ATTACHMENT 4

METRO CONNECTS

MORE SERVICE

MORE CHOICES

ONE SYSTEM

King County METRO

Long-Range Plan | 2016

METRO CONNECTS

is King County Metro Transit's vision for bringing you more service, more choices, and one easy-to-use system over the next 25 years.

More service, more choices, one system

The opening of the Link light-rail stations at Capitol Hill and the University of Washington—with more frequent Metro bus service connecting more neighborhoods to high-capacity transit—is a tangible example of how we are creating an interconnected transportation system that gives more people more choices to get to more places on time.

It's a preview of the future of transportation in King County, and this long-range vision—METRO CONNECTS—is how we will get there.

This vision is intended to be our atlas as we create an integrated transportation system that connects people to opportunity, protects our environment, and knits together our growing cities.

Decades of innovation at Metro give us a strong foundation to build on, including the highly successful RapidRide lines, one of the greenest bus fleets in the United States, the ORCA card system that has made fare payment more efficient and convenient, and the nation's leading low-income fare program, ORCA LIFT.

The plan is shaped by input we received from passengers, King County cities, Sound Transit and other transportation agencies, businesses and other stakeholders—all working together to achieve a shared vision of better mobility in our region.

Together we will turn that vision into reality.

Dow Constantine
King County Executive

Executive Summary

METRO CONNECTS is a vision for bringing more and better transit service to King County over the next 25 years: Frequent, reliable and fast service—all day, every day. Connections to the places people want to go. One integrated system that's easy to use. Customer-friendly vehicles, drivers, stops, information and assistance. Safe and secure operations and facilities for our passengers, employees and communities.

People across King County helped shape this vision. In 2015 and 2016, Metro invited transit customers, bus drivers, King County cities, Sound Transit and other transportation agencies, businesses and more to join us in imagining our future public transportation system. Thousands of participants shared their needs, hopes, and ideas for getting around better.

They were responding to critical challenges facing our region, such as how to accommodate growth, promote social equity, connect people to Sound Transit's expanding Link light rail system, and protect our environment.

The inclusive process that led to our shared vision is a starting point for ongoing collaboration. METRO CONNECTS lays the groundwork for next steps by establishing joint expectations for future road, land-use, service, and technology improvements as well as policies that support the vision for future transit.

It also helps cities understand the service envisioned for their communities, and provides guidance on how they can play a vital role in creating the envisioned transit network through capital investments and transit-supportive development.

This executive summary provides an overview of the METRO CONNECTS vision. It is followed by three sections (Service Network, Service Quality Investments, Critical Service Supports) that describe what Metro plans to do and the types of investments needed to build the proposed future network; and a fourth section (Attaining the Vision) describing our METRO CONNECTS Development Program.

How did people weigh in?

The service network

METRO CONNECTS envisions a network that increases Metro service by 70 percent (2.5 million service hours) by 2040.

This network would shift Metro's emphasis from peak-period service to all-day mobility. It would include other public and provide transportation providers, interconnected to create one system that's easy to use. By offering many types of services, the network would respond to many different travel needs.

The service categories in METRO CONNECTS:

Frequent Service

"Show-up-and-go" service with speed and reliability improvements; starts early and runs late in the day.

- About 68 percent of Metro's total service hours would be invested in frequent service by 2040
- RapidRide would grow to 26 lines, including 13 new lines by 2025 and seven more by 2040, and existing lines would be upgraded
- 73 percent of King County residents would have access to frequent service

Express Service

Limited-stop service between regional centers, all day, both ways. Includes peak-only service.

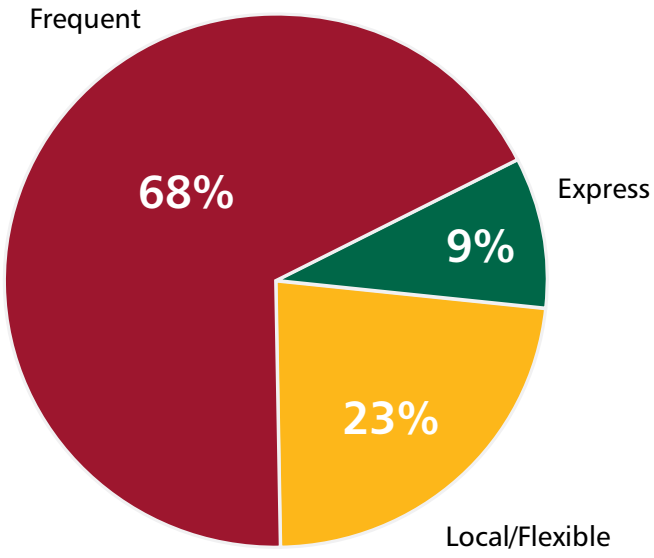
- About 9 percent of Metro's total service hours would be invested in express service by 2040

Local and Flexible Service

Fixed-route buses and alternatives such as vanpools, Dial-A-Ride Transit, community shuttles, and real-time ridesharing.

- About 23 percent of Metro's total service hours would be invested in local service (fixed route and flexible alternatives) by 2040
- Local service would be improved, with a vision for 30-minute minimum rather than 60-minute
- Alternative service investments would increase

Fig. 1: Anticipated Service in Future Network



Metro's Alternative Services program would work with communities and other partners to identify needs and develop "tailored to fit" local transportation services. The needs of low-income and minority communities would be key considerations.

The vision outlines how to grow the total amount of service in local communities as we respond to their needs and to future demand with alternative service projects.

METRO CONNECTS would also increase the accessibility of the general public system, giving people with disabilities more options and reducing their reliance on Access paratransit. We envision innovative options that are more convenient for customers and reduce the cost of service.

We would better meet diverse customer needs by providing comfortable and easy-to-use service for all passengers, regardless of their physical abilities, languages spoken, and the mobility devices they use.

Service quality investments

METRO CONNECTS would make an unprecedented level of capital investments to improve the quality of transit service. These investments would help buses move faster, improve real-time customer information, make passenger facilities better and more accessible, and improve parking access.

Types of investments:

Speed and reliability: Make corridor improvements to enhance bus speed and reliability and help ease regional transportation bottlenecks.

Innovation and technology: Make fare payment easier, pilot new vehicles, improve scheduling, and upgrade existing infrastructure. Metro would use technological innovations to offer customers new types of information and new ways to get it, enhance tools for using the system, and continue adopting greener fleet technologies to move toward zero emissions.

Passenger facilities: Create well-designed and safe transit hubs, including major stops, stations, and key transfer points, to support easy connections between services

By 2040, King County will have more than 30 transit hubs with more than 10,000 boardings a day. Metro would invest in:

- Passenger facilities.
- More bus stops and stations, including 1,000 new bus stops and upgrades to existing stops and 85 new and upgraded transit hubs.
- Enhanced amenities, safety, ease of navigation, and integration of services at passenger facilities to improve the quality of the passenger experience.

For more information about proposed investments
Go to the Development Program section, starting on page 76

Access to transit:

- Invest in access improvements, parking, and in improvements for non-motorized travel modes. This would allow us to manage existing parking resources to increase access to the system and increase transit parking in the region by more than 13,000 spaces by 2040.
- Working with Sound Transit and other partners, focus parking investment in areas that do not have walkable access to frequent service and in target collection areas.
- In dense urban areas, focus on and encourage non-motorized access improvements partnering with cities to identify and fund non-motorized investments.

Managing demand:

- Invest in transportation demand management and include funding for TDM work in Metro projects to encourage individual choices that make our transportation system work more efficiently.

Transit Oriented Development (TOD):

- Support implementation of King County's TOD plan around major stations and hubs, coordinating early with jurisdictions to identify locations and promote compact, transit-supportive development.

Critical service supports

To build the fleet, operations and workforce needed to support the expanded and enhanced system, we would:

- Invest in new fleet, including about 625 new buses.
- Invest in new layover spaces, including off-street spaces, by about 50 percent.
- Invest in new bases and other facilities to support an expanded fleet, workforce and support functions.
- Adapt Metro's workforce to enable us to achieve our vision, provide robust training and development opportunities to build leadership, and emphasize diversity and inclusion in the workforce.

Attaining the Vision

Metro would continue to collaborate with jurisdictions, transportation agencies, and the public as we move toward our shared vision. The METRO CONNECTS Development Program would coordinate internally and with jurisdictions to deliver the near-term service changes, complementary capital investments, and other program and policy work needed to support the METRO CONNECTS vision.

Each of the project areas in METRO CONNECTS would require more detailed analysis and consideration as we move toward project delivery. By considering both planning factors and available resources, the Development Program would provide opportunities to reconcile the needs identified in Metro's Annual System Evaluation with the METRO CONNECTS service network and vision.

Metro expects to begin work in 2017 on our first Development Program, for 2019 through 2024.

Financial: The costs for METRO CONNECTS are high-level planning estimates. Based on current revenue assumptions and planning-level assumptions regarding timing of investments, by 2025 just over 25 percent of the additional capital costs and more than 70 percent of the service hours called for in METRO CONNECTS could be funded.

By 2040, revenue currently forecasted could fund almost 30 percent of the additional capital costs and over 50 percent of the additional service hours called for in METRO CONNECTS.

The actual balance of service to capital expenditures will evolve throughout planning and budget development cycles. The King County Council will review and adopt the budget for METRO CONNECTS programs as part of the overall county budget.

MORE SERVICE

Buses come more often and take you farther, faster

26 RAPIDRIDE LINES

- Frequent service for 73 percent of King County residents.
- 26 new-generation RapidRide lines around the county, featuring state-of-the-art innovations.

ALL-DAY SERVICE

- A growing network of express buses, running every 15 to 30 minutes all day between areas where many people live and work.

LOCAL CHOICES

- More local service, including regular bus routes and creative new transportation options that meet community needs and connect people to the regional transit system.

FASTER TRAVEL

- Dramatic increase in investments that make transit as fast, reliable and efficient as possible, such as bus-only lanes.

FROM OUR CUSTOMERS

"The new RapidRide lines are well thought-out, traveling natural transportation corridors with good connections to Link and other RapidRide lines."

MORE CHOICES

More choices for many needs

ON DEMAND

ANY MODE

- An evolving array of new service options like community vans that provide on-demand service, ridesharing apps, and partnerships with carsharing services.
- Projects to give you better, safer access to Metro service—new and improved sidewalks; trails and lanes for biking and walking; carpool and drop-off spaces; and parking for cars and bikes.

FROM OUR CUSTOMERS

"More types of service will make errands and short trips much easier."


King County
METRO
In partnership with City of Duvall

ONE SYSTEM

One system that's easy to use

PARTNERS

- Coordination with transit agencies and cities to create one interconnected, efficient, easy-to-use transit system—including smooth transfers between Metro buses and Sound Transit's high-capacity rail service.

ACCESS

- Improvements that enable everyone to use public transportation—like new options for people with disabilities, better wayfinding signs, wider aisles and doors, and audio and tactile signs.

SUPPORT

- New types of service information and new ways to get it, first-rate customer assistance, and tools to simplify fare payment and speed up boarding.

FROM OUR CUSTOMERS

"An intermodal system will make moving off the bus to the rail car as direct as possible, with protection from inclement weather."

Imagine what it could be like

A world-class transit system that gives you more frequent, reliable, and fast service all day, every day throughout King County. A system that offers innovative new travel options; clean, safe and customer-friendly vehicles and facilities; and information that makes transit work for you.

When you get up in the morning, your smart device or computer shows you the choices in your area: Take a local bus. Or request a community van ride to a transit center, where you can catch a frequent RapidRide or express bus. Either one will take you straight to the city where you work or to a Link station.

Another choice: go with someone who's driving to your destination and using an app to find people to share the ride. Or you could drive to the local park-and-ride; your smart device tells you there are 12 open parking spaces.

As you leave home, your device gives you even more information. Every seat is taken on the bus you had decided to take, but the one coming 10 minutes later has plenty of room. You decide to make a quick stop at the coffee shop and catch that next bus.

As you walk to the bus stop with your coffee, cyclists pass by on a new bike lane next to the sidewalk; some will put their bikes in the secure lockers at the stop and join you on the bus.

The stop is well-lit, so you can see who's waiting under the large shelter. The mother who drops her children at day care every morning is there; the floor of the bus is even with the stop platform so she can roll the stroller on—and there's a place where she can stash it onboard. Wheelchair users like level boarding, too, as well as the easy mechanism for securing a wheelchair by themselves.

It doesn't take long for everyone to get on the bus—the passengers tapped their fare cards on the sidewalk kiosk or used mobile ticketing and boarded through all doors. The driver smiles and answers questions for a few riders.

Your bus gets you to your destination much faster than it used to. The road now has a bus-only lane and traffic signals that stay green when the bus approaches.

Usually you walk the last mile to work for exercise, but it's raining hard. You decide to take a transportation network car that's waiting near the transit center. The driver accepts your fare payment smartcard, so paying is quick and easy.

Compared to 25 years ago, your transit trip was much faster, easier, and full of options—and you know those choices are available to you all day, any day.

How METRO CONNECTS would help keep our region a great place to live

- **Support our growing population.**
  With one million more people and 850,000 more jobs expected in the Central Puget Sound Region by 2040, enhanced transit would help us all get around.[1]

- **Manage congestion so you get home faster.**
  We expect 24 percent of peak-period trips to be on transit by 2040, compared to 12 percent in 2015.

- **Save you money.**
  Today, an average drive-alone commute in King County costs $290 per month, not counting parking and tolls. A transit pass costs $117. Expanded transit would allow more people to save more money.

- **Create more opportunities for all.**
  One in four people in King County live at or near the poverty level. Metro could expand opportunities for people to prosper and thrive by offering frequent trips all day to jobs, education, and services. Innovations like our ORCA LIFT low-income fare could increase access.

- **Connect you to fast, high-capacity transit services.**
  As light rail and bus rapid transit (BRT) services expand, Metro can get people to stations for fast, frequent, and reliable trips to major destinations.

- **Protect our cherished environment.**
  Climate change threatens our environment, economy, health and safety. Transit is our best tool for reducing emissions from transportation.

- **Adopt new technologies that help you get around.**
  Metro would use emerging technologies to give you easier, greener and smarter travel options.

- **Get you where you want to go faster than today.**
  Figure 1 shows examples of how much farther you could go in 2040 than in 2015, traveling in the middle of the day.

300,000
FEWER CARS ON OUR ROADWAYS DAILY

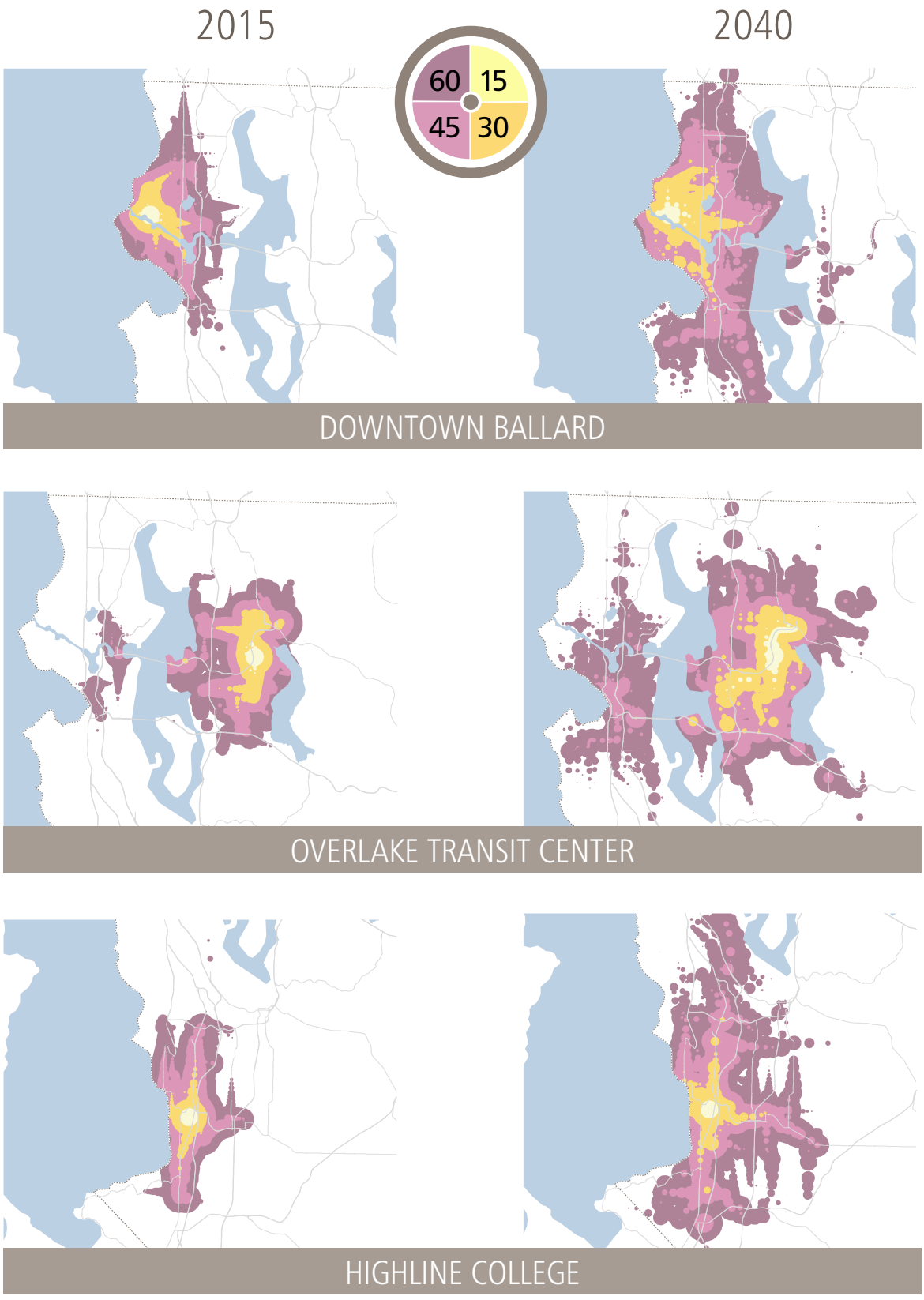
$2,000
SAVINGS A YEAR BY COMMUTING ON TRANSIT

77% & 87%
OF MINORITY AND LOW-INCOME RESIDENTS NEAR FREQUENT TRANSIT SERVICE

1.7
MILLION METRIC TONS OF GREENHOUSE GAS EMISSIONS REDUCED ANNUALLY

1 Puget Sound Regional Council, Puget Sound Trends, www.psrc.org

Fig. 2: Examples of How Far You Could Go at Midday in 15, 30, 45, or 60 Minutes



The travel sheds shown above include walking time, average amount of time waiting for the bus, travel time, and any transfer time between buses starting at noon.

