people and jobs in Pace's service area located within a half-mile walk of frequent service - operating every 15 minutes or better in the middle of the day.

In other words, **most Pace riders either have to time their trips to the bus schedule, or risk waiting a very long time at the bus stop if they can't.** If a bus comes every 60 minutes, then the average rider will wait 30 minutes for it. By then, they might already have reached their destination in a car.

On many routes, low frequencies are compounded by special trip patterns that take place just a few times per day. If a Pace rider tries to ride the bus at a different time than usual, the same bus might not be going to the same places.

Pace Spring 2024 - Weekdays at Noon

What percentage of the Pace service area is within a 1/2-mile walk of transit with service

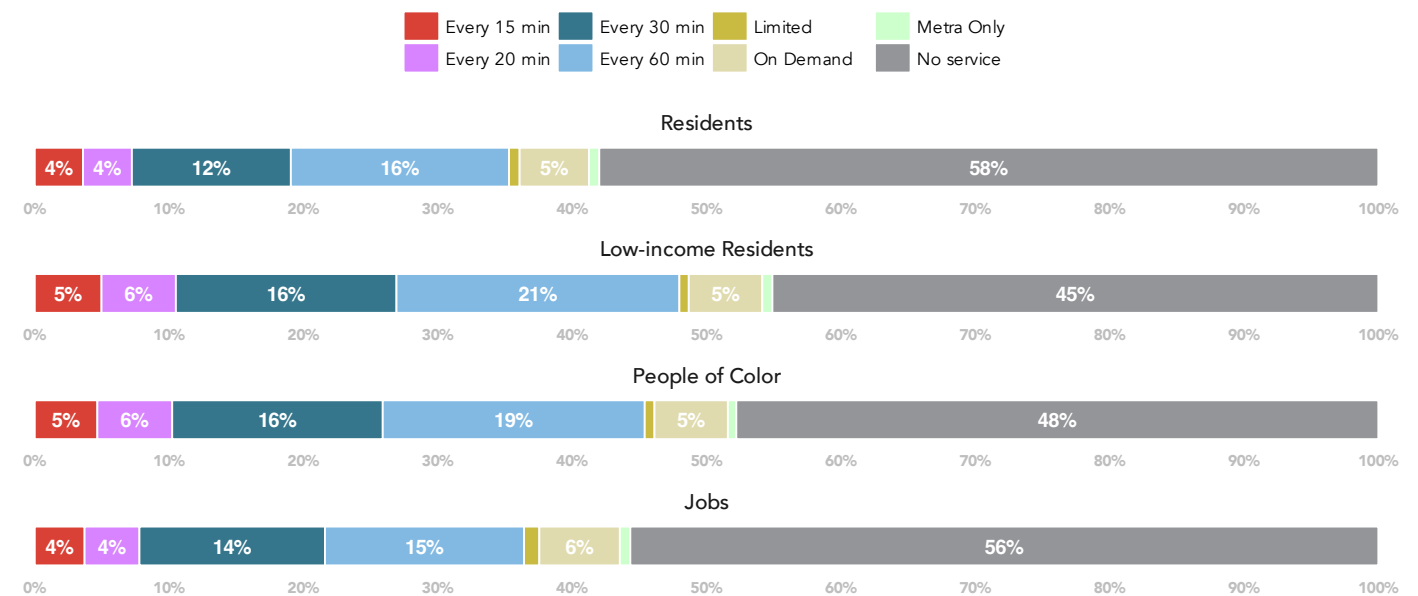


Figure 3: Chart showing the percentage of residents and jobs within a 1/2-mile walk of transit service at different frequencies in the Pace service area.

2. Pace remains a collection of smaller networks rather than a regional system.

Pace was formed in 1983 by merging several private and municipal transit companies. Changes since then have created a single customer-facing regional brand.

Despite this, the structure of Pace's routes still largely reflects the geography of its service divisions, which are heirs to the former local transit companies. Each division operates its own smaller network, in many ways separate from the rest of Pace service.

Figure 4 (at right) shows seven different areas of the network map on page 9, each with its own network. **Each local network organizes bus frequency and coverage in different ways, in response to different practices and goals¹.**

For example:

- Some areas (e.g. Aurora, South Cook County) have had extensive service changes in the last twenty years, while others (e.g. Elgin) have not.
- Some divisions provide service on Sundays, while others do not. As a result, there is almost no suburban bus service on Sundays outside Cook County.

These differences may reflect history, but there's no evidence that they match public preferences. They also require people who ride transit across the region to understand many disparate pieces of information across a complex system.

¹ This includes both what you can see on the map in terms of where buses go, and things that customers cannot see, such as internal work rules. For example, each operating division has its own set of collective bargaining agreements with bus operators and mechanics.