The starting point for each example is:

- Downtown Ballard: 15th Ave NW and NW Market St
- Overlake Transit Center: NE 40th St and 156th Ave NE
- Highline College: S 240th St and Pacific Hwy S

Explore METRO CONNECTS

Symbols used in this plan represent key King County and Metro policy goals as well as values expressed by the public that guided the development of METRO CONNECTS.

Safety
Keep transit service safe for our customers, employees, and communities.

Excellent Customer Service
Continually improve our customers' transit experience.

Sustainability
Protect the world we live in.

Equity and Social Justice
Help build social equity and opportunities for everyone in King County.

Partnerships
Collaborate with cities and agencies on transit improvements.

Innovation
Embrace and lead change.

Chapter 1
What We're Proposing to Do

Chapter 2
How We Would Do It

Transit terms and acronyms

Here are some words and acronyms you'll see in the next two chapters. Find a larger glossary in Appendix A, page A-2.

Business access and transit (BAT) lane: An outside lane reserved for buses and right-turning vehicles only.

Bus rapid transit (BRT): Bus service that operates more like rail, with frequent service most of the day; articulated buses; stops at half-mile intervals; operation in improved roadways, bus lanes or segregated right of way; shelters with real-time arrival signs and sidewalk fare readers.

Community Access Transportation (CAT): Transportation service for people with disabilities, provided by nonprofit agencies with support from Metro.

Intelligent Transportation Systems (ITS): Applications that provide innovative transportation services such as traffic management and "smart networks" that enable users to make well-informed travel decisions.

Peak-only express service: Bus service that does not operate in midday or on weekends, and runs mainly in one direction between residential areas and job centers.

Puget Sound Regional Council (PSRC): An organization of cities, transit agencies and other entities in King, Pierce, Snohomish and Kitsap counties that is responsible for policies and decisions about transportation, growth management and economic development.

Transportation network company (TNC): Connects paying passengers with drivers who provide transportation on their own non-commercial vehicles. Examples: Lyft, Uber.

Transit-oriented development (TOD): Mixed-use residential and commercial area designed to maximize access to and use of public transportation

Transportation demand management (TDM): Use of strategies to reduce travel demand—especially for single-occupant vehicles.

Want more information?

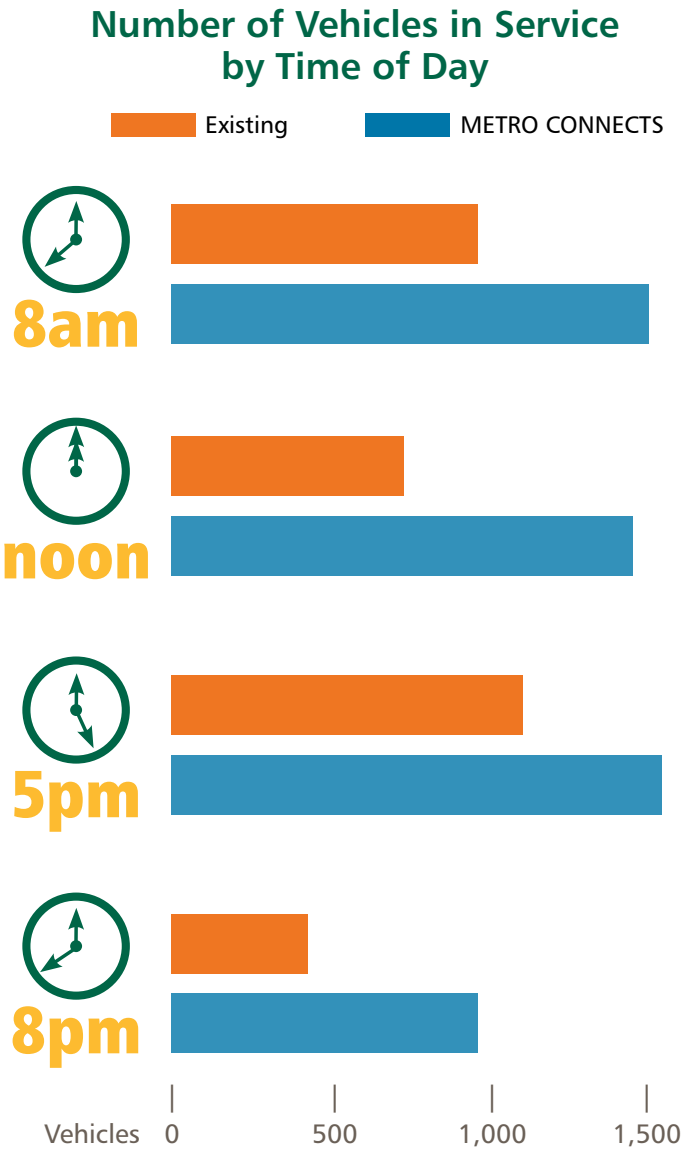
Visit www.kcmetrovision.org

- Public Engagement Report
- Supplemental Network Performance Report
- Concept Development Report

The Service Network: Frequent, Express, Local/Flexible

METRO CONNECTS envisions much more frequent and reliable transit service all day, every day. Metro would increase service by 70 percent over the next 25 years, dramatically expanding the number of places people could go and decreasing the time it takes to get there.[2]

Fig. 3: Service Profile



How the network would change

METRO CONNECTS would add 2.5 million new service hours to Metro's service network by 2040, on top of the 3.5 million hours of service Metro provided in 2015.

The enhanced system would:

- Connect people to Sound Transit's expanding regional rail system. The proposed service network includes Sound Transit's existing, planned, and proposed investments.
- Meet current transit needs identified in Metro's annual System Evaluation Report, and future transit needs identified in cities' growth plans.
- Expand funding for alternative services.
- Move Metro toward a service network that operates all day, from earlier in the morning to later at night.

Fig. 4: Summary of Service Categories in the METRO CONNECTS Network

	DESCRIPTION
Frequent	"Show-up-and-go" service with speed and reliability improvements; starts early and runs late in the day.
Express	Limited-stop service between regional centers, all day, both ways. Includes peak-only service.
Local and Flexible*	Fixed-route buses and alternatives such as vanpools, Dial-A-Ride Transit, community shuttles, and real-time ridesharing.

2 The Puget Sound Regional Council projects that our region will have 1 million more people and 850,000 more jobs by 2040, and Metro's annual service is envisioned to grow from 3.5 million hours to 6 million hours annually.

METRO CONNECTS service

The proposed METRO CONNECTS network includes three broad categories of service: frequent, all-day express, and local/flexible (see Figure 4).

Frequent and express are fixed-route services that operate on regular schedules and pathways. The majority of Metro services today are fixed-route.

Local services include both fixed-route and flexible services that are tailored to local needs and connect riders to other transit services. METRO CONNECTS envisions flexible services making up a growing share of Metro's suite of travel options.

The role of peak service

Metro currently operates some routes that run only when demand is the highest. These routes might have trips in the morning but little or no service at other times of day. While METRO CONNECTS would expand many express routes to provide all-day service, peak-only service would still be an important tool for serving growing markets.

FROM OUR CUSTOMERS

"The vision is great! It's ambitious, and at the same time presents a realistic approach to future transit opportunities for the community from both a social and economic viewpoint."

FREQUENCY	WHERE SUITED	STOP SPACING	HOURS OF SERVICE
5-15 MIN	Long corridors with many destinations densely spaced along the corridor.	1/2 MILE OR MORE FOR RAPIDRIDE; 1/4 MILE TO 1/2 MILE FOR OTHER FREQUENT	20 HRS/DAY; 5 a.m.–1 a.m. OR MORE TO MEET DEMAND
15-30 MIN MOST TIMES OF DAY; 10-15 MIN FREQUENT EXPRESS	Between centers of high demand, high travel speeds.	1-2 MILES	15 HRS/DAY; 5 a.m.–8 p.m.
30 MIN	Lower density or hard-to-serve areas.	1/4 MILE OR MORE	18 HRS/DAY; 5 a.m.–11 p.m.

* METRO CONNECTS used a network of local fixed-route bus service to approximate the future locations and quantity of local service. However, this service may be developed in different ways according to local needs. Also, Metro's Alternative Services Program could be extended and expanded in the future.

Working together

Metro would closely coordinate service plans with cities and public transportation agencies to achieve the METRO CONNECTS vision.

Sound Transit would be a key partner. Their planned and proposed investments in King County would replace some Metro service, potentially enabling us to redeploy as many as 800,000 existing service hours,[3] or approximately 22 percent of our current system, to help build the future network. We would follow our Service Guidelines for restructuring, which include a detailed planning and community outreach process.

The 2016 University Link project shows how Metro can build on Sound Transit's investments. When Sound Transit extended Link from downtown Seattle to Capitol Hill and Husky Stadium, we changed bus routes to avoid duplication, create more frequent local service, and connect to light rail. Now Metro is providing frequent service to twice as many people in northeast Seattle.

Local jurisdictions are essential partners, too, both in developing projects and in pursuing transit-supportive growth and policies. Metro service is most productive and efficient in areas with dense development near transit, managed parking, paths for walking and biking, quality passenger facilities, and transit priority on roads. Some of these features are relatively low-cost, giving cities of all sizes opportunities to partner on the METRO CONNECTS vision.

Integrating transit

The evolution of the transit service network from 2015 to 2025 and 2040 is illustrated in figures 5, 6 and 7. Each of these maps shows the planned extent of the RapidRide, frequent, express, local, light rail, Sound Transit BRT, Sound Transit express, Sounder, streetcar and ferry services. Figure 8 shows examples of travel-time savings between major centers in the 2040 network. The system maps also illustrate the way Sound Transit and Metro services are planned to be integrated so they deliver the greatest mobility to King County residents.

3 Based on Metro's estimate of number of bus riders who would switch to Link as Sound Transit's light rail system is built out.

Fig. 5: 2015 Transit Service Network

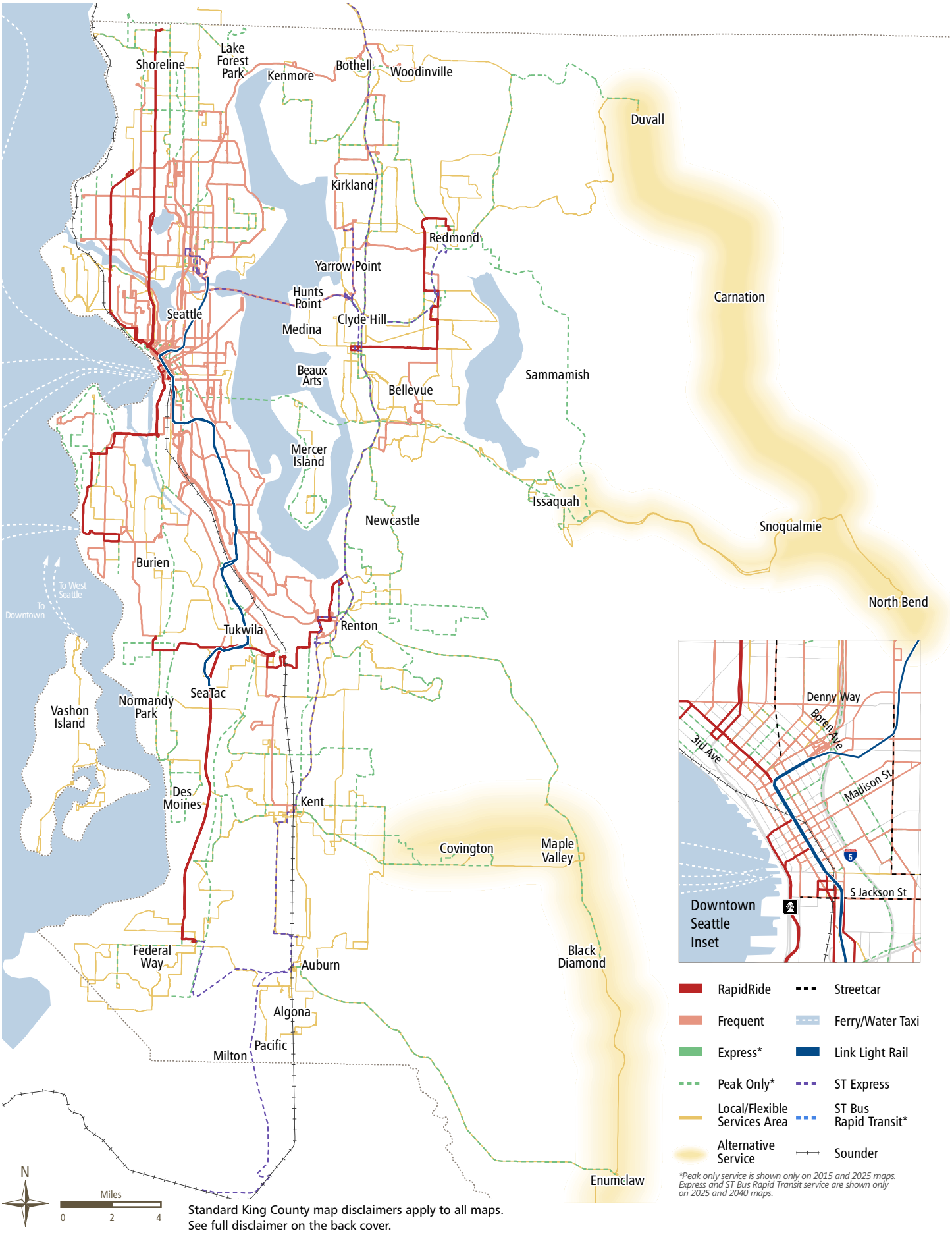


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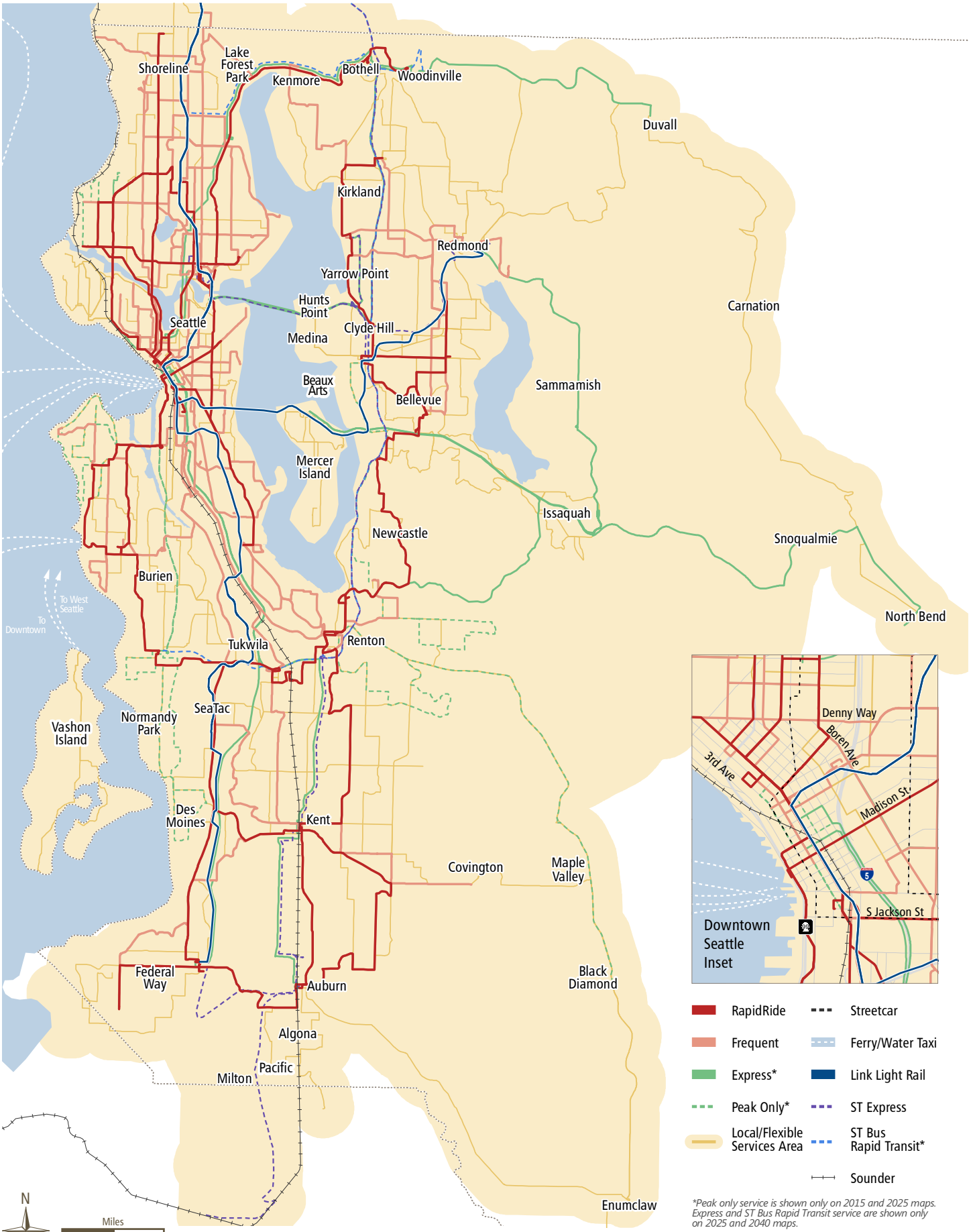
Fig. 6: 2025 METRO CONNECTS Service Network



*Peak only service is shown only on 2015 and 2025 maps. Express and ST Bus Rapid Transit service are shown only on 2025 and 2040 maps.

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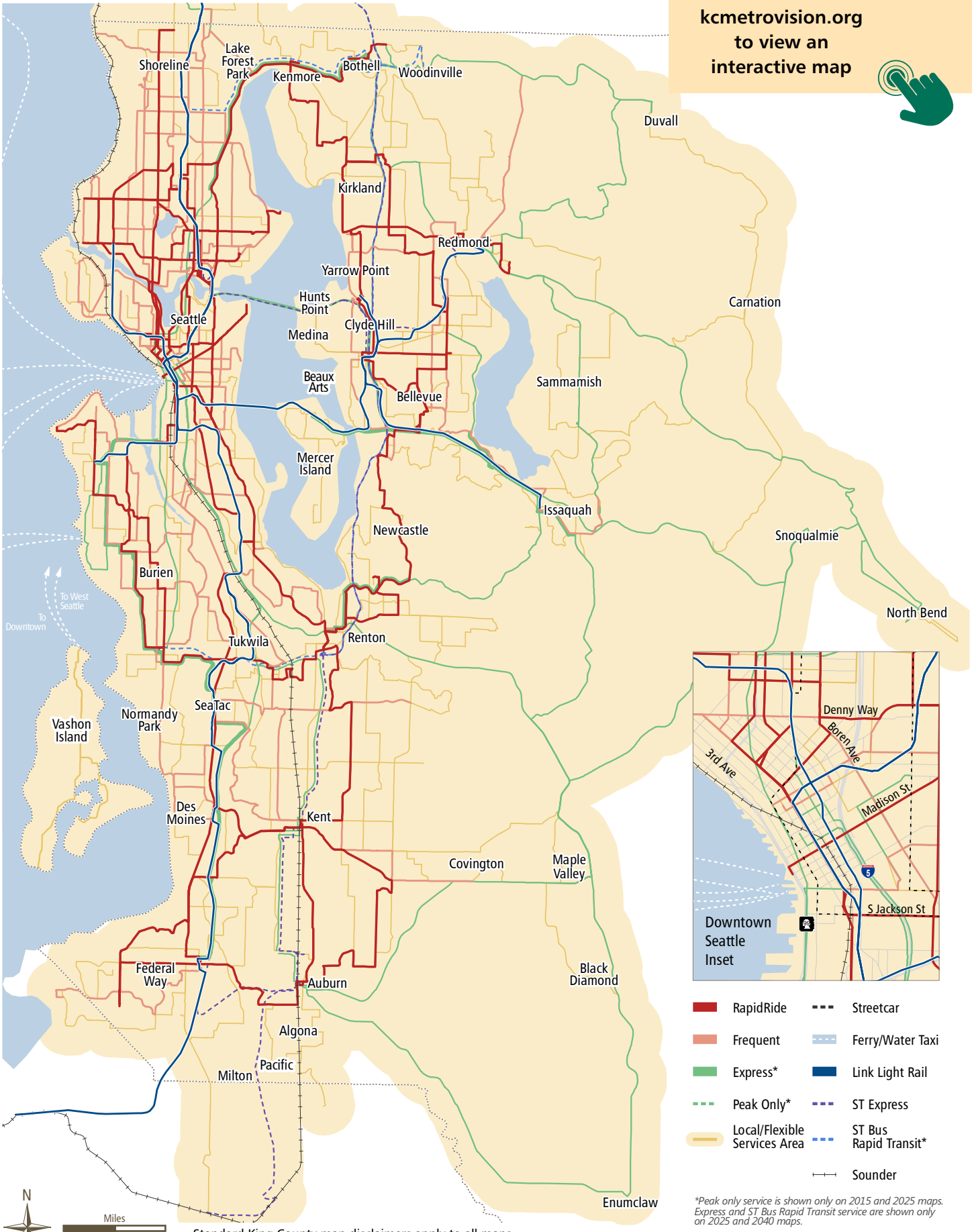
Fig. 7: 2040 METRO CONNECTS Service Network



*Peak only service is shown only on 2015 and 2025 maps. Express and ST Bus Rapid Transit service are shown only on 2025 and 2040 maps.

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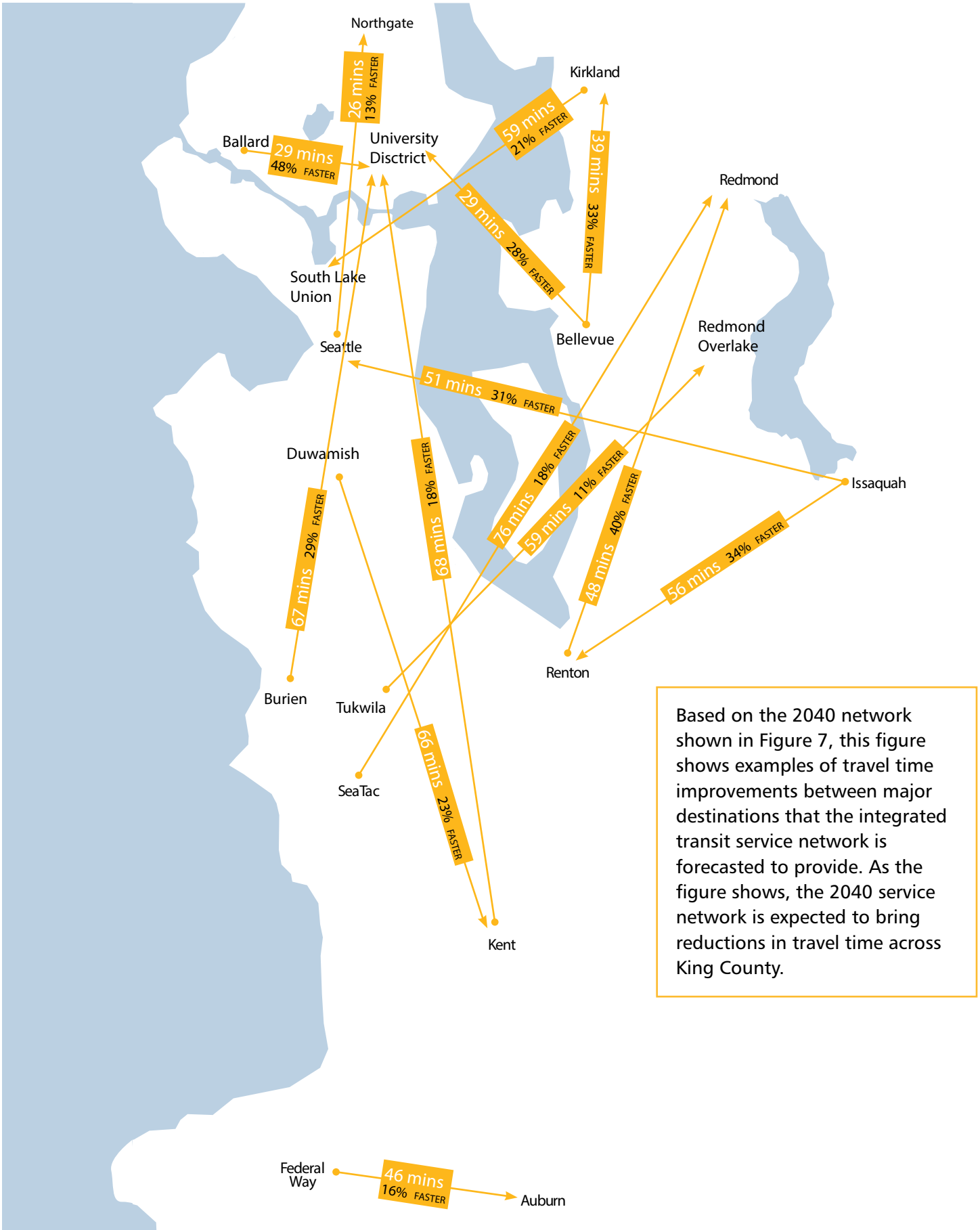
Fig. 8: 2040 METRO CONNECTS Service Network
Travel Time Savings Between Growth and Manufacturing/Industrial Centers



Based on the 2040 network shown in Figure 7, this figure shows examples of travel time improvements between major destinations that the integrated transit service network is forecasted to provide. As the figure shows, the 2040 service network is expected to bring reductions in travel time across King County.

Measuring progress

As METRO CONNECTS was developed, Metro worked with community members, elected officials, and other stakeholders to develop performance metrics for the 2040 service network. Figure 9 lists the key metrics in three areas: transit access, transit connections, and transit use and efficiency. Figure 9 also shows projected outcomes. As we implement METRO CONNECTS, we will track our progress toward these outcomes. Full methodology and performance projections can be found in Appendix A. Additional detail is available in the Supplemental Network Performance Report.

Fig. 9: METRO CONNECTS Performance Metrics and Projected 2040 Outcomes, with References to Appendix A Tables with Relevant Methodology

		2015*	2040*	CHANGE
Transit Access	**Proximity of households to transit stops** Percent of households within 1/2 mile of frequent service *(See Table A-3)*	43%	73%	▲70%
	Equity of access Percent of minority households with access to frequent service *(See Table A-3)*	61%	77%	▲26%
	Equity of access Percent of low-income households with access to frequent service *(See Table A-3)*	72%	87%	▲21%
	Proximity of jobs to transit stops Percent of jobs within 1/2 mile of frequent service *(See Table A-3)*	63%	87%	▲30%
	Access to transit: Percent of people biking and walking *(See Table A-4)*	74%	84%	▲14%
Transit Connections	**Connections to people** Number of people that an average King County resident could reach within a 30-minute transit trip (household to household) *(See Table A-5)*	37,000	86,000	2x
	Connections to jobs Number of jobs that an average King County resident could reach within a 30-minute transit commute *(See Table A-5)*	40,000	112,000	3x
	Connections to Link light rail Percent of people who can get to Link in 15 min by walking or bus *(See Table A-5)*	7%	32%	4.5x
Transit Use and Efficiency	**Ridership** Daily boardings *(See Table A-7)*	446,000	1,026,000	MORE THAN DOUBLES
	Mode share Percent of all trips taken on transit *(See Table A-7)*	7%	12%	▲71%
	Cost per boarding (Metro only) *(See Table A-7)*	$4.27	$3.95	▼ 7%
	Productivity: Boardings per hour (Metro only) *(See Table A-7)*	34.8	36.7	▲ 5%
	Emissions: Pounds CO_2 per mile (Metro only) *(See Table A-7)*	0.49	0.39	▼20%
	All-day service Ratio of trips off-peak compared to peak *(See Table A-7)*	41%	53%	▲30%

* 2015 metrics are based on actual performance; 2040 metrics are based on METRO CONNECTS modeling.

Frequent Service

By 2040, 70 percent of King County residents will have access to frequent service.

We want to transform our transit system so you can walk out the door knowing that a bus will come soon and get you where you want to go. METRO CONNECTS proposes a major expansion of frequent service. We would finish the RapidRide alphabet by adding 20 new lines, and would upgrade all 26 lines to make service faster, more comfortable, and even easier to use.

Fig. 10: RapidRide

RapidRide has earned high marks

Compared to the bus routes they replaced, the RapidRide A to F lines combined carry about:

65%
MORE RIDERS

=

63,000
PASSENGER TRIPS PER WEEKDAY

Travel is as much as:

WITH MOST LINES SAVING

20%
FASTER

1-5
MIN PER TRIP

SERVICE IS MORE RELIABLE

CUSTOMER SATISFACTION IS HIGH

What would frequent service look like?

An extensive network of nearly 600 miles of frequent service would let riders travel farther, faster, and more conveniently than they can today to major county destinations.

Frequent service includes Metro's BRT, RapidRide, and routes that use regular buses and have some capital improvements to boost speed and reliability.

METRO CONNECTS defines frequent service as any route that comes at least every 10 minutes most of the day and at least every 15 minutes when demand is lower. Stops would be every half mile, though some non-RapidRide frequent service may stop as often as every quarter mile.

RapidRide would continue to provide top-quality service. Today, RapidRide buses arrive every 5 to 15 minutes from early morning until late in the evening. Stations at the busiest stops have broad shelters, real-time bus arrival signs, and ORCA readers that let card holders pay on the sidewalk and get on at any of the buses' three doors. Riders benefit from well-spaced stops, roadway improvements, on-board WiFi, and "intelligent transportation systems" that help the buses keep moving quickly.

The next generation of RapidRide would continually expand and improve on these features. METRO CONNECTS envisions RapidRide service with much more investment in speed and reliability improvements to achieve more-robust BRT. We would target operating 50 percent of RapidRide service in transit-only lanes, and would make additional improvements to reduce delays caused by major bottlenecks, traffic signals, boarding, and other sources. We would work closely with partner agencies to make the most of these investments.

For more information

See Appendix G, RapidRide Expansion Report, for information about how the RapidRide lines in METRO CONNECTS were selected.

The enhanced RapidRide would also feature new passenger amenities such as information about how crowded the next bus is. Metro's Transit Control Center would actively manage buses to keep them from bunching up, and could add a bus if needed to reduce overcrowding.

The METRO CONNECTS 2040 RapidRide network is shown in Figure 11 on page 30; the complete 2040 frequent service network is shown in Figure 12 on page 31.

The METRO CONNECTS RapidRide network gives priority to corridors that meet these criteria:

- Have high ridership and unmet demand.
- Serve major regional destinations.
- Have transit pathways that are conducive to increasing travel speeds and transit priority treatments.
- Partners are willing to help with roadway improvements, permitting, or regulatory changes.

As we begin planning new RapidRide lines, Metro would work with cities and the public to determine where the lines would go, stop and station locations, and connecting service. For example, Metro has worked with the City of Seattle on corridor studies for BRT. In projects like this, both agencies can study and evaluate routing, integration with other services, multimodal connections, and other features. Public input would be a critical part of planning as projects move closer to final design. Metro's Service Guidelines provide direction for planning and outreach around major service changes.

What would it take?

- **Build toward a frequent service network.** Over time, increase frequent service hours by 115 percent over the 2015 level.
- **Expand and enhance RapidRide.** Building on the current A to F lines, start 13 new lines by 2025 and the remaining seven by 2040, and upgrade all existing lines to meet international BRT standards[4] of bronze or better.
- **With partners, invest in speed and reliability improvements in all existing and future RapidRide corridors.** Metro, Sound Transit, and local partners have already started to identify where major investments are needed to remove bottlenecks on corridors that have many riders and are slated for BRT service. Metro would assume primary responsibility for funding passenger facilities and roadway enhancements. Partners would assist with project planning, right-of-way acquisition and use, and transit-supportive land-use changes.