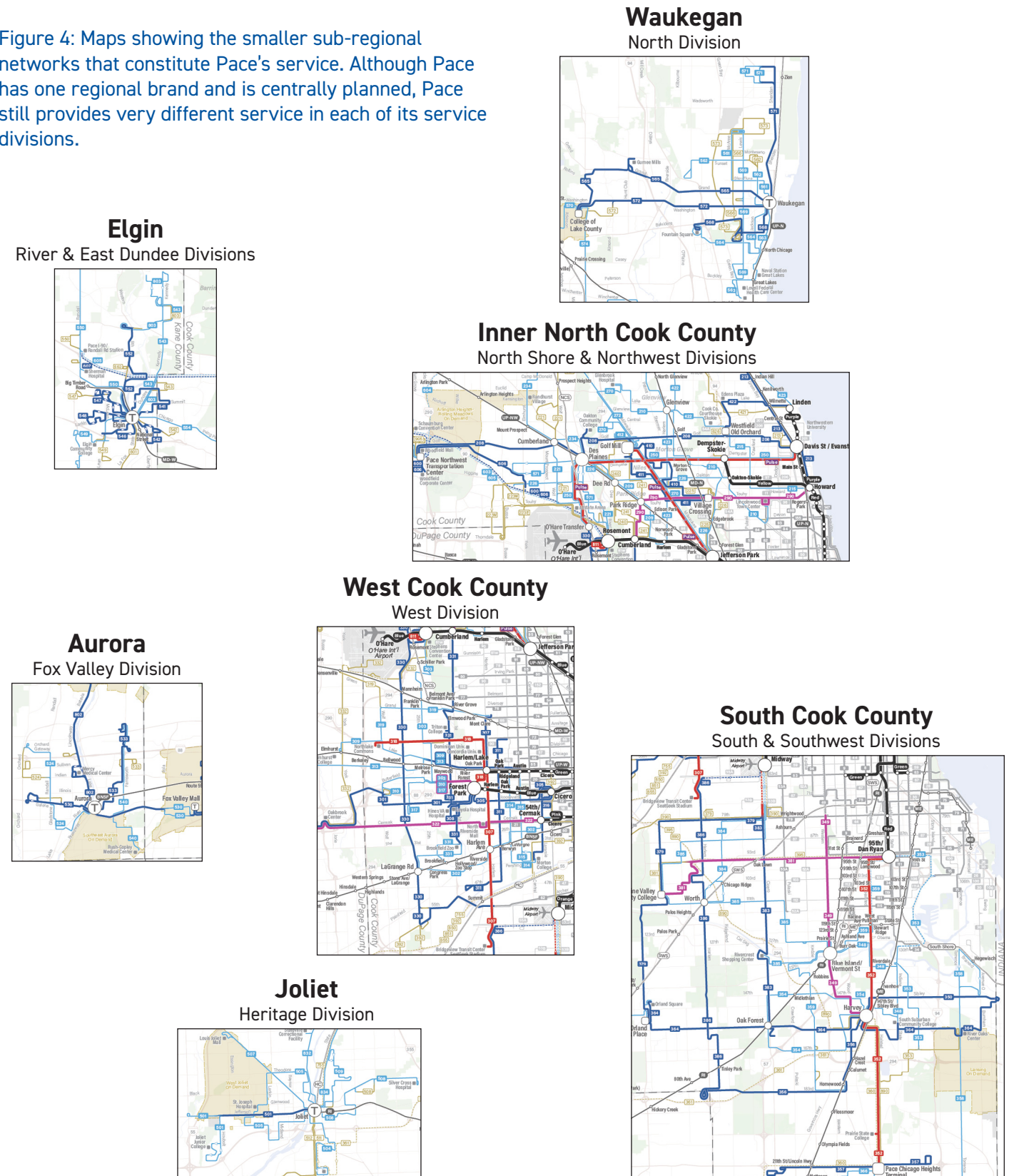
Meanwhile, large parts of Pace's service area that have urbanized in the last 40 to 50 years have very little service. Pace remains focused on the older municipal fabric: around the edges of Chicago and in the satellite cities of Elgin, Waukegan, Joliet, and Aurora.

The absence of a consistent regional network is also related to inadequate funding. Pace has never been financially able to keep up with the growth of the region. The large regional gaps in transit coverage discussed on previous pages largely match the areas not shown in Figure 4.

Pace's sources of revenue have not grown to match the extensive suburban development of the last four decades.

As a result, Pace service is still mostly organized to serve communities that were already built-up in 1983.

Figure 4: Maps showing the smaller sub-regional networks that constitute Pace's service. Although Pace has one regional brand and is centrally planned, Pace still provides very different service in each of its service divisions.



3. The regional fiscal cliff requires Pace to think differently about the future.

Regional transit agencies face a funding gap starting in 2026.

Starting in 2026, regional transit is expected to incur a deficit of over \$730 million, or nearly 20% of all transit expenses¹. This gap is caused by several converging problems:

- Transit fare revenue plummeted in 2020, and is unlikely to return to pre-COVID levels. Even as ridership continues to recover, fare revenue has stagnated, partly due to equity-oriented changes in fare structure.
- Pandemic-era federal assistance is coming to an end. Pace, CTA and Metra are expected to spend down remaining federal operating assistance by the end of 2025.
- **The cost of providing transit is growing faster than revenues from sales and real estate taxes.** These taxes, combined with matching funds from the State of Illinois, provide most of the region's public funding for transit^{2,3}. Operating costs are growing for many reasons, including higher labor costs, aging infrastructure and equipment, escalating pension and paratransit costs due to an aging population, and the expected transition to zero-emission vehicles.

¹ Based on the 2022 RTA [Transit is the Answer](#) Strategic Plan, and the Plan of Action for Regional Transit

² In 2024, RTA public funding corresponds to about 50% of Metra operating expenses, 55% of CTA operating expenses, 70% of Pace suburban operating expenses, and 95% of Pace regional ADA paratransit operating expenses.

³ The sources of regional public funding for transit are defined under Illinois law by the [RTA Acts of 1983 and 2008, codified as 70 - 3615](#).

What can Pace do about this?

If this funding gap is not resolved, Pace, Metra and CTA will all be required to make major service cuts. Pace's 2026 budget plan currently includes \$26.5 million of "budget balancing actions", or about 7% of total operating expenses.

Pace and its regional partners are currently advocating for changes that could lead to increased future funding. Many of these changes are described in the [Plan of Action for Regional Transit](#) (PART), developed by the Chicago Metropolitan Agency for Planning (CMAP).

PART identifies a road map for a range of planning, operating and funding actions that would lead to "the system the region wants". This includes a **call for transformational investment in regional transit, including over \$500 million per year⁴** in added transit operating funds, above and beyond what is required to fill the existing funding gap.

⁴ PART calls for a total transformational investment of \$1.5 billion per year in operating expenses. This includes \$730 million to close the gap, and \$250 million of investments to pay for reduced and better integrated regional fares. Most of the remainder is for added service, above and beyond 2019 levels.

RTA 10-year financial plan baseline budget gap scenario

- State and regional funding
- System-generated revenues
- Federal support
- Budget gap

Source: CMAP analysis of RTA 10-Year Financial Plan Technical Working Group Memo and RTA budget data.

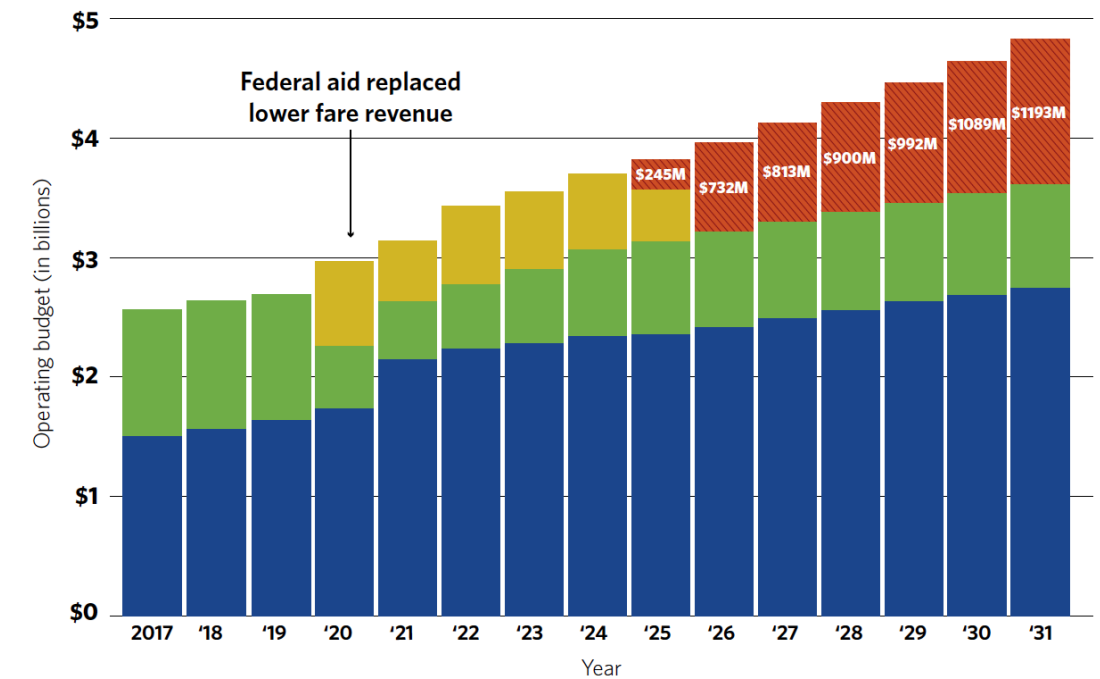


Figure 5: Chart showing the gap in regional transit funding expected starting in late 2025. Pace's own budget projections suggest a deficit of \$26.5 million in 2026, about 7% of total projected expenses. (Chart Source: [CMAP Plan of Action for Regional Transit](#))

Regional funding for transit is growing more slowly than operating costs. This could require Pace, Metra and CTA to cut service as soon as 2026, despite already low service levels.

In the face of this fiscal cliff, Pace and its partners are calling for transformational investment. This report presents concepts that illustrate what a better funded suburban bus network could look like and achieve.

Options for improving service depend on the level of investment.

Funding Levels Considered

This report is part of Pace's contribution to the regional vision for transformational investment. Pace is proposing network concepts that illustrate the amount and types of suburban bus service that could be provided under two financial scenarios.

- **Filling The Gap - Pace Plus 10.** This scenario illustrates what a 10% increase in service might look like, bringing total service up to pre-Covid levels. This is what Pace could do if the Illinois legislature acts to close the identified gap in regional funding, but does no more.
- **Transformational Investment - Pace Plus 50.** This scenario illustrates what Pace could do with funding to increase service by over 50%, compared to pre-COVID levels.

The Pace Plus 50 scenario would require about \$150 million per year in added suburban bus service, or about 30% of the regional investment contemplated in PART.

This would be significantly higher than Pace's historic 9.5-10% share of regional public funding. Pace considers this reasonable in light of the gap between suburban bus service in the Chicago region and its peers. Figure 6 shows that the Pace Plus 50 funding scenario would place Pace suburban bus levels slightly higher than those offered by CT Transit¹ in Connecticut, and a little lower than those offered by NJ Transit in New Jersey.

This report does not consider a scenario involving a 2026 service cut due to reduced funding. Pace considers that scenario unacceptable to its riders and will take all possible actions to avoid it.

¹ Pace Plus 50 would result in an amount of service comparable to all bus service in Connecticut, including CT Transit and the service provided by a small number of locally-specific agencies (e.g. Greater Bridgeport).

Network Concepts

Based on these funding scenarios, ReVision has developed three network concepts.

Pace Plus 50 - Ridership

This concept illustrates what the Pace suburban bus network might look like, if the primary goal of the network were to generate high ridership.

High ridership requires service that delivers high levels of access to opportunity to many people. In most cases, this requires long, direct bus routes at high frequencies.

Accordingly, this concept illustrates a **Plus 50 network focused on the denser and more active areas that can best justify a bus at least every 15 to 30 minutes, seven days per week.**

Pace Plus 50 - Coverage

This concept illustrates what the Pace suburban bus network might look like, if the primary goal of the network were to provide a basic, reliable service near as many people as possible.

Accordingly, this concept illustrates a **Plus 50 network focused on extending service every 60 minutes, seven days a week, as far as possible into the suburbs, with very few frequency increases outside planned Pulse corridors.**

Pace Plus 10 - Limited Investment

This concept illustrates **what Pace might do if the state legislature acts to close the regional funding gap, but no more.**

This concept includes an increase in weekend service, local network changes in some areas, and improvements to frequencies on some future Pulse corridors.

Pace 2024, Pace Plus 10 and Pace Plus 50 service levels vs. Peers
(annual revenue hours per capita)