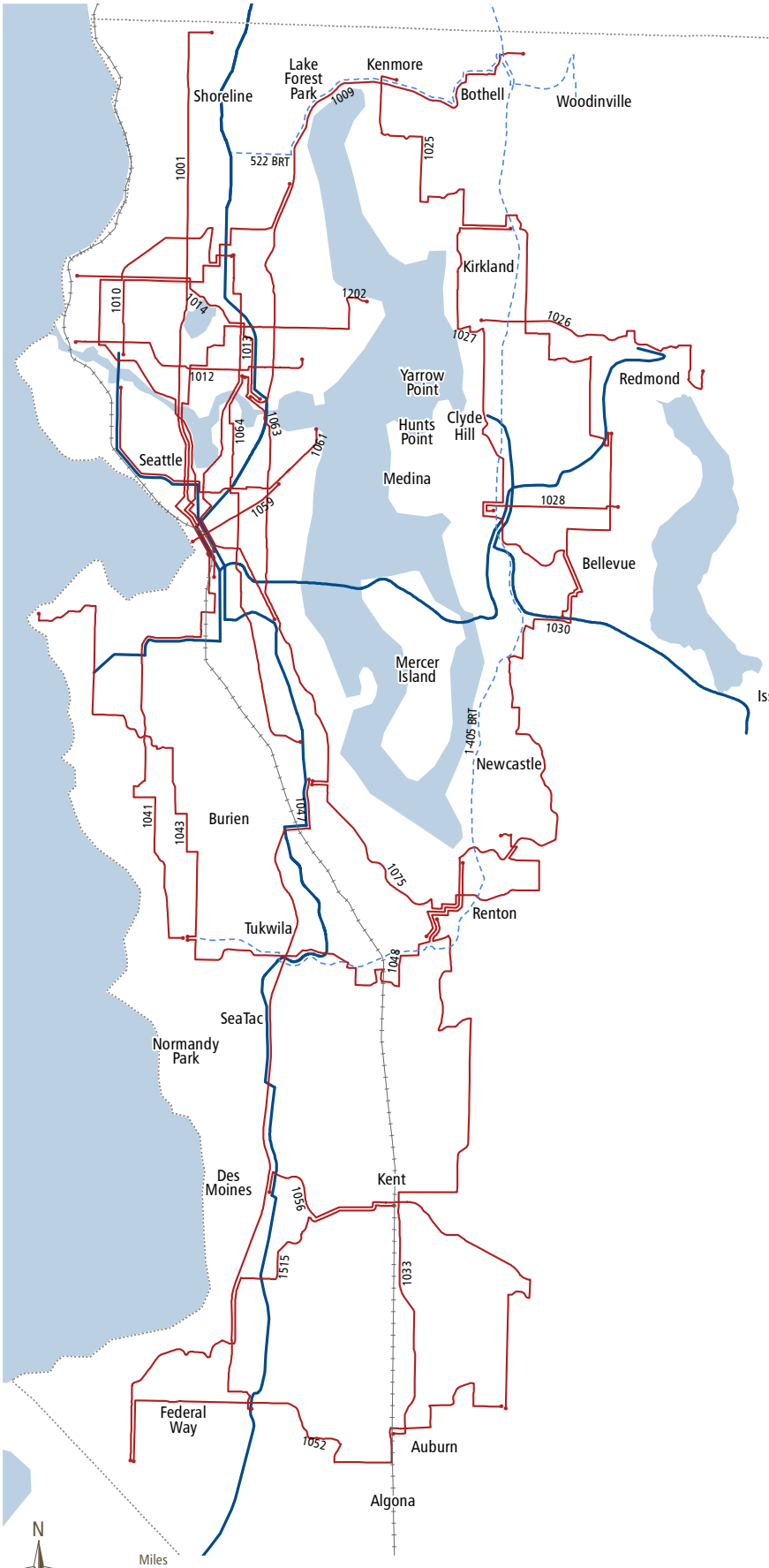
The cities of Shoreline and Seattle made investments in the E Line corridor that benefited transit riders and the community.

Shoreline invested in safer and easier access to stations, better flow of buses along the corridor, nighttime visibility and safety features, transit signal priority and business access and transit (BAT) lanes to keep buses moving, as well as streetscape amenities and stormwater management upgrades to stimulate economic development.

Seattle is contributing funding to increase E Line frequency and helped design and install BAT lanes, sidewalks, and a fiber optic system that supports signal priority, "next-bus" signs, and ORCA card readers.

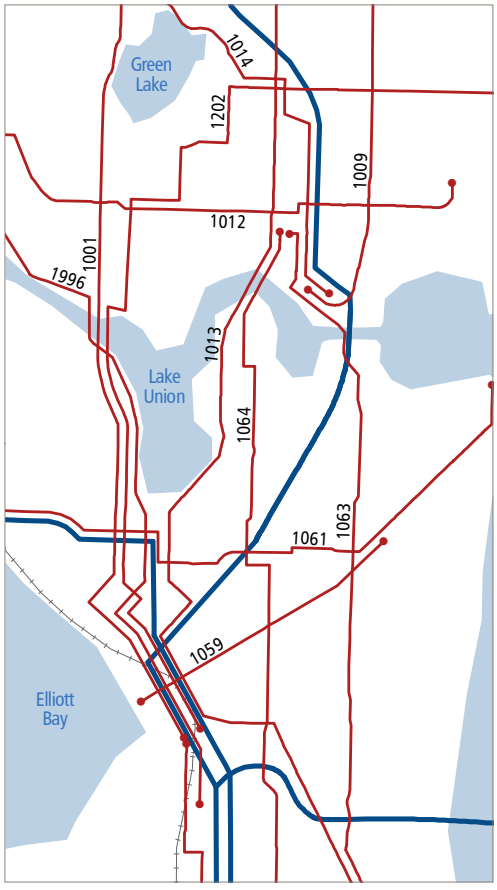
4 The Institute for Transportation & Development Policy has developed a widely used scorecard to certify BRT projects at gold, silver, bronze, or basic levels.

Fig. 11: METRO CONNECTS 2040 Enhanced RapidRide Network



1001 (E Line)*	Shoreline - Downtown Seattle via SR 99
1009	Bothell - UW - Kenmore
1010 (D Line)	Fremont - Lake City - Northgate
1012	Ballard - Children's Hospital - Wallingford
1013	Northgate - Mount Baker - U. District
1014	Loyal Heights - U. District - Green Lake
1015	Northgate - Seattle CBD - Ballard
1025	Kenmore - Overlake - Totem Lake
1026	Campton - Kirkland - Redmond
1027	Totem Lake - Eastgate - Kirkland
1028 (B Line)	Crossroads - Bellevue - NE 8th St
1030	Overlake - Renton - Eastgate
1033	Renton - Auburn - Kent
1041	SODO - Burien - Delridge
1043 (C Line)	Alki - Burien - West Seattle
1047 (A Line)	Rainier Beach - Federal Way - SeaTac
1048 (F Line)	Renton - Burien - Tukwila
1052	Twin Lakes - Green River CC - Federal Way
1056	Highline CC - Green River CC - Kent
1059	Madison Valley - Seattle CBD - E Madison St
1061	Uptown - Madison Park - Capitol Hill
1063	U. District - Rainier Beach - Mount Baker
1064	U. District - Othello - Capitol Hill
1075	Renton Highlands - Rainier Beach - Renton
1202	Seattle CBD - Sand Point - Green Lake
1515	Kent - Twin Lakes - Star Lake

*For convenience, four-digit numbers are used to reference all 2040 routes. When implemented, all RapidRide lines would continue to be called letters rather than numbers.



RapidRide — Link Light Rail
ST BRT — Sounder

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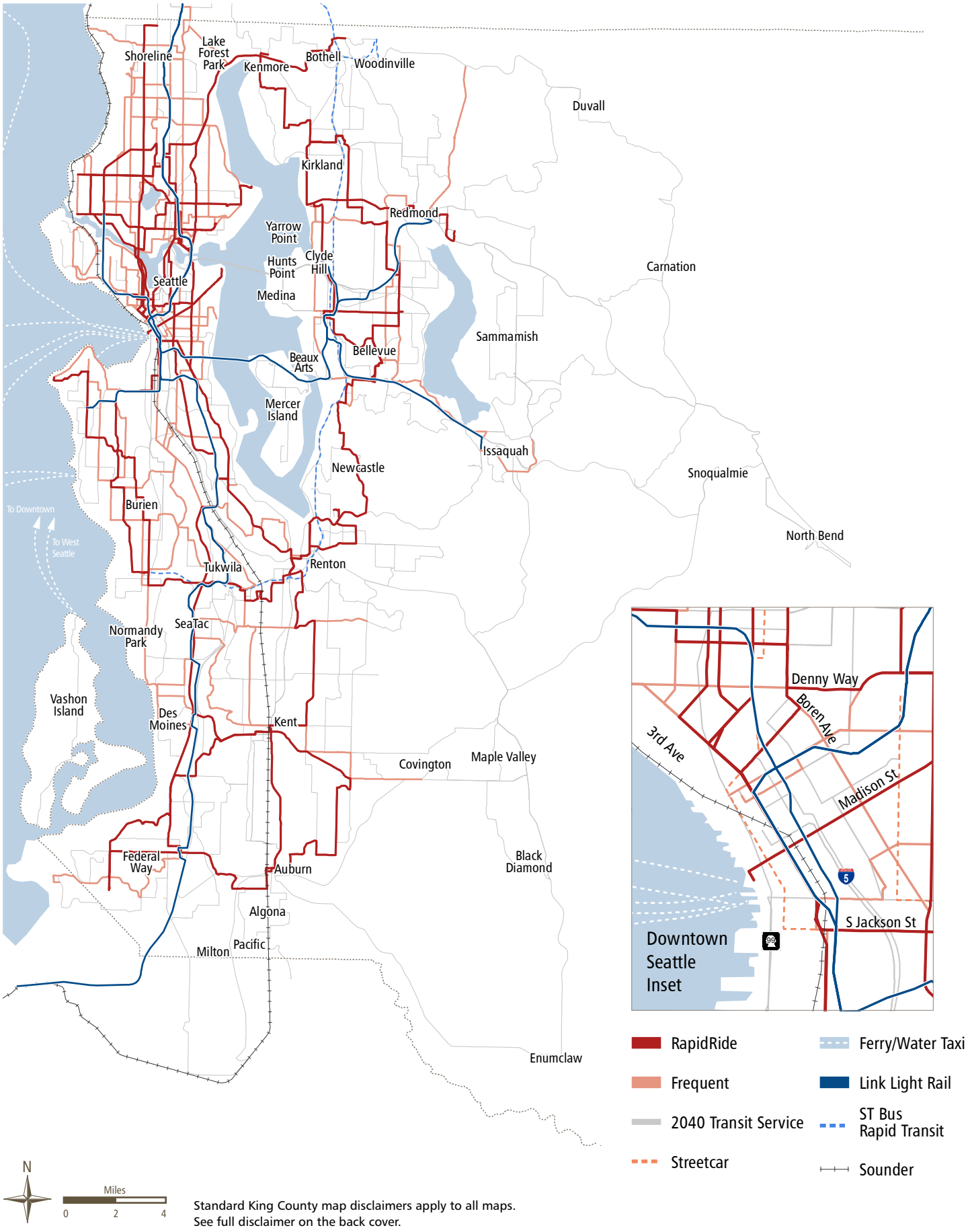
Fig. 12: METRO CONNECTS 2040 Frequent Network



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Express Service

Faster express, limited stops, all day.

King County is growing, with more people and jobs in places like Bellevue, SeaTac, and Issaquah. Our service network must provide faster and easier trips between growth centers across the county.

METRO CONNECTS would build new all-day express routes with service every 15 minutes or better during peak periods and every 30 minutes during off-peak periods. Future express service would support a wide variety of work schedules, destinations, and trip purposes, giving riders more flexibility.

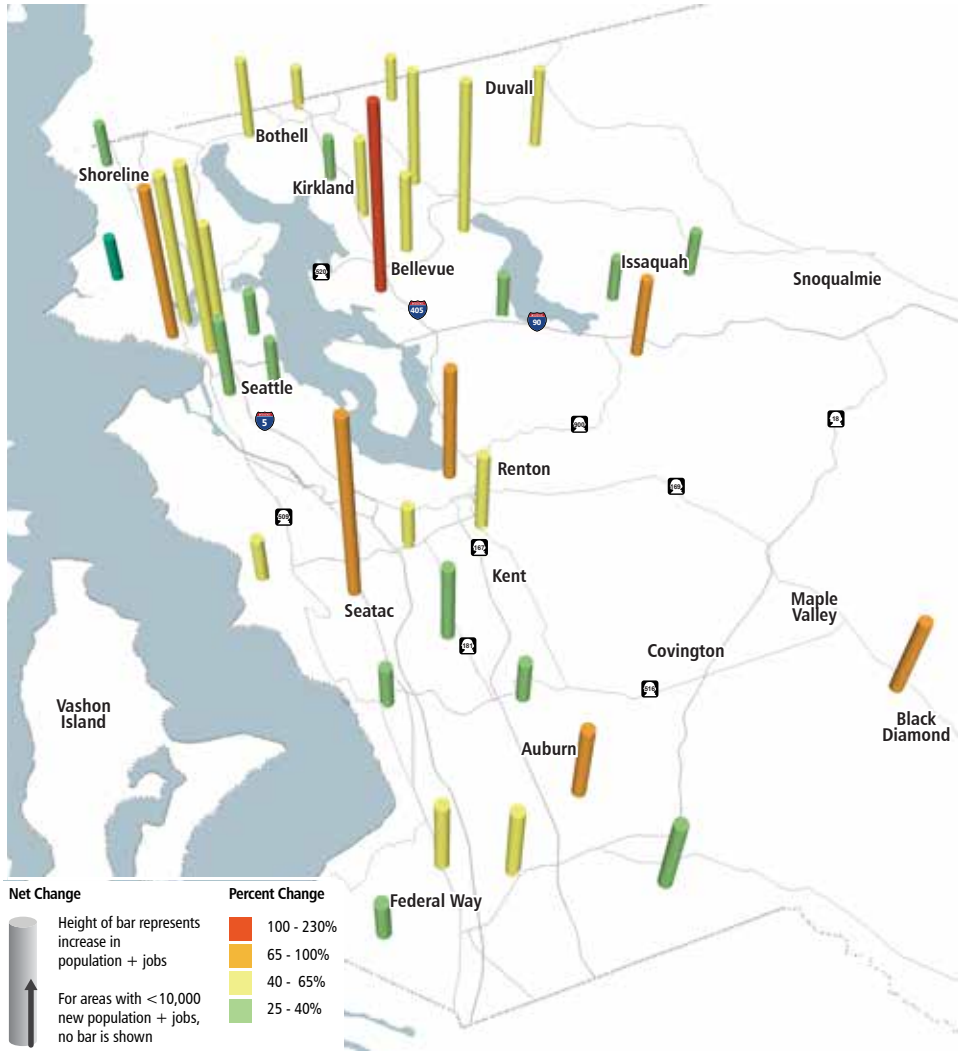
What would express service look like?

Today, many Metro express buses primarily serve traditional commuter markets, providing faster travel and more direct connections between established growth centers during peak times. As developing job and residential centers grow, our county will need fast, reliable, all-day service to support changing travel patterns.

Metro and Sound Transit worked together to develop a complementary network of express services connecting corridors that are important countywide.

As ridership increases, express service would be offered throughout the day, contributing to an increase in transit's share of all travel.

Fig. 13: Change in Population and Jobs Across King County by 2040



METRO CONNECTS assumes that future express buses would arrive every 15 minutes during peak periods and every 30 minutes during the off-peak, although some would be more frequent in high-demand corridors. Express stops would be spaced one to two miles apart, on average. Stops would be less frequent on highway segments and more frequent when serving local transportation hubs and stations.

Express buses would connect centers along major corridors and would also connect smaller suburban cities to regional growth centers and the larger transit system. The proposed express network would also be integrated with regional rail and bus rapid transit services.

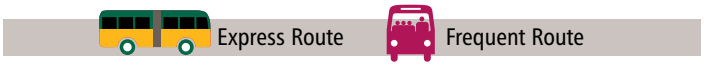
Combined with improvements that help buses move more quickly and reliably, express service would provide faster trips between transit centers and employment hubs as well as universities, community colleges and technical schools. Express service would expand access to transit by connecting to parking facilities.

Nearly 30 percent of residents and half of all jobs in King County would be within a half mile of express service.

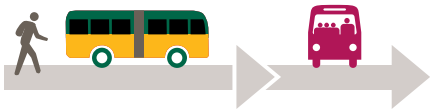
Express service should meet the following criteria:

- Connect areas that have concentrated demand at both ends of the route.
- Connect centers not well served by other regional high-capacity services such as light rail and BRT.
- Operate primarily on highways or major arterials where express buses can maintain a target travel speed of more than 20 mph, or 45 mph on freeway portions.
- Provide significant and reliable travel-time savings over alternatives.

Fig. 14: Benefits of Express During AM Peak Travel Time



Snoqualmie Ridge to Microsoft Redmond



65–95 MIN FASTER

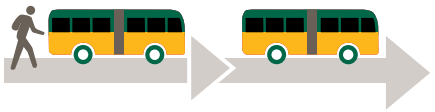
2015 travel time: 120–145 min
2040 travel time: 50–55 min

University District to Totem Lake

15–25 MIN FASTER

2015 travel time: 60–65 min
2040 travel time: 40–45 min

Black Diamond to Bellevue Transit Center



10–55 MIN FASTER

2015 travel time: 70–110 min
2040 travel time: 55–60 min

Travel times were estimated using METRO CONNECTS modeling, which assumed that express service would travel 45 mph on freeways and an average of 19 mph on arterials.

What would it take?

- **Expand express service** to new growth areas, lengthen spans of service, and increase frequency. Dedicate about 9 percent of Metro's total service hours to express service by 2040.
- **Partner to improve express travel speeds and reliability.** Make improvements on more than 100 miles of non-highway roads running express service. A partnership with the Washington State Department of Transportation (WSDOT) could help improve operations on highways. Partnerships with local jurisdictions could enhance the right-of-way available for express service or augment planned in-street transit priority improvements.
- **Coordinate express service** with Sound Transit and other transit providers. Sound Transit currently operates 720,000 hours of weekday regional express service annually in King, Pierce, and Snohomish counties. As Sound Transit expands light rail, some of its express service corridors will be replaced by Link.