Source: National Transit Database, CUTA Canadian Conventional Transit Statistics

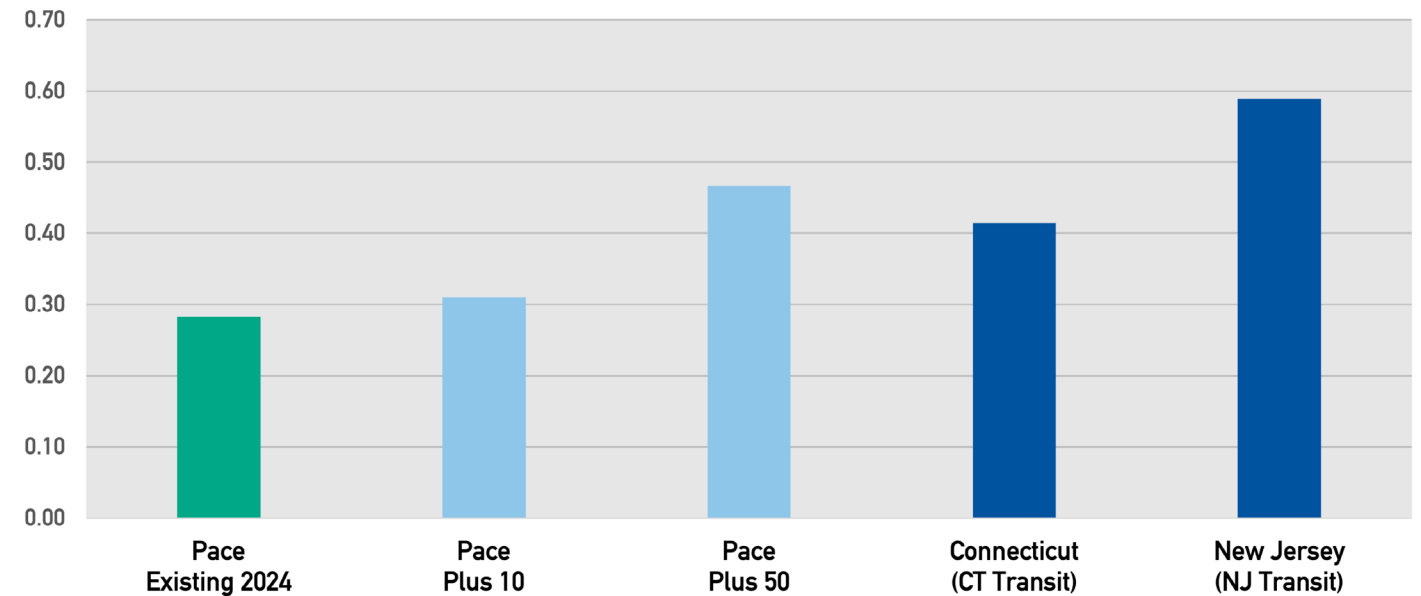


Figure 6: Chart comparing the amount of current bus service per resident of the Pace service area, compared to the Pace Plus 10 and Pace Plus 50 scenarios and service available in Connecticut and New Jersey.

Network planning must balance conflicting ridership and coverage goals.

In deciding where and how to provide service, transit agencies like Pace are constantly balancing ridership and coverage goals.

Ridership Goals

When the goal is ridership, it's more efficient to focus on high frequency routes in areas many people want to go. This concentrates service where conditions are most favorable to transit.

In turn, this makes transit much more useful to people and destinations in dense, walkable and well-connected areas. However, in a system focused only on ridership goals, large areas may not be covered by transit at all.

Designing a transit system for **high ridership** serves several popular goals, including:

- Competing more effectively with cars, so that the region can grow without increasing traffic congestion.
- Reducing the public subsidy needed for each ride by collecting more fare revenue.
- Minimizing air pollution and climate impacts by replacing car trips with transit trips.
- Supporting dense and walkable development.

Coverage Goals

On the other hand, many other popular goals for transit don't require high ridership. Designing a transit system for **high coverage** serves these goals:

- Ensuring that everyone in the service area has access to some transit service, no matter where they live.
- Providing people with limited or no access to

personal vehicles a way to reach many places, even if it may not be very convenient.

When the goal is coverage, transit must reach as many places as possible, whether or not service is frequent enough to be useful to most people. Coverage goals require transit agencies to spread service out, which means spreading it thin.

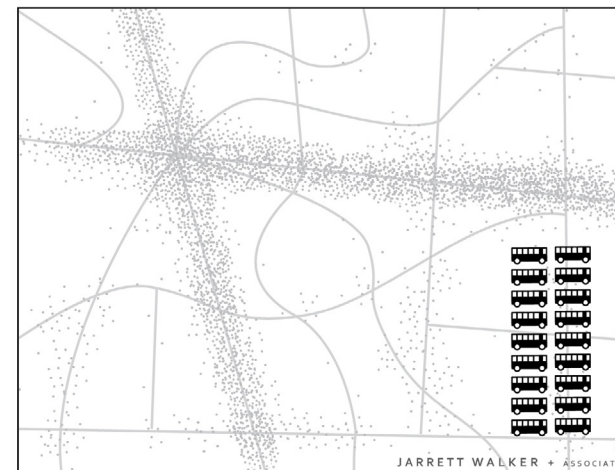
The Trade-Off

A transit agency can pursue high ridership and extensive coverage at the same time, but the more it pursues one, the less it can provide of the other. Every dollar that is spent providing high frequency along a dense corridor is a dollar that cannot be spent bringing basic service in areas farther out.

However, the choice between pursuing ridership and coverage is not binary. All transit agencies spend some portion of their budget on each type of goal. A particularly clear way for transit agencies to set a policy balancing ridership and coverage is to decide what percentage of their service budget should be spent in pursuit of each.

The “right” balance of ridership and coverage goals is different in every region, and can change over time.

The “Plus 50” future network concepts presented in this report illustrate the trade-off between a transformational investment in ridership, and a transformational investment in coverage.

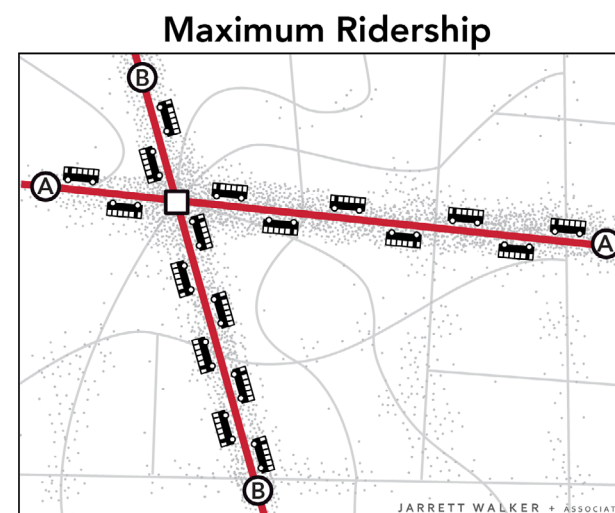


Imagine you are the transit planner working in this fictional neighborhood.

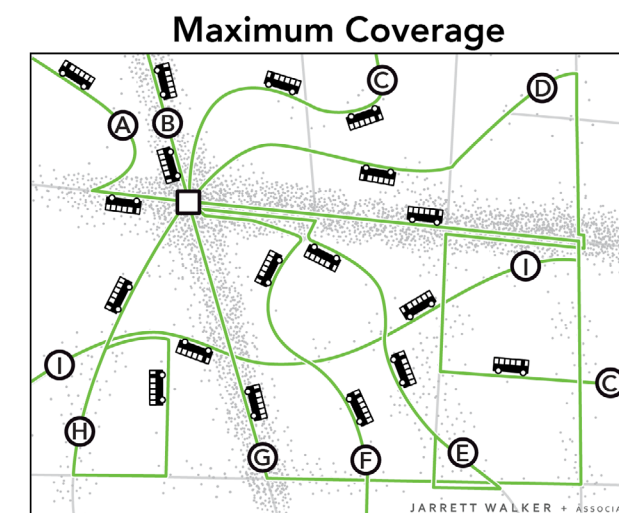
The dots scattered around the map are people and jobs.

The 18 buses are the resources the town has to run transit.

Before you can plan transit routes, you must decide: what is the purpose of the system?



All 18 buses are focused on the busiest areas. Waits for service are short, but people in less populated areas have to walk long distances. Frequency and ridership are high, but many places have no service.

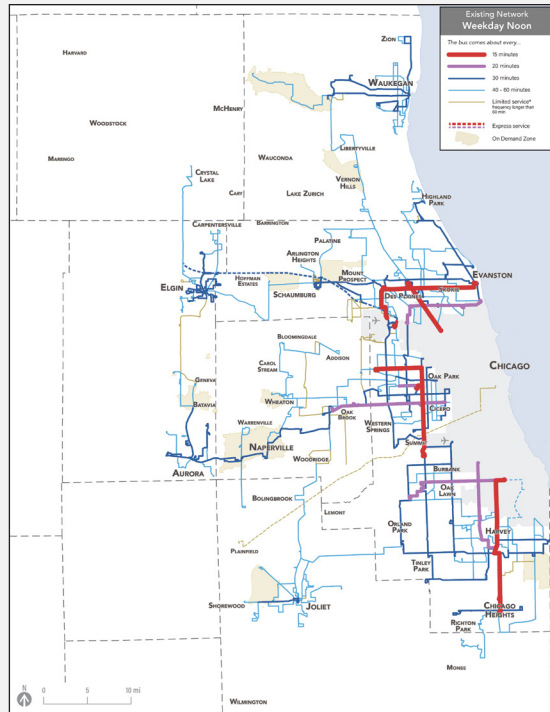


The 18 buses are spread around so that there is a route on every road. Everyone lives near a stop, but routes are infrequent, so waits for service are long. Only a few people can wait that long, so ridership is low.

Snapshot: Existing Service vs. Future Network Concepts

Existing Service

1.6 million revenue hours per year



Frequency

Most routes run every 40 to 60 minutes or worse. Many routes don't run on Sunday, especially outside Cook County. A few routes run every 15 to 30 minutes on weekdays.

Coverage

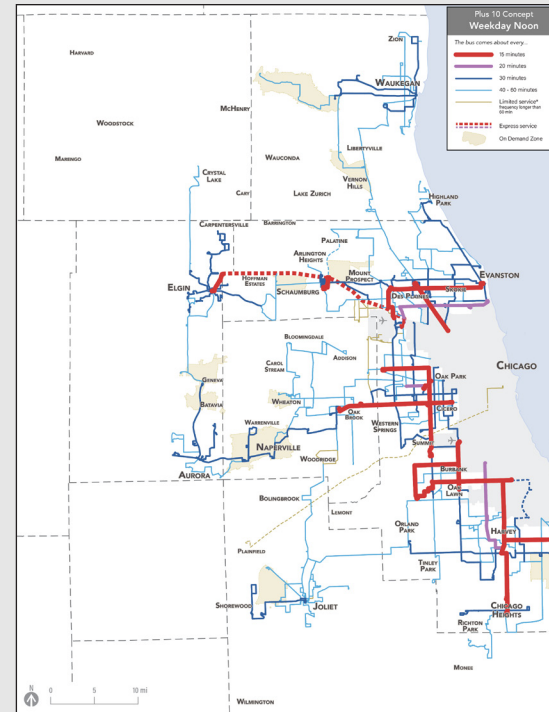
42% of suburban residents live within a 1/2-mile walk of all-day bus or rail service. Service is very limited outside Cook County, Waukegan, Elgin, Aurora and Joliet.

Access to Opportunity

The median suburban resident can reach **30,500 jobs within 1 hour** by transit and walking. The median low-income suburban resident can reach 97,000 jobs.

Plus 10 - Limited Investment

1.8 million revenue hours per year



Frequency

Most routes would run every 40 to 60 minutes or worse. Nearly all routes would run on Sundays. A few more routes would run every 15 to 30 minutes on weekdays than today.

Coverage

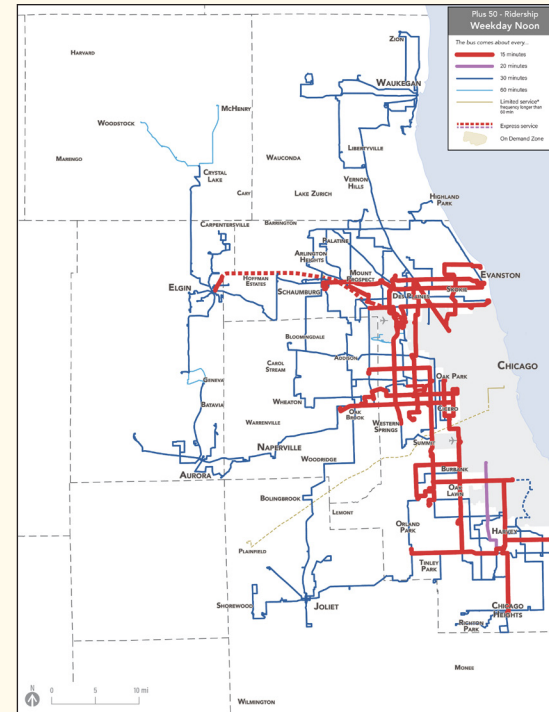
42% of suburban residents would live within a 1/2-mile walk of all-day bus or rail service. Service remains limited outside Cook County, Waukegan, Elgin, Aurora and Joliet.

Access to Opportunity

The median suburban resident could reach **7% more jobs (+2,000) within 1 hour** by transit and walking. The median low-income suburban resident could reach 103,000 jobs.

Plus 50 - Ridership

2.7 million revenue hours per year



Frequency

Nearly all routes would run every 15 to 30 minutes, seven days per week. Service would operate at the same frequencies on Weekdays, Saturdays and Sundays.