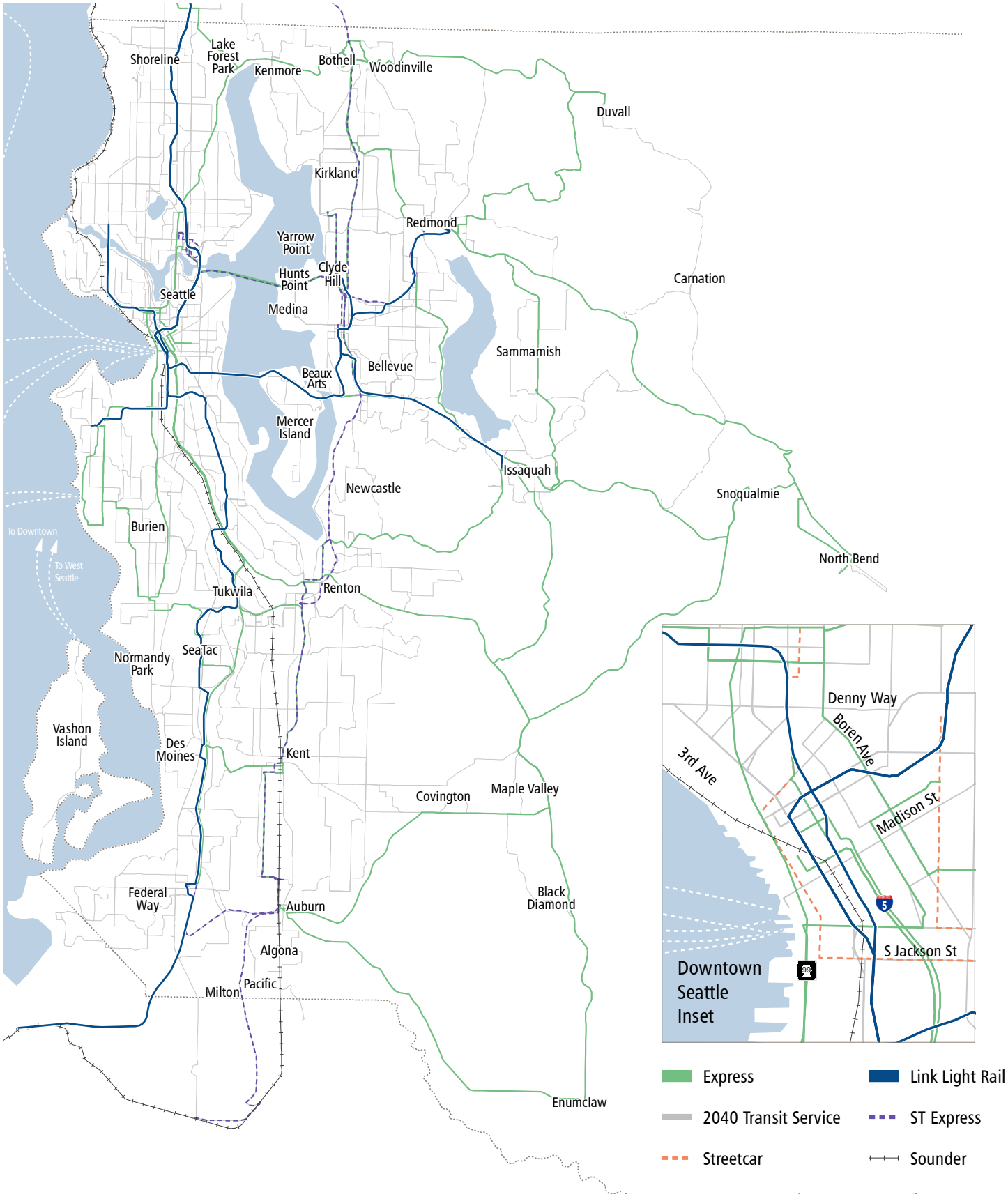
As we developed METRO CONNECTS, Metro worked closely with Sound Transit, Pierce Transit, Community Transit and other agency partners to ensure that our service networks complement one another and connect regional centers quickly and reliably.

Our public outreach found strong interest in improving connections across county lines and among different service providers. We will continue to work with these transit agencies as they refine service plans for the future.

FROM OUR CUSTOMERS

"Express service all day would be awesome! If my kid got sick at school, I could get there fast and take him home."

Fig. 15: METRO CONNECTS 2040 Express Service



Local and Flexible Service

Options for everyone, for every trip.

We know that a "one size fits all" approach to transportation doesn't work. Our customers have different transportation needs that may change for different days, times, or destinations.

We envision working with local communities to evaluate service solutions ranging from expanded fixed-route transit to more flexible approaches such as innovative ridesharing options, on-demand van service, and partnerships with other transportation providers for specific travel needs. Flexible alternatives would serve areas where traditional bus service doesn't work well, offer transportation options for people with disabilities, and help our congested roadways work better by managing demand.

What would local service look like?

Local service helps people get to destinations within their communities and connects them to the regional transit network. Today, most of Metro's local service is provided by 40- or 60-foot buses that operate on regular routes with fixed schedules. We also operate bus service with flexible routing, such as Dial-A-Ride Transit and community shuttles.

Complementing our bus service is a growing portfolio of more flexible options that may better fit local needs, such as community shuttles and vans, vanpools, and real-time ridesharing services that let users make the "last-mile" connection to home or work. Flexible service can provide more direct and dynamic connections than a fixed-route bus can in a low-density area.

METRO CONNECTS assumes that about 23 percent of Metro's total service hours would be dedicated to local service. Most of the hours would be used to expand local fixed-route service, with arrivals every 30 minutes most of the day.

We would also expand flexible and community-driven solutions. These could be implemented through our Alternative Services Program, which currently includes a four-year demonstration project testing innovative and community-driven transportation models.

Metro is thinking more creatively about how to offer new options and match local needs to service. An example is partnering with private providers like taxi cabs or transportation network companies (TNCs) that provide on-demand rides. Innovations in technology such as automated vehicles are changing the transportation landscape—and Metro is changing with it. We're actively working on new partnerships to better meet the needs of our customers in ways we never have before.

We anticipate growing demand for alternative services, leading to needs for more service and more capital facilities to store and maintain vehicles.

As we work with communities to design transportation services to meet their unique needs, we would set priorities and parameters for integrating these services with our fixed-route bus network. Metro's Alternative Services Program would continue to use the Service Guidelines to inform project design, and would develop performance metrics specific to alternative services to better assess how well these services are performing. Alternative services would continue to play an important role in providing equitable access to transportation for all people in King County. Alternative service options would provide access to transit in places where fixed-route service is not the most cost-effective mode, and would help low-income and minority populations have greater access to transit service than the population as a whole.

What would it take?

- **Use community-based planning and partnerships to implement new services.** Metro's current alternative service projects have been successful in part because we collaborated with nonprofit organizations, jurisdictions, and community groups to identify needs and create unique services that meet them.
- **Pilot new and innovative services and technology applications.** Advances in real-time, on–demand transit may enable us to serve low-density areas more effectively, providing connections to local activity centers and to regional and local fixed-route transit. Changes in the way people get around could include ridesharing options, on-demand van service, use of automated vehicles, traffic management innovations, and other advances in technology yet to come. Private service providers may present partnership opportunities to fill gaps.

For more information

For a full description of Metro's current service types, see Appendix A, page A-9.

Metro has followed a community collaboration approach in a number of areas. When we deleted some poorly performing bus routes in the Snoqualmie Valley, Mercer Island and Burien, we worked with local residents to develop shuttle services that get residents to local destinations and to the larger transit network. Redmond and Mercer Island are trying a ridesharing app and website that connect people in real time, and in Duvall we're piloting a new community van concept. We're also working with Bothell, Woodinville, Kirkland, Kenmore, Vashon Island and southeast King County communities to bring similar services to those areas in early 2017.

Accessible Transportation Options

Better ways to meet diverse customer needs.

METRO CONNECTS would increase the accessibility of our general public services to all customers by providing 100 percent low-floor buses and 100 percent accessible stops, by redesigning vehicle interiors to better accommodate customers and what they bring on board (mobility aids, luggage, strollers), and by increasing auditory and tactile information throughout the system.

We would also improve our Access paratransit service for customers while striving to reduce per-trip costs. METRO CONNECTS proposes exploring new and innovative ways to deliver service.

What would accessible transportation look like?

Metro strives to provide comfortable and easy-to-use service for all passengers, regardless of physical abilities, languages spoken, and mobility or other devices they need to have with them.

Our paratransit program provides Access service along with travel training and other resources in order to give people with disabilities access to public transportation, as required by the Americans with Disabilities Act.

We also support services such as Community Access Transportation (CAT) and operate a fleet of 100 percent accessible vehicles. For people whose disabilities prevent them from using accessible, non-commuter, fixed-route bus service, paratransit service gives them a comparable alternative. Paratransit service is a specialized form of public transportation, not required or intended to meet all the transportation needs of people with disabilities.

METRO CONNECTS proposes improvements to enable more people to use Metro's general public services. About 30 percent of our current paratransit customers can use fixed-route transit for at least some of their trips. However, the other 70 percent can't use our existing bus services because of difficulties reaching the nearest stop or boarding and riding the bus.

METRO CONNECTS also includes strategies to reduce per-trip costs and improve mobility for customers. Our current accessible service options can be expensive to operate; the average cost of providing an Access trip is approximately $52, compared to about $4 for a fixed-route trip.[5] Accessible services can also be cumbersome or inconvenient for customers. Access service today requires that reservations be made one to three days ahead and offers a 30-minute pickup window, making the service difficult to use if travel needs are spontaneous or time is limited.

New technologies and transportation services open up opportunities to provide paratransit trips that are more convenient, have lower operating costs, and could complement or reduce demand for some of our existing paratransit services. For example, Metro could pilot on-demand trips.

5 For information about Metro's cost per boarding, see the Strategic Plan Progress Report at www.kingcounty.gov/metro/accountability

What would it take?

- **Use inclusive planning** to make general public services more accessible. Continue improving how Metro involves people with disabilities in our planning, to make sure we fully understand the challenges they face in getting around on transit. Recent innovations include passive restraints on our RapidRide coaches, "kneeling coaches" that make boarding easier, automated and visual stop announcements, low-floor coaches, and improvements in transit zones, where passengers get on and off.
- **Pilot and start new service models** to reduce costs and improve service quality. Potential approaches include same-day Access Transportation service and public-private partnerships to expand accessible taxis or TNCs in King County.
- **Make customer information and support available** to customers who have limited English proficiency or disabilities. Strategies include enhanced availability of interpretation services and translated materials, audible announcements on vehicles and at facilities, and tactile wayfinding options.
- **Partner to provide service.** Continue to partner with community organizations to provide cost-effective transportation for people with disabilities. We may build on our existing CAT program, which provides vans and support to community organizations that operate the service themselves. CAT service is less expensive to operate than Access service. At a cost of about $6.50 per boarding, if 100 people took a trip on CAT instead of Access, Metro could save $4,500 per day.

Speed and Reliability

Service you can count on.

METRO CONNECTS would deliver service you can rely on by making an unprecedented level of capital investments to improve transit speed and reliability. For each dollar spent on service, METRO CONNECTS would double our capital investment compared to 2015. This investment would pay off—for every dollar invested, Metro and our riders would save $2.[6] By keeping buses moving through congestion and on schedule, Metro could deliver even more service, and our customers would have an alternative to sitting in traffic.

Fast and reliable service is our customers' top priority.

Metro's Rider/Non-Rider Survey has found that less than half of our riders are happy with travel speeds, and the same for on-time performance.

As we developed METRO CONNECTS, we learned through our online survey, visioning events, and open houses that street improvements to improve speed and reliability were the top-rated transit improvements. New roadways for transit were the next-highest rated.

This proposed plan puts a new emphasis on these improvements and includes strategies to guide future investments.

What would speed and reliability look like?

This program creates features such as bus-only lanes and traffic signals that give priority to transit. Improvements like these would be critical to the success of our proposed network. By getting passengers to their destinations in less time and on schedule, they would attract new riders. By letting Metro schedule more time for moving people and reserve less time for getting delayed buses back on schedule, they would save operating dollars that could be used for new service.

Investments to improve speed and reliability are particularly important for frequent service. Transit service that operates in mixed traffic without transit priority features can quickly degrade, with buses spaced too close together or too far apart, slow travel time, and high operating costs. Buses run late and transfers can be difficult.

The most promising potential improvements focus on road congestion, traffic signals, and passenger stops that delay buses. The "Fares and Boarding" section of this document discusses ways we could reduce delay by making bus boarding easier and fare payment faster.

METRO CONNECTS proposes dedicating 45 percent of the capital budget for METRO CONNECTS to investments that improve transit speed and reliability.

For more information

Appendix C, page C-2, has a more detailed summary of the tools we can use to boost speed and reliability.

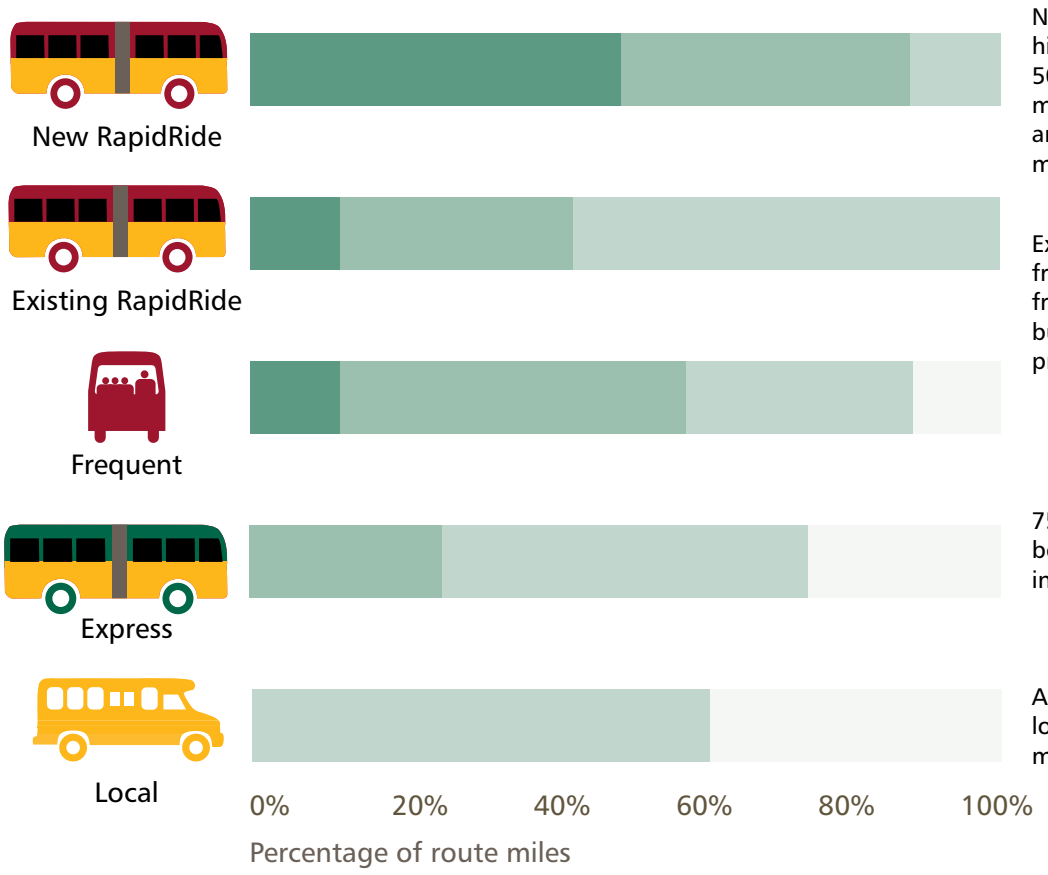
6 Savings based on travel time impacts of similar investments as reported in Transit Capacity and Quality of Service Manuals (TCQSM edition 3) and Transit Cooperative Research Program reports (TCRP 65 and 118) multiplied by 2015 Metro operating costs and the PSRC's traveler value of time rate. The operating cost and traveler time savings were compared to the costs of the investments assuming a 30-year life span and a 3% discount rate.

METRO CONNECTS proposes different levels of capital investment—major, moderate, or minor—to keep buses moving fast and reliably. Each level has a different mix of tools. While all of our service types would receive some investments, the highest levels of investment would be focused where service is most frequent and roadways are most congested. Service that is either less frequent or operates in less-congested areas, such as rural communities and fast-moving highways, would receive lower levels of investment.

Figure 16 shows the percentage of route miles for each service type that would receive major, moderate, minor, or no capital investment.

We would work with cities and other partners to decide on specific investments, ensuring that they are consistent with local plans.

Fig. 16: Capital Investment Levels



New RapidRide lines would have the highest level of investment, with 50% or route miles receiving major investment (bus-only lanes) and 40% of route miles receiving moderate investment.

Existing RapidRide lines and frequent service would benefit from extended and improved bus-only lanes and more transit priority features.

75% of express route miles would benefit from moderate or minor investments.

Approximately two-thirds of local route miles would receive minor investments.

Major investment	Moderate investment	Minor investment	No investment
Example features New bus-only lanes and transit signal priority	**Example features** Transit priority treatments such as queue jumps, transit signal priority, and bus bulbs	**Example features** Spot improvements at key locations	**Example features** No improvement
Target time savings 20%	**Target time savings** 10%	**Target time savings** 5%	**Target time savings** 0%

What would it take?

- **Work with partners to invest in speed and reliability improvements.** To achieve our vision, Metro would need to invest $2 billion in improvements over the next 25 years. Those investments would have to be leveraged with additional partnership and grant funding to create a complete network of infrastructure that keeps transit riders moving.

  Metro would contribute toward improvements such as new bus-only lanes and transit priority features, upgraded signals and new transit signal priority, and rechannelized roadways. We would look to local jurisdictions for assistance in planning and securing transit-only right-of-way and in changing traffic management practices.

- **Study and fund operational changes** to reduce the amount of time buses are stopped in traffic or at stops, improving reliability. Strategies:

  - Increase staffing and technology to monitor and adjust service in real time to maintain spacing between buses and respond to service disruptions.
  - By 2040, manage all frequent service by headways (time intervals between buses) rather than schedules to improve service performance and efficiency.
  - Work with partners to improve incident response options that keep buses moving through delays, such as installation of temporary bus-only lanes.
  - **Pursue improvements to make boarding faster and easier.** Read more about what we would do in the next section, "Boarding and Fares."
  - **In partnerships with others, invest in large regional projects that would benefit transit, such as bridge or highway crossings.** We would maintain an inventory of candidate projects, including new transit pathways and service connections, major crossings (bridges, overpasses), and transit bottlenecks.
  - **Build on our existing Intelligent Transportation Systems architecture** to support both the management of vehicles on the road to make our service faster and more reliable, and customer information tools that would make our system easier to use.

FROM OUR CUSTOMERS

"I like the idea of buses getting priority, so that taking the bus will take the same amount of time as driving."


48 MT BAKER TC
bus

Boarding and Fares

Getting on the bus would be fast and easy.

We envision a comprehensive program to make paying fares and getting on and off the bus easier and faster—reducing trip times for everyone. Potential changes include simplified fares, new ways to pay fares, new ORCA partners with integrated payment, and new bus and stop designs.

Metro partnered with six other transit agencies in the Central Puget Sound Region to introduce the ORCA smart card fare payment system in 2009, and now we're preparing for the next generation of ORCA.

ORCA gives transit customers the advantages of faster fare payment and regional transfers. Transit agencies realize benefits such as faster boardings, more accurate ridership data, and improved revenue data and regional revenue reconciliation.

Vendor support for the current ORCA system will expire in 2021, and the ORCA agencies have begun planning for the next-generation fare collection system. Technology has changed significantly since the original ORCA system was designed, and the ORCA partners will be exploring opportunities to simplify fare payment for customers and speed up the fare collection process. Possible features include expanding mobile payment and simplifying the fare structure and product offerings.

What would boarding and fares look like?

The time a bus spends at stops to let passengers on and off can lengthen trip time and cause delays. Boarding can be slow and difficult for customers using wheelchairs, other mobility devices, strollers, or carts.

Fare payment takes time, as well. Boarding is slower when riders pay with cash rather than ORCA. Use of cash and paper transfers also elevates the risk of fare disputes and adds to Metro's operating costs.

To speed up boarding and make transit easier to use, Metro would pursue these strategies:

- Design fleet vehicles with low floors for easy boarding, especially for parents with strollers and riders who have disabilities.
- Procure vehicles with wider aisles and doors—including passenger-controlled rear doors—that make it faster and easier to get on and off.
- Provide safe and convenient securement areas for customers who use mobility devices.
- Install easier-to-use bike racks on vehicles.
- Speed up fare payment through fare simplification, all-door boarding, offboard fare collection at more stops, a "proof of payment" system that uses fare enforcement officers, and efforts to increase ORCA and other non-cash fare payment.
- Explore opportunities to enable customers to pay fares for all services used in a trip—such as parking, bikeshare and carshare providers, and TNCs—in real time with a single medium, such as a smartphone.

For more information

See the 2014 Transit Fares Report at www.kingcounty.gov/metro/accountability under the "Other" tab.

Some of these strategies are being used or are possible today:

- Metro's RapidRide system lets passengers at stations pay their fares offboard and get on the bus through any door; fare enforcement officers may check for proof of payment. While installing on-street fare payment infrastructure at all of Metro's 8,000 bus stops would be cost-prohibitive, we would evaluate ways to expand this approach—particularly where many passengers board. New technology could allow mobile payment at less-expensive onboard readers.
- Several Metro programs contribute to steadily increasing use of ORCA. The ORCA Passport business account program has greatly expanded the number of ORCA riders. In 2015, ORCA business accounts represented 30 percent of Metro's boardings.
- Metro's ORCA LIFT program, introduced in 2015, offers a reduced-fare card for riders who meet the income qualifications. It provides cost savings to participants and reduces cash fare payment on buses.

Technological developments could further expand options. However, Metro's complex fare structure, including surcharges for peak and two-zone travel, limits the possibilities. Simplification of our fare structure could open up opportunities while making our fares easier for customers to understand. Fare policy changes would require a comprehensive review of Metro's fare structure and approval by the King County Council.

Future changes to transit stops and stations in downtown Seattle could be identified through the Center City Mobility planning process.

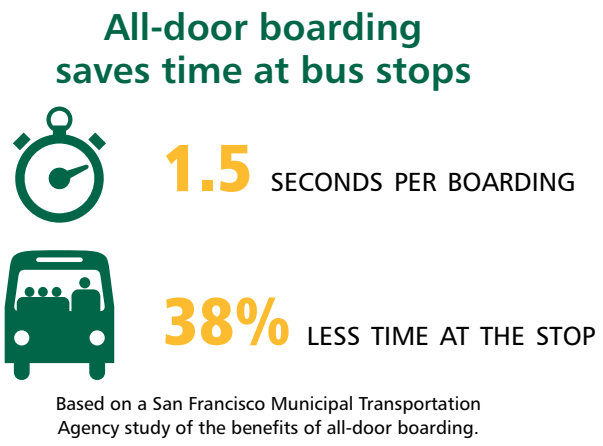
Through a partnership with King County Public Health and other human service agencies, 30,000 customers had registered for ORCA LIFT by mid-2016. Metro will continue promoting and expanding this program.

Strategies like these will help Metro keep moving toward no cash payment on buses, though we would continue to provide fare products that customers could purchase with cash elsewhere.

What would it take?

- **Move toward all-door boarding** to make bus trips faster and enable Metro to provide more service with the same resources.
  - Change Metro's fare structure to move toward a system without cash payment on the bus, as many other agencies are doing.
  - Work with ORCA partners to develop the next-generation ORCA system, making ORCA fare payment more convenient for customers by allowing them to use their mobile devices and credit cards for fare payment.
  - Make major investments in onboard and offboard fare collection equipment, and budget for more fare enforcement personnel.
  - Expand alternative payment methods and provide new fare purchase sites.
- **Make boarding easier and faster for all.** Improve boarding for wheelchairs through passive restraint systems, for bicycles through easier-to-use racks, and for strollers and baggage through vehicle design.
- **Work with partners on projects and policies that make boarding easier.**

Fig. 17: All-door boarding



Innovation and Technology

New and creative solutions that work for our customers.

Rapidly advancing technologies are changing the ways people travel. METRO CONNECTS envisions Metro investing in, incorporating and encouraging technological innovation, continually evaluating "business as usual" and creating new ways to serve customers better. We plan to use new smartphone apps, trip planning resources, and real-time information to improve our customers' experience and develop new service solutions. Behind the scenes, we would embrace technologies that help us operate more efficiently.

What would innovation and technology look like?

Metro has always been an innovator—from our vanpool program, to our groundbreaking employer pass program, to the use of private on-demand service providers in our expanded Emergency Ride Home program. METRO CONNECTS builds on that track record with an emphasis on testing and adopting new features, services, and products to make our service better and easier for customers to use.

Innovative approaches to transit access could include further testing of real-time, on-demand rideshare service models. Metro's Real-Time Rideshare pilot in SE Redmond/Willows Road is a first step, and we are seeking funding to evaluate other models.

Technology will improve customers' access to park-and-rides. One potential service is an app that gives you directions to the nearest park-and-ride with currently available space and lets you reserve a parking spot. Smart bicycle parking facilities could support similar functions for bike commuters.

We might partner with a software developer to create a fare system that lets users pay for transit, parking, bikeshare, carshare, and TNC service through one easy system.

Investments in new smartphone apps, trip-planning resources, and real-time information could enable our customers to get better information about the best travel options and how to use them. See the next section, "Customer Communications," for details.

Advancing technology could also help Metro become a more informed and proactive agency. We could collect new and more-accurate data about operations and improve our performance reporting, increasing our accountability to the public.

We could also use technology to improve operations. For example, security systems on buses, combined with better mobile technology that our Transit Service Quality department could access in real time, could help Metro respond to incidents. Real-time information about crowding could help us manage vehicles on the road. Continual improvement in the collection of data about bus ridership and on-time performance could help us evaluate service and find opportunities for improvement.

What would it take?

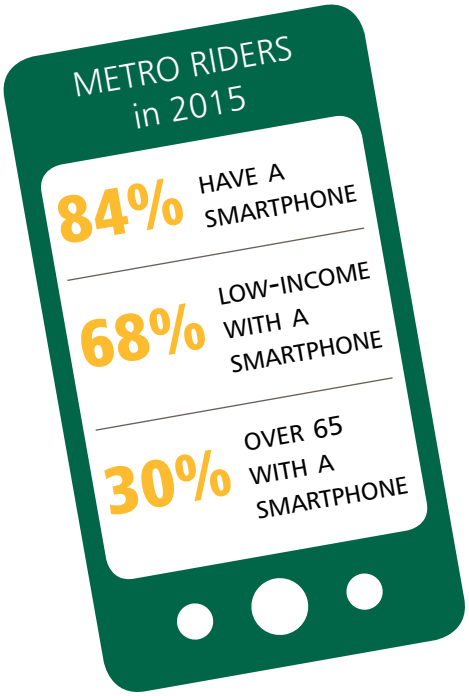
- **Expand investment in integrated research and development.** Test and implement new services, products and practices enabled by emerging technologies that improve our customer service, help us operate more efficiently, and move us toward Metro's strategic plan goals.
- **Better integrate data into planning and customer service.** Create systems that better manage the information we give customers and the feedback we receive from them, and improve internal data collection and reporting.
- **Nurture a culture that welcomes and adapts quickly to new ideas, technologies, and ways of working.** Although we would update METRO CONNECTS regularly, we must prepare for unanticipated opportunities by developing flexible policies and nimble processes that can adapt to change. We would foster a culture that supports creative thinking and innovation through cross-disciplinary working teams, regular performance assessments, and other avenues.

Innovation could help us move toward Metro's strategic goals, including equity and social justice, sustainability, and safety. We would develop robust internal systems for continually exploring and implementing new ideas or approaches to these important aspects of our work.

Customer Communications

Information when and where you need it.

We envision a transit system that is rich with information, making it easy for customers to know their travel options and how to get around. METRO CONNECTS proposes new types of customer information, new ways to get it, and resources to make sure people know how our services can work for them.



What would our customer communications look like?

Today, Metro customers can get information and assistance with travel options, schedules, service disruptions and more from a range of sources—our website, trip planning app, Customer Information Office, email/text alerts, social media, marketing and promotion programs, and others. Metro drivers play a major role in customer communications as they interact with passengers.

METRO CONNECTS builds on these resources by emphasizing:

- New types of information and ways to share it with customers.
- Continued emphasis on customer service training and support systems that enable our operators to provide the best service possible.
- A suite of tools that make navigating the transit system easy, including wayfinding signs, announcements, promotional materials, and interactive options for questions and comments.

Emerging technologies could enable us to deliver enhanced information or new communication platforms. Imagine if customers' smartphones could let them know before they even left home that a traffic accident had blocked their bus, told them how full the next bus was, or showed the availability of a bikeshare service or spaces at a park-and-ride.

Fig. 18: Sample Best Practices for Customer Information

(left, middle) Paris has explored bus shelters designed as multi-purpose public spaces that include fare vending, neighborhood information, coffee or food for purchase, electrical outlets, integrated bikeshare stations, and more. (Photo source: Human Transit, humantransit.org)

(right) On-board screens can provide information about connecting service, transit alerts, and other information. (Photo source: Redeye Chicago, redeyeChicago.com)

METRO CONNECTS proposes to make this information-rich future a reality as customer service solutions continually evolve. For example, software-based passenger counters could be installed at relatively low cost on Metro's entire fleet, enabling real-time tracking of the number of people on a bus.

Not everyone has a smartphone or computer, so it would be important to pursue technology-driven tools that help everyone. Dynamic, up-to-the minute information could be displayed at bus stops and transit centers and on buses. This could include nearby transportation options to make last-mile connections, such as real-time bikeshare, carshare, or TNC services.

New tools might offer other types of information, such as upcoming events at a venue the bus was passing. Metro customer service agents could provide personalized assistance through new communication channels. Marketing efforts could better target desired audiences to increase awareness of new and improved services and customer tools.

Metro has partnered with other transit agencies to create trip-planning tools like our mobile Trip Planner app. We would continue to support open-source platforms and third-party developers by giving them clean and accurate transit data for their travel products and services. As new transit information and shared-mobility products are developed, we would work with our private sector partners to ensure they are integrated with Metro products and services.

What would it take?

- **Provide real-time information about current conditions and nearby transportation options** such as available park-and-ride spaces, bike parking, bikeshares, carshares, and transportation network companies.
- **Ensure that advancements in customer information improve accessibility for people with disabilities.** Help all customers use the transit system safely and easily with accessible customer interfaces and improvements in audio, tactile and electronic communications.
- **Equip transit hubs and vehicles with customer tools that provide static and real-time information** on local transportation connections, bus and train arrival times, and more.
- **Gather and manage information to improve our service.** Work on information systems that collect data related to performance, customer information and feedback, and other areas, and integrate it into our performance management and planning processes.
- **Make data available to third-party developers,** as we did for the One Bus Away app.

Passenger Facilities

Safe and well-designed stops, stations, and hubs.

METRO CONNECTS would create well-designed stops and stations—and improve existing facilities—to help keep riders safe and secure, give them better service information, and make transfers easy. We would make improvements at 85 existing and new transit centers and at more than 4,500 bus stops. The improvements would emphasize enhanced safety, new types of customer amenities, and integration between transit providers and other travel modes.

What would passenger facilities look like?

As of 2015, Metro owned and maintained more than 8,000 bus stops, shelters, RapidRide stations, and transit centers. With METRO CONNECTS' proposed expansion of transit service and integration with Sound Transit, the number of Metro-owned stops would increase by approximately 10 percent, and for many trips the fastest option would include a transfer between bus and rail or between buses. Sound Transit's planned and proposed investments would add many more light rail stations.

Not only would there be more stops, stations and transit centers, the number of people using them would increase. The activity at many stops would change, with more riders transferring among buses and rail.

As facilities are built or rejuvenated to accommodate more passengers, they would be designed for easy connections from all available modes—bus, light rail, train, ferry, streetcar, biking, walking, etc.

Facility design principles

METRO CONNECTS envisions top-notch facilities that would give customers a high-quality transit experience.

Facilities would be in the right locations. While following our general guidelines for stop spacing, we would consider topography, safety, lighting, and the presence of sidewalks when deciding where to place stops. Street crossings would be highly visible, well-lit, and located to minimize vehicle/pedestrian conflicts.

Bus loading zones would be close to light rail stations so people transferring would have short walks.

Wayfinding and transit information would be easy to see and understand, and would clearly direct passengers through transfer areas. Consistent signage across all major transfer points would help riders easily navigate Metro's and Sound Transit's systems.

Stops, stations, and pathways would be accessible to all customers, regardless of age or ability. They would have ample space for passenger loading and circulation.

Shelters and waiting areas would include lighting, security features, and protection from rain and wind. Facility designs that limit opportunities for criminal activity would help passengers feel safe and comfortable while waiting for a bus or train.

Transit centers could be spaces for residential, commercial, and community activities, creating a friendly and welcoming atmosphere for transit customers.

Combining many uses at transit centers could also make efficient use of available land, help reduce car trips, and integrate transit with neighborhoods and businesses.

Passenger Facilities, continued

Metro evaluated the future need for transfer locations in the proposed 2040 service network. Figure 19 shows the proposed major transit centers, including Link and some BRT stations. The 85 new or improved transit hubs include:

- All existing, planned, and proposed Sound Transit light rail stations.
- All Metro stops projected to have more than 2,500 daily boardings.
- Other key transfer points and hubs.

Metro and Sound Transit would continue working together to provide passenger facilities that are appropriately sized for the anticipated passenger and bus volumes at light rail stations.

What would it take?

- **Build an extensive system of well-designed and safe passenger stops, stations, and transit centers.** METRO CONNECTS proposes 1,000 additional stops and stations, including 85 new and upgraded transit hubs, by 2040. We would make sure transit facilities are comfortable and easy to use by keeping design guidelines up to date.
- **Work with partners to design facilities that make connections from other modes easy and comfortable.** We would coordinate extensively with Sound Transit early in the design process for light rail and BRT facilities, ensuring that their design makes it easy to transfer between buses and light rail. Minutes spent walking between bus stops and the light rail platform could quickly erode the travel time benefits of the faster service proposed in METRO CONNECTS.

Coordination between transit agencies and cities would ensure that facility locations are consistent with land-use plans and that their design helps integrate different transportation services. Private, governmental or nonprofit property owners could be partners in transit facility development, helping reduce the costs of land acquisition, construction, and permitting.

Today, only four major transit hubs systemwide have 10,000 or more daily boardings. All four are in downtown Seattle. Westlake Station has the most boardings—28,000 per day.