Coverage

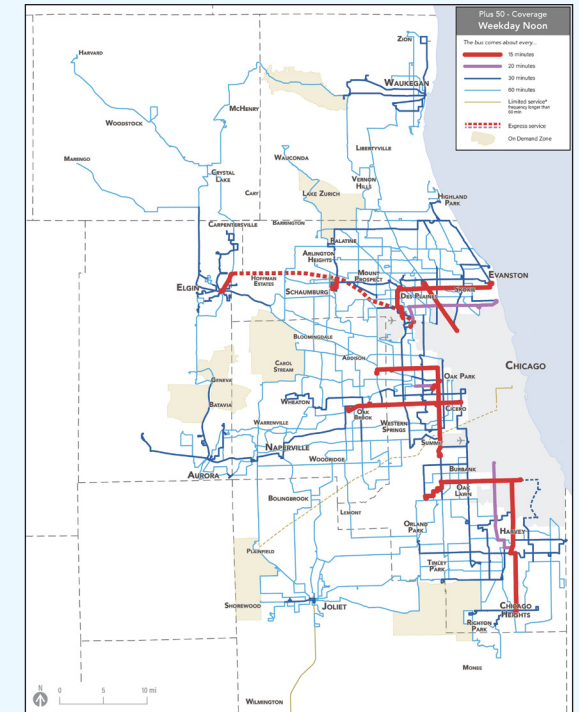
37% of suburban residents would live within a 1/2-mile walk of all-day bus or rail service. People near service would typically have more frequent service. Service limited outside Cook County, Waukegan, Elgin, Aurora and Joliet.

Access to Opportunity

The median suburban resident could reach **86% more jobs (+26,000) within 1 hour** by transit and walking. The median low-income suburban resident could reach 129,000 jobs.

Plus 50 - Coverage

2.7 million revenue hours per year



Frequency

Most routes would run every 60 minutes, seven days per week. A few more routes would run every 15 to 30 minutes than today. Service at the same frequencies on Weekdays, Saturdays and Sundays.

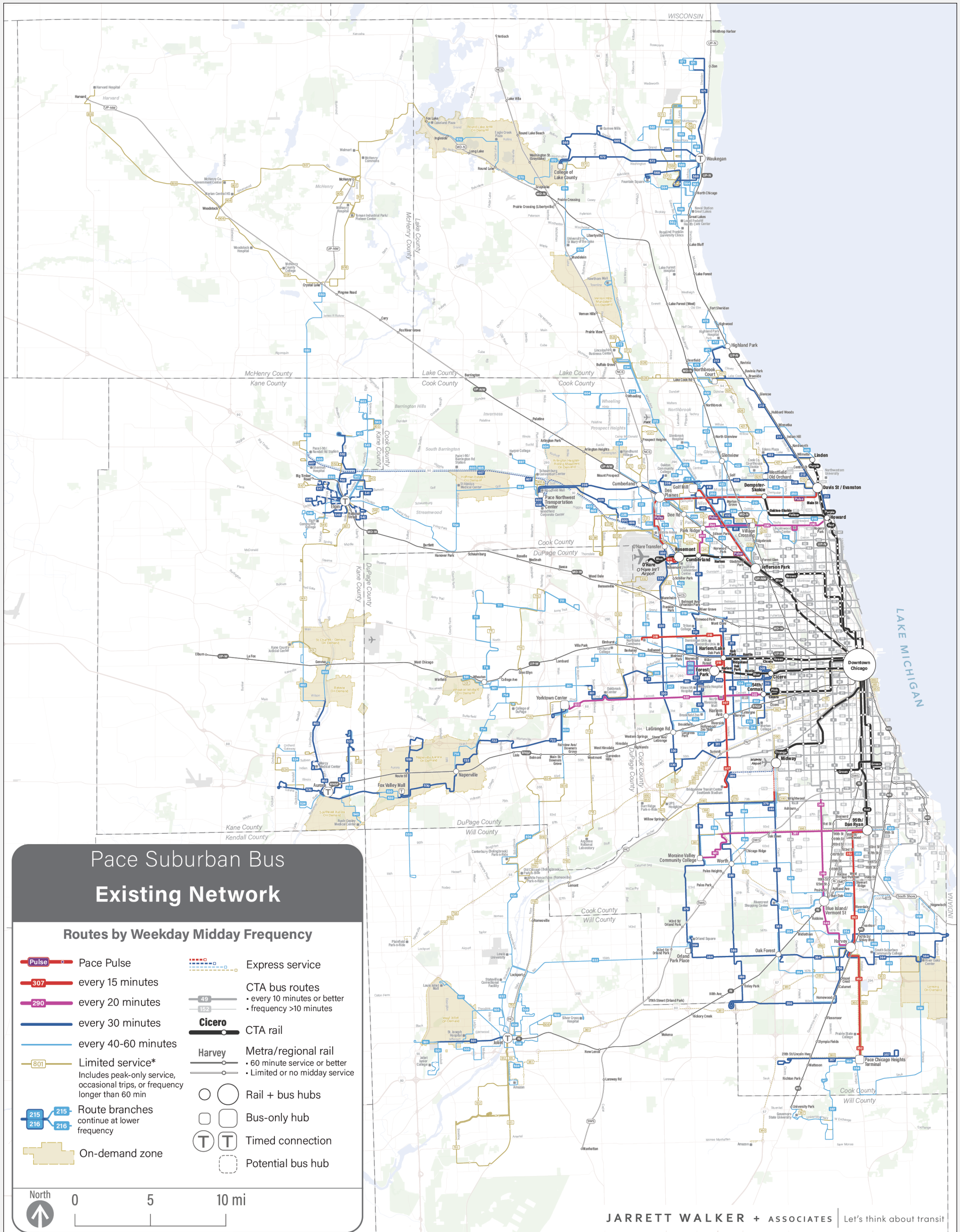
Coverage

56% of suburban residents would live within a 1/2-mile walk of all-day bus or rail service. Significantly more service outside Cook County, Waukegan, Elgin, Aurora and Joliet.