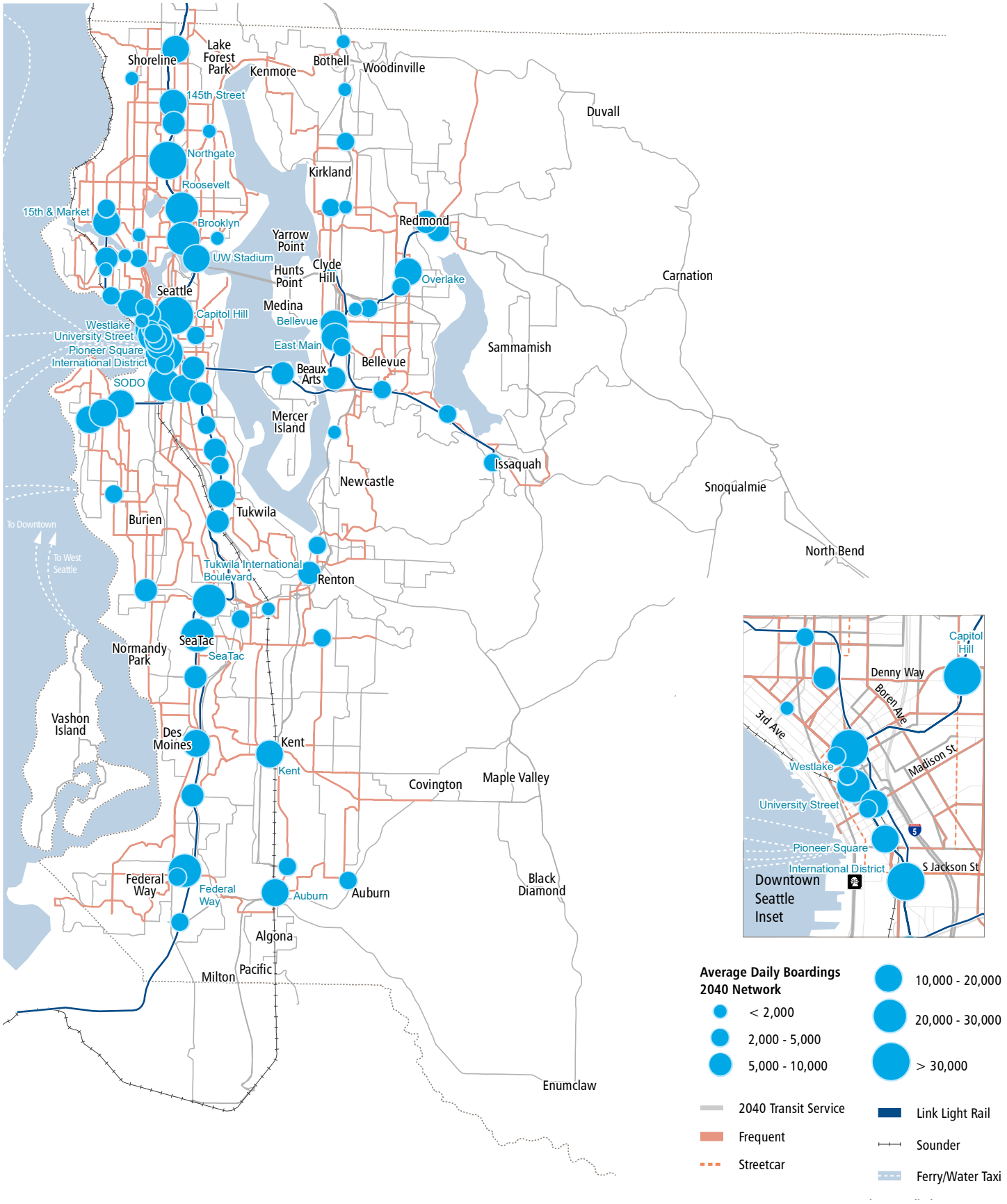
In 2040, as many as 30 hubs across the county could have more than 10,000 boardings. Smaller stops and stations around the county would also see more riders.

Metro would incorporate principles of universal design, accessibility, social equity, sustainability, and public engagement into the design process.

FROM OUR CUSTOMERS

"I've realized from using RapidRide how nice it is to have all the bells and whistles at bus stops."

Fig. 19: METRO CONNECTS Anticipated Transit Center Boardings – 2040 Network



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Access to Transit

Safe and abundant options for getting to our service.

We want our customers to have safe, comfortable, and easy access to transit. METRO CONNECTS would develop a portfolio of projects and strategies for improving your walk, bike ride, or drive to or from bus stops and stations.

Including investments by Sound Transit, METRO CONNECTS would expand parking for transit riders in King County by 60 percent and invest equally in improvements for bicyclists and pedestrians. Travel options such as carsharing, bikesharing, taxis, on-demand providers like Uber or Lyft, and public and private shuttles would also help riders reach transit service.

What would access improvements look like?

A person's decision to drive, ride, walk or bike to transit can be affected by how close they are to a stop, the frequency of service provided there, and the availability of parking, sidewalks, bike lanes, lighting, and other safety and security features.

With the expansion of transit service envisioned in METRO CONNECTS, by 2040 84 percent of customers would get to the bus by walking or biking compared with 78 percent in 2015.[7]

The METRO CONNECTS planning process evaluated ways to improve access to future transit service. We identified four transit access zones where different strategies might be effective. These zones are based on the expected future density of jobs and population and on proposed transit service.

Figure 20 summarizes the zones and types of investments we envision. The estimated number of new stalls is illustrative. The final siting of new stalls would be based on access to the service network—particularly frequent and express service—and on local considerations such as transit demand, traffic impacts, land use and congestion. Figure 21 shows the zones.

Figure 22, on page 56, illustrates the relationship between park-and-ride expansion and the future light rail, BRT and express network.

7 Outputs from model that does not incorporate updated transit mode choice from the most recent PSRC Household Travel Survey.

Fig. 20: Transit Access Zones Description

ZONE 1	ZONE 2	ZONE 3	ZONE 4
High-density areas served by a grid of frequent service, such as downtown areas.	Medium-density areas that are within walking distance of at least one frequent service.	Lower-density areas within walking distance of less frequent local or express service.	Lowest-density areas with limited or no walk access to transit.
Improvements Focus on bicycle and pedestrian facilities, little or no expansion of Metro parking.	**Improvements** Strong emphasis on more bicycle and pedestrian facilities, little or no expansion of parking.	**Improvements** Moderate emphasis on bicycle and pedestrian facilities and some parking investments.	**Improvements** Limited investment in bicycle and pedestrian facilities, emphasis on increasing transit parking.
Future bike/walk share 96%	**Future bike/walk share** 82%	**Future bike/walk share** 50%	**Future bike/walk share** 16%
Current stalls used: 3,920	Current stalls used: 6,780 Estimated new stalls serving people in Zone 2 by 2040: 4,000	Current stalls used: 7,300 Estimated new stalls serving people in Zone 3 by 2040: 8,510	Current stalls used: 1,600 Estimated new stalls serving people in Zone 4 by 2040: 1,110

Fig. 21: Transit Access Zones

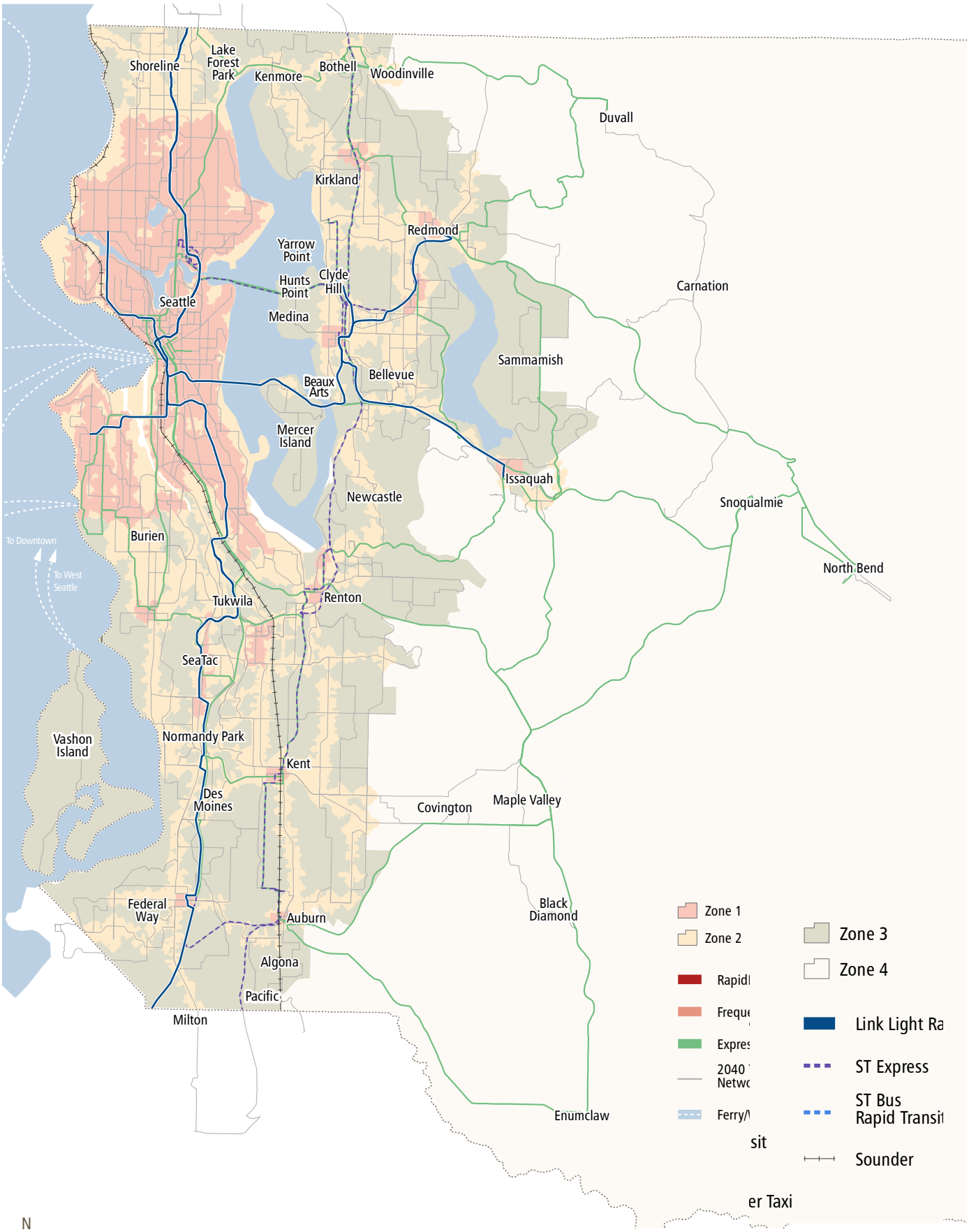

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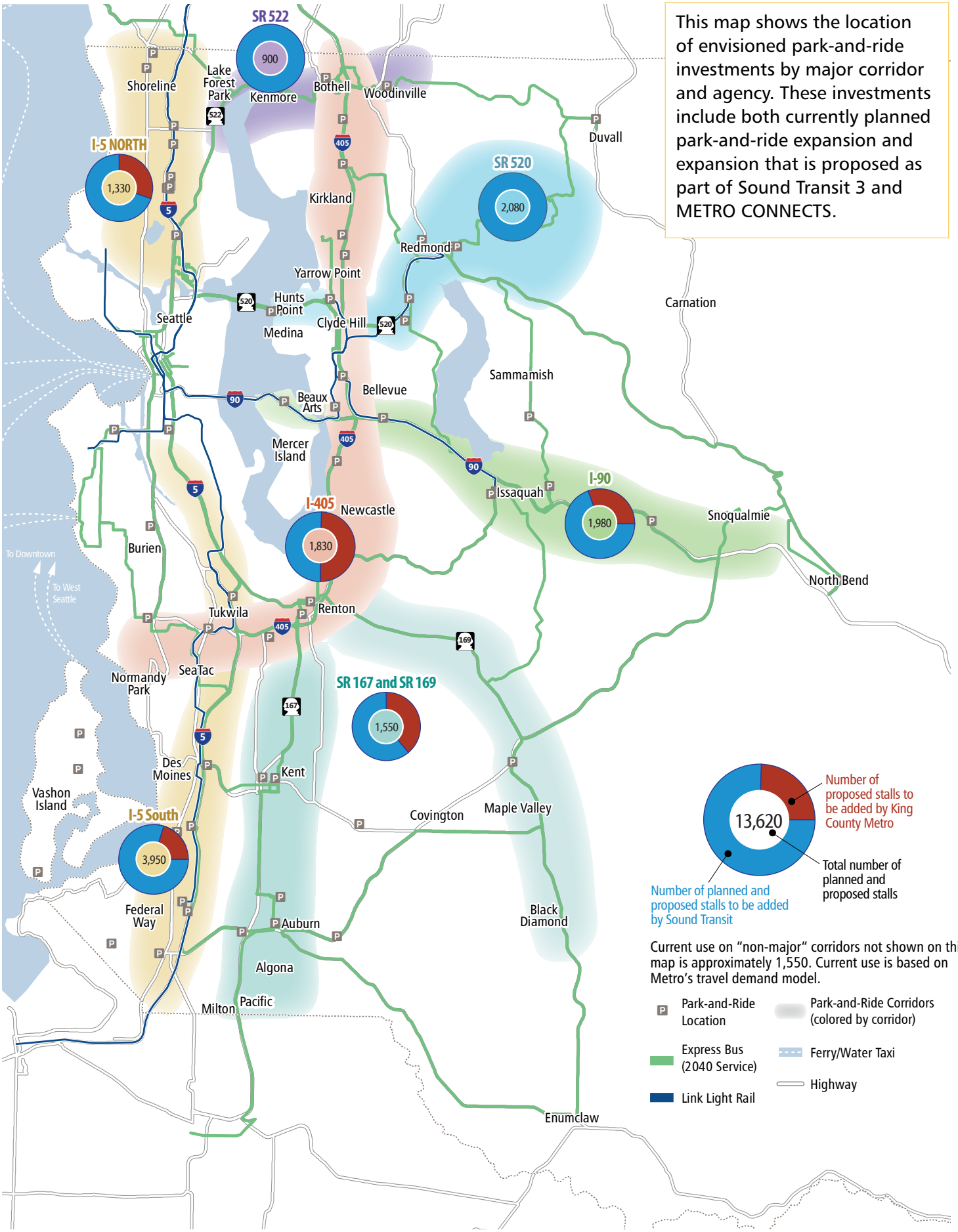
Fig. 22: Planned and Proposed Park-and-Ride Investments by Corridor



Analysis of motorless modes—walking and biking

King County needs more sidewalks, trails, and bicycle lanes as well as storage facilities to improve bike and pedestrian access to transit. The Puget Sound Regional Council's Transportation 2040 plan describes the region's bicycle and pedestrian needs, and King County is planning for regional trail expansion and improved connections to transit.

Metro and Sound Transit's Non-motorized Connectivity Study evaluated where projects supporting motorless travel could increase transit ridership. Based on this analysis and an investment level similar to that for parking, METRO CONNECTS could fund bicycle and pedestrian access improvements to transit stops across King County in partnership with local jurisdictions' bicycle and pedestrian plans.

To select potential improvements, Metro would identify areas with high potential ridership, giving priority to projects in access zones one and two. Metro would also identify a methodology to estimate the demand for bicycle parking.

We would coordinate with cities, which have plans and requirements for construction of sidewalks, trails and bicycle facilities. Cities can play a critical role in providing sidewalks and trails that connect residents to public transportation.

As the Redmond Transit Center was developed, Metro worked with the City of Redmond and King County Natural Resources and Parks to provide dedicated bike lanes and sidewalks connecting to the Redmond Central Connector Trail to the south and the Sammamish River Trail to the west.

Growing demand for trails and transit

King County has 300 miles of multi-use trails used for some 10 million bicycle and pedestrian trips annually—including a large and growing number of commute trips. The trails network presents opportunities to combine cycling or walking with the fast, frequent transit service envisioned in METRO CONNECTS.

Potential trail routes such as the SR-520 Trail across Lake Washington, the extension of the Mountains to Sound Trail east of Bellevue, the extensive Eastside Rail Corridor/Cross Kirkland Connector trails, and the Lake to Sound Trail from Lake Washington in Renton to Puget Sound in Des Moines would enhance regional mobility.

Our vision is to provide safe and comfortable bicycle and pedestrian connections at park-and-rides, major transit centers, and trails as well as secure bicycle parking.

Parking analysis

Park-and-rides provide auto access to transit, and by concentrating rider demand they allow Metro to serve low-density areas more efficiently.

Metro provides service to 130 park-and-rides across the county that have a combined total of more than 25,000 parking spaces. Metro and other transportation agencies own or lease these facilities.

Use of park-and-rides is growing, and many are frequently full or nearly full.

To identify where expansion of parking is most critical, we analyzed the transit access zones, shown in Figure 21 on page 55, and Sound Transit's plans to expand parking. Sound Transit has proposed building more than 10,300 parking stalls in King County as it expands the regional transit system through 2040.

Metro analyzed the number of additional stalls that would be needed in each zone in the future, taking into account dramatically expanded bike and walk access to transit in medium- and high-density zones. The analysis identified where riders who would rely on park-and-rides would live and work. However, the analysis recognized that people might travel to a different area for parking. People in Zone 4 who do not have good walk access to transit would likely drive to Zone 2 or 3 if a park-and-ride is available there.

The analysis suggested the strategies listed on page 59 for transit parking.

- **High- and medium-density zones (1 and 2):** No new parking capacity would be needed for people from high-density zones; limited parking expansion for people from medium-density zones.
- **Low-density zones (3):** Some expansion of transit parking for people from low-density zones.
- **Lowest-density zones (4):** Parking is expected to continue providing an important means of access for people from low-density zones where there isn't good walk access to transit.

Using this analysis, METRO CONNECTS envisions the addition of more than 13,500 new parking spaces to support anticipated future ridership. These parking spaces are recommended by corridor.