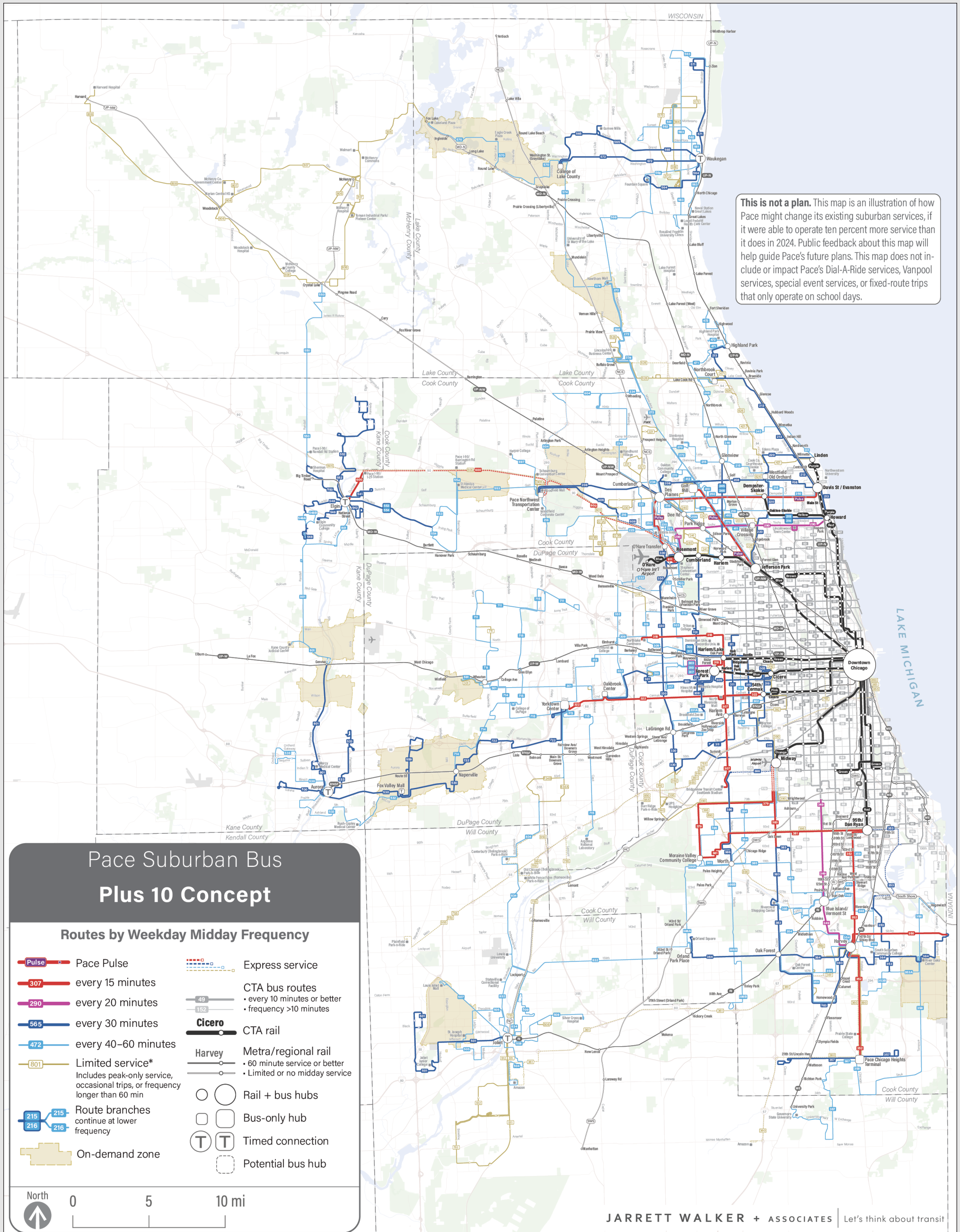
Access to Opportunity

The median suburban resident could reach **30% more jobs (+9,000) within 1 hour** by transit and walking. The median low-income suburban resident could reach 101,000 jobs.

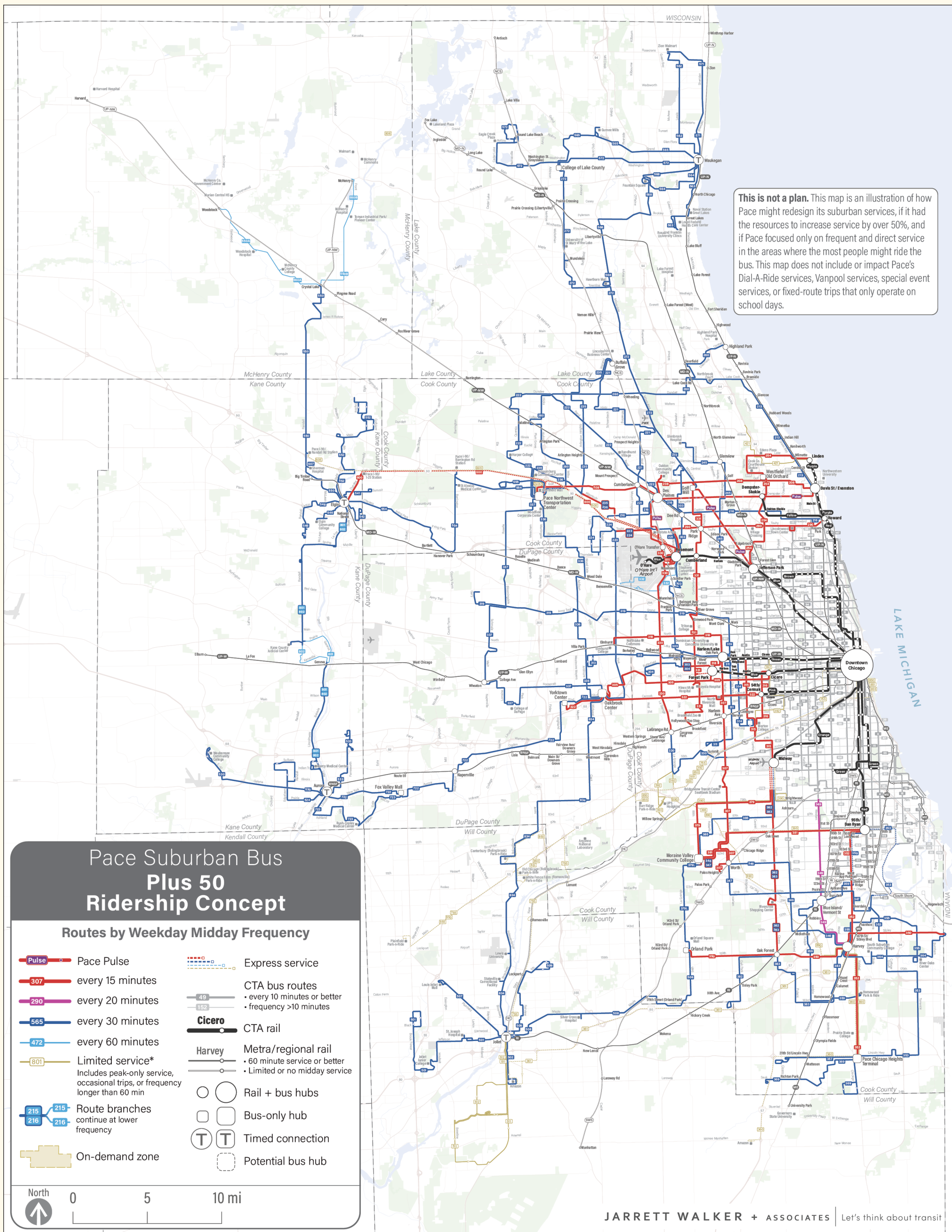
Network Map - Existing Service (Spring 2024)



Network Map - Plus 10 - Limited Investment Concept



Network Map - Plus 50 - Ridership Concept



This is not a plan. This map is an illustration of how Pace might redesign its suburban services, if it had the resources to increase service by over 50%, and if Pace focused only on frequent and direct service in the areas where the most people might ride the bus. This map does not include or impact Pace's Dial-A-Ride services, Vanpool services, special event services, or fixed-route trips that only operate on school days.

Pace Suburban Bus Plus 50 Ridership Concept

Routes by Weekday Midday Frequency

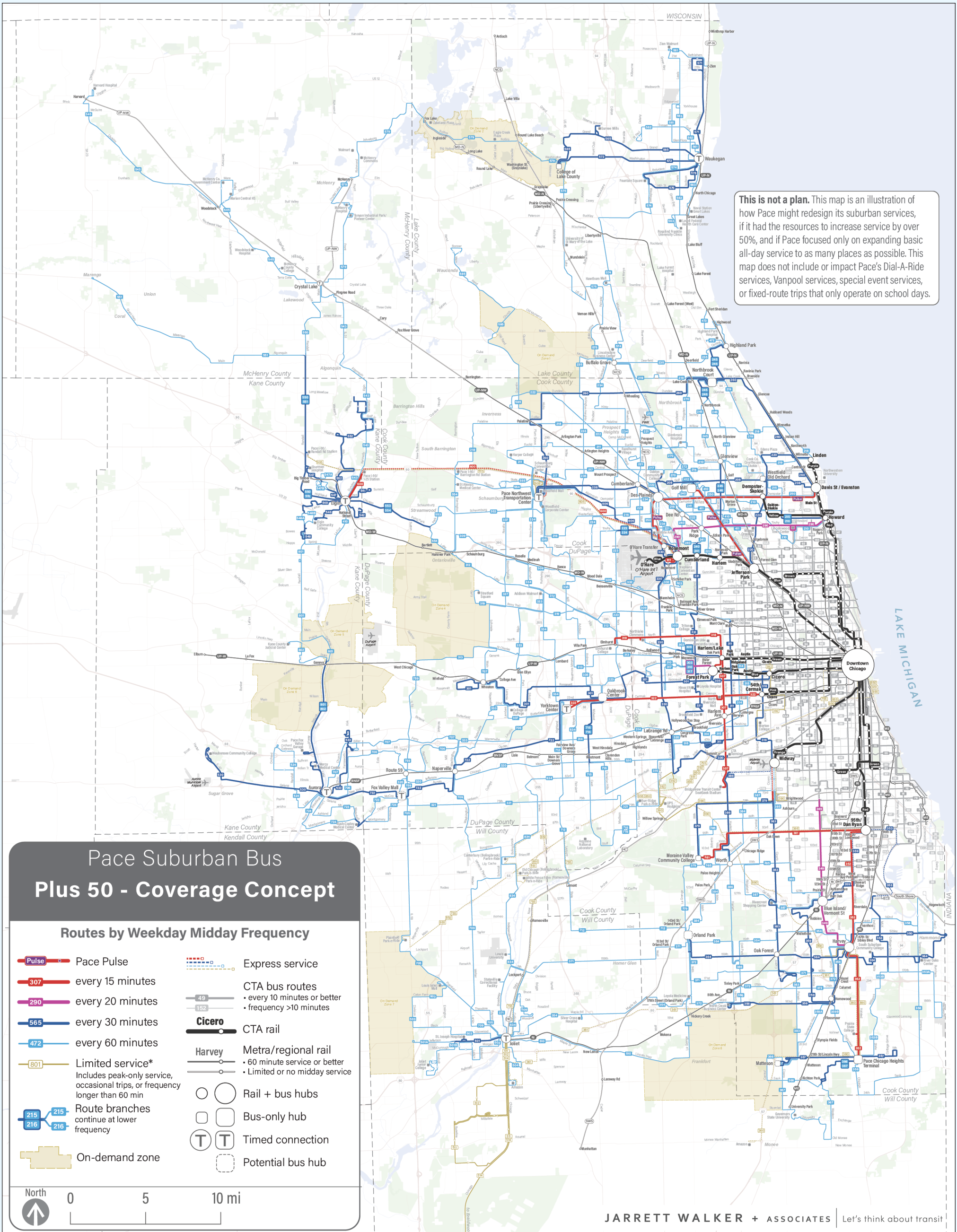
- Pace Pulse
- every 15 minutes
- every 20 minutes
- every 30 minutes
- every 60 minutes
- Limited service*
Includes peak-only service, occasional trips, or frequency longer than 60 min
- Route branches continue at lower frequency
- On-demand zone
- Express service
- CTA bus routes
• every 10 minutes or better
• frequency >10 minutes
- Cicero CTA rail
- Harvey Metra/regional rail
• 60 minute service or better
• Limited or no midday service
- Rail + bus hubs
- Bus-only hub
- Timed connection
- Potential bus hub



JARRETT WALKER + ASSOCIATES | Let's think about transit

Network Map - Plus 50 - Coverage Concept

This is not a plan. This map is an illustration of how Pace might redesign its suburban services, if it had the resources to increase service by over 50%, and if Pace focused only on expanding basic all-day service to as many places as possible. This map does not include or impact Pace's Dial-A-Ride services, Vanpool services, special event services, or fixed-route trips that only operate on school days.



Pace Suburban Bus Plus 50 - Coverage Concept

Routes by Weekday Midday Frequency

- Pace Pulse
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