Approximately two-thirds of the suggested future expansion is accounted for by Sound Transit's proposed projects. If METRO CONNECTS is fully implemented, Metro would consider partnering to provide approximately 3,300 additional parking stalls. Figure 23 shows both existing park-and-ride stalls used by zone and the proportion of riders from each zone that use park-and-rides, and the number of new stalls that would be added to target people from each zone. For example, 8,510 new stalls would be needed to accommodate the projected future riders from Zone 3. The location of those stalls would be determined based on the service network—particularly access to frequent and express service—and on local considerations such as transit demand, traffic impacts, land use and congestion.

Fig. 23: Existing Conditions: Park-and-Ride Access Mode Share and METRO CONNECTS Future Conditions: Estimated Park-and-Ride New Capacity

Transit Access Zone	Park-and-Ride Stalls Used	Proportion of Transit Riders who use Park-and-Rides	Estimated Metro and Sound Transit Planned or Proposed New Park-and-Ride Stalls Provided by 2040	Estimated Proportion of 2040 Transit Riders who use Park-and-Rides
Zone 1	3,920	8%	0	4%*
Zone 2	6,780	41%	4,000	33%*
Zone 3	7,300	64%	8,510	56%
Zone 4	1,600	84%	1,110	84%
Total	19,600	NA	13,620*	NA

*These proportions could be higher if transit riders in these areas use the new Sound Transit lots.
**3,300 from Metro; 10,320 from Sound Transit.

Our parking strategies would be prioritized as follows:

Manage parking supply:

- Increase efficiency, for example by promoting carpools and real-time ridesharing or marketing underutilized lots.
- Implement permits and payment for parking, making it easier for customers to find spaces.
- Improve bicycle and pedestrian access to park-and-rides, for example through better bicycle parking facilities and walkways.

Increase parking supply using relatively low-cost solutions:

- Restripe existing lots to create more spaces.
- Lease more lots, especially in the short term, before we could expand frequent service as proposed or build permanent park-and-rides.
- Use multifamily and commercial lots, which often have parking space available when transit parking is in high demand.
- Add on-street parking, working with cities to minimize impacts.

Build new parking facilities:

Compared to investments in expanding and enhancing service, construction of parking is more expensive for the ridership it generates. This will be a lower priority strategy.

As we consider future park-and-rides, we would coordinate with affected jurisdictions and consider costs and needs, local partnerships, the service network, and other options for accessing transit.

For more information

See Appendix D for more detail on access to transit, including estimates of parking by corridor.

What we've heard about access to transit

As we conducted outreach for this plan, Metro consistently heard from city staff and elected officials about the need for more parking options at major transit centers and park-and-rides. We also learned from our 2014 Rider/Non-Rider Survey that only 34 percent of customers are satisfied with park-and-ride availability.

The online survey conducted in summer 2015 supports the transit access zone approach because it found that priorities varied across the county. For example, parking was more important to Eastside respondents then those from other areas. Parking was the lowest priority for low-income respondents.

METRO CONNECTS proposes to expand all access options according to local priorities.

What would it take?

- **Make near-term improvements to parking access and information.** Continue monitoring park-and-rides and pursuing strategies to make the best use of existing resources—including using technology to provide real-time information to customers about parking availability and options for reserving a space.
- **Develop partnerships to improve access to transit.** Work with local cities, King County's Department of Natural Resources and Parks, and other partners to create high-quality trail connections, sidewalks, and bicycle facilities at bus stops and transit centers. Partners could help identify, design, permit, and build access improvements; assist in leased-lot negotiations; and contribute financially. Metro could provide funding to jurisdictions through grants or other mechanisms and help develop grant proposals.

Managing Demand

Attracting new riders and helping our transportation system work better.

Beyond increasing and improving service, METRO CONNECTS would grow ridership and reduce the use of single occupant vehicles by investing in transportation demand management (TDM).

Metro's TDM program encourages individual choices that make our transportation system work more effectively. Since the number of roadway miles in King County will stay about the same between now and 2040,[7] this program would be critical to maximizing the efficiency of our existing roads and reducing greenhouse gas emissions.

What would our TDM program look like?

TDM refers to activities that help people use the transportation system more efficiently.

TDM spreads transit demand across travel modes and times of day. One demand management strategy is to provide access to efficient travel options such as carpooling, biking, or riding the bus.

How people use the transportation system can significantly affect the need for new transportation investments and can support system preservation and maintenance. TDM activities help get the most out of transportation infrastructure and services by making lower-cost, more-efficient transportation options easier to use and more readily available.

Metro's TDM program would continue to use outreach, education, incentives and new products and partnerships to reduce barriers to using transit, maximize the value of our transit investments, and help our transportation system work better.

Our program covers a variety of transportation modes and tools (see page 61). We would also develop new methods using emerging technology and transportation pricing as well as improvements to walking and bicycling pathways to transit.

What would it take?

- **Research and develop new tools.** Build Metro's capacity for research and development of new TDM tools by budgeting for TDM in Metro projects and by continuing to develop new TDM partnerships.
- **Support local and regional land-use decisions that benefit transit and other alternatives to driving alone.** We would also advocate for national, state, and local policies and funds that support alternatives to driving alone and help create walkable communities.
- **Partner to put TDM solutions to work.** Seek commitments and partnerships with cities, transit agencies, WSDOT, employers, the private sector, and others.

7 PSRC Transportation 2040 Update Report, 2014, p. 76.

Community-based social marketing

Community-based social marketing programs encourage participants to reduce drive-alone trips by offering customized travel information and resources and a short-term ORCA card loaded with unlimited rides, as well as support and communication.

Best suited for: Construction mitigation, new service or service changes, excess capacity.

Examples: Metro's In Motion programs in Capitol Hill, Ravenna, and I-405 communities.

Shared mobility options

These are services like bike, car, and ride sharing that are integrated with transit and provide first- and last-mile connections to transit.

Best suited for: Urban areas with enough density to support private investment, overcrowded park-and-rides, and fixed-route service that can be improved with complementary first- and last-mile connections.

Examples: Bikeshare, Car2Go, ReachNow, UberHop, UberPool, LyftLine, iCarpool.

Parking management

These are strategies that encourage the provision of right-sized new parking and ensure efficient use of existing parking. Transit agency coordination with public and private partners can develop context-sensitive policy and management programs.

Best suited for: Congested urban areas, developing suburban areas with new transit investments, overcrowded park-and-rides.

Examples: Shared parking demonstration with Capitol Hill housing; King County Right Size parking project.

Flexible service

Development of flexible transit services that are tailored to communities and user needs, including Metro's Alternative Services Program.

Best suited for: Lower density areas.

Examples: Duvall community van and Mercer Island TripPool.

Emergency ride home programs

If people are reluctant to try new public transportation options because they're concerned about being able to get home in a crisis, emergency ride home (ERH) programs can eliminate this perceived barrier. ERH programs can be enhanced by incorporating transportation network companies like Uber and Lyft.

Best suited for: Employers, residents, last-mile connections, new programs.

Examples: Real-time ridesharing programs can include ERH benefits for participants who can't get a rideshare home.

Pass programs

Transit pass programs offer administrative and cost advantages to organizations that want to provide a transit subsidy to part or all of their populations. Metro can grow transit/HOV ridership and reach new markets.

Best suited for: Businesses, individuals, schools, colleges, and universities.

Examples: The ORCA pass program for businesses (Choice and Passport). businesses.

Telework

Workplace strategies like telework, co-working, compressed work week, and alternate scheduling can help companies increase employee productivity, improve business continuity, and contribute to environmental sustainability.

Best suited for: Employers.

Example: WorkSmart program.

Transit-Oriented Development

Creating housing, services and jobs near transit.

METRO CONNECTS proposes that Metro take an active role with our partners in building and promoting more compact development near frequent transit service, giving residents more travel options even as the region grows, increasing affordable housing, and boosting ridership.

FROM OUR CUSTOMERS

"The more that is put into strengthening transit, the more it benefits the community as a whole—users of transit and otherwise."

What would our TOD program look like?

Transit-oriented development (TOD) is a private or public/private real estate development of a mixed-use community or neighborhood within walking distance to a transit center. Typical TOD features include:

- High-density development within a convenient 10-minute walk to a transit stop or station.
- Mixed-use development that includes schools, shopping, and various housing types, including affordable housing.
- Street amenities related to safe travel and access for walking and biking.
- Street grid, connectivity and traffic calming features to maintain safe vehicle speeds.
- Parking management to optimize the land devoted to parking and increase efficiency of use.
- Thoughtfully integrated street trees and lighting.

Generally, TOD includes multi-story residential uses, often with mixed commercial and office space. Compact density justifies frequent transit service, which in turn enhances opportunities and market demand for additional similar development, stimulating an active streetscape and commercial activity with a quality pedestrian scale.

The South Kirkland Park-and-Ride

The South Kirkland Park-and-Ride, completed in 2014, is King County's eighth TOD project. It includes:

- A new transit center
- A garage with 530 parking stalls and a surface lot with 323 stalls
- 184 market-rate and 58 affordable housing units with easy access to transit in an opportunity-rich location. Twelve units are for homeless families.

The project received Built Green 4 Star, Evergreen Sustainable Development Standard, and King County Sustainable Infrastructure Score Card certifications.

What would it take?

- **Build a Metro TOD work plan.** Metro would conduct a comprehensive inventory of county-owned property and identify existing opportunities and potential new projects.
- **Work with partners to plan for transit-oriented development.** These facilities require a high degree of coordination with cities to ensure they are consistent with land-use plans. Partnerships with cities could help reduce the costs of land acquisition, construction, and permitting.

Fleet

Cutting-edge vehicles designed for customer comfort and safety as well as efficient and green operations.

Metro would need to expand its fleet of buses, vans, and support vehicles to provide the higher levels of service envisioned in METRO CONNECTS. We estimate that we would need about 625 additional buses by 2040. With these additional buses, and the replacement of our existing fleet of about 1,400 vehicles, METRO CONNECTS envisions a Metro fleet of entirely zero-emissions, low-floor vehicles.

What would the Metro fleet look like?

As of 2015, Metro's fleet had about 1,400 fuel-efficient buses, including hybrid diesel-electric and clean-diesel coaches, electric trolleys, and several battery buses. Our fleet also includes paratransit and DART vehicles, Vanpool vans, and electric cars for the Metropool commute program. A large additional "non-revenue" fleet used to support service has tow trucks, supervisor vans, maintenance trucks, and more.

METRO CONNECTS would require expansion throughout the fleet, including 625 new buses by 2040. Replacement vehicles would also be needed as current vehicles reach the end of their useful lives—usually after 12 to 15 years of service.

Compared to the current network, more of the new service proposed in METRO CONNECTS would be in non-peak hours, when we use fewer buses. This means buses would be used more efficiently in the future network, operating for more hours a day. As a result, we could purchase relatively fewer buses compared to the increase in service hours.

METRO CONNECTS also envisions moderate expansion of our electric trolley bus network, which in 2015 carried about 20 percent of Metro riders. METRO CONNECTS proposes that Metro would invest strategically in the trolley network, focusing first on places where a relatively small expansion of wire could allow new service concepts to operate successfully. These include places that have frequent service, common overhead wires with existing trolley bus routes, steep hills, and dense urban service areas.

Smart design

As we purchase new fleet vehicles, we would continually improve their design with the ease, comfort, and safety of customers and operators in mind. We would ensure that vehicles support fair treatment and access for everyone we serve. We would continue to emphasize features that make bus boarding speedy and easy and that keep maintenance costs down.

We would also proactively include systems that support developing technology. Bus real-time intelligence systems provide immediate access to useful information about operations and conditions, and could support features like these:

- Real-time information for customers about the availability of seats, bike storage space, and space for wheelchairs or other mobility aids.
- Telematics—vehicle systems that use telecommunications to send, receive, and store computer-based engine data—for proactive identification of mechanical problems.
- Surveillance video that uses license plate readers and object recognition to identify vehicles parked in bus-only lanes.
- On-board environmental monitors for weather conditions and air pollution.
- Traffic control that goes beyond transit signal priority, such as remote activation of pedestrian crossing buttons at intersections to encourage patrons not to jaywalk to catch the bus.
- Secondary uses of a vehicle, such as an emergency communications hub or power generator.
- Safety features including audible signals to pedestrians.

For more information

See Appendix F for more detail on the topics in the Critical Services Supports section.

Fleet, continued

Going green

Metro is committed to having the greenest fleet possible. Our agency was a national leader in adopting diesel-electric hybrid bus technology, and we are replacing our aged trolley bus fleet with zero-emission trolley buses that can use battery power to travel short distances off-wire. We're moving toward a fleet of all hybrid or electric coaches, and we're preparing for rapidly evolving electric vehicle technology to keep our fleet on the cutting edge of environmental improvements and to move toward a zero-emissions fleet.

The King County Strategic Climate Action Plan (SCAP) calls for a 10 percent reduction in normalized energy use in Metro operations by 2020, compared to a 2014 baseline. Metro is already making progress toward this target.

The SCAP also calls for a 10 percent increase in alternative fuel use across King County fleet fuel purchases. Alternative fuel sources include electricity, biofuels, compressed natural gas, liquefied natural gas, hybrid, plug-in hybrid, battery drive, or propane.

Metro is already beginning to evaluate how we can achieve our vision of a zero-emissions fleet. Initial recommendations will be developed in 2017, and we will continue to study emerging and cutting-edge technologies.

2020 SCAP Targets

10% REDUCTION IN ENERGY USE BELOW 2014 RATES

10% INCREASE IN ALTERNATIVE FUEL USE

Metro Targets

100% HYBRID OR ELECTRIC BY 2018

What would it take?

- **Procure state-of-the-art vehicles** to support expanded service and replace vehicles at the end of their useful lives.
- **Use fleet design criteria that focus on customer and driver needs.**
- **Support and expand the trolley network by:**
  - Filling gaps in the network to allow flexibility.
  - Working with partners to extend wire to new streets so routes could be converted to trolley bus service.
  - Keep the trolley system infrastructure in a state of good repair through regular maintenance and planned replacement cycles.
- **Meet SCAP targets by moving toward a zero-emissions fleet.**

Layover Areas

Critical for reliable service and for our drivers.

Layover sites—where buses rest between trips—are critical for getting buses to the right place at the right time and for giving our drivers safe places for breaks. METRO CONNECTS envisions that by 2040, we would need to increase layover spaces by 50 percent. As development competes for layover space on streets, Metro would make significant investments in new, off-street facilities. While more costly, these facilities would provide long-term stability and benefits for riders and bus operators.

What would future layover areas look like?

Layover is time built into bus schedules between a bus's arrival at the end of a route and its departure for the next trip. Layovers provide break time for operators, help buses get back on schedule if the preceding trip was late, and allow buses to depart at regular, predictable intervals. Layover areas are located throughout the county, either on-street or off-street, such as at a transit center.

The location of layover sites has a huge financial impact on Metro operations; service costs more when we have to drive empty buses long distances to reach layover spaces. Well-located layover areas—close to the start and end of routes—give us increased scheduling flexibility, reduce the amount of time buses travel to the beginning or end of routes, and can have a positive impact on reliability. Layover areas must have clean, safe and well-lit facilities for bus operators.

On-street layovers spaces are where buses park along curbs in regular street right-of-way. Metro partners closely with the jurisdictions we serve to secure layover space. We site on-street layovers where they will not interfere with traffic, and strive to minimize impacts on adjacent properties. However, property development or changes often result in pressure to reduce or move layover sites. This pressure can be particularly acute in dense urban areas, where development pressure is intense but where layover space is most needed because of the large amount of transit service starting and ending at major destinations. Many areas are seeing increasing competition for limited curb space.

In 2015, Metro's layover sites accommodated approximately 530 buses. Transit service network changes envisioned in METRO CONNECTS would affect both the number of layover spaces needed and their location.

We estimate that 270 additional layover spaces would be needed to accommodate the 2040 network—approximately 50 percent more than in 2015. This increase reflects our expectation that some current on-street layover spaces would no longer be available in the future because of development. Many of these spaces would be needed in dense urban areas, including downtown Seattle. We would need to update and renegotiate many current layover agreements, develop new ones, and invest in off-street layover facilities.

What would it take?

- **Ensure that adequate layover areas are provided and explore innovative options for layover development.** Consistent with plans for additional park-and-rides and transit-oriented developments in METRO CONNECTS, Metro would identify opportunities to incorporate layover space into other types of projects.
- **Work with jurisdictions to site on-street layover** areas or build off-street layovers where we expect to have a long-term need, such as in downtown Seattle. We would work with property owners and builders to incorporate layover areas that have rider facilities as part of new development. Transit-oriented development projects are great opportunities for these types of partnerships.
- **Continue partnerships with other agencies to secure layover space.** Moving away from on-street layover sometimes benefits local cities, but would require more costly investments in off-street layover facilities. We would build on our successful joint agreements with Sound Transit, Community Transit, and Pierce Transit at facilities in Tukwila and Auburn. King County Housing Authority is another potential partner.

Metro is working with the Seattle Department of Transportation on an off-street layover study to identify opportunities for a new facility in the north downtown/South Lake Union area. Similar work would have to be done in other cities to identify potential development locations as early as possible. Partnerships with private developers could help reduce the costs to public agencies and provide other benefits by incorporating other uses into a project.

Operations and System Preservation

Bus bases, support facilities, and maintenance to keep our system running smoothly and safely.

A major component of the investment called for in METRO CONNECTS would go toward building and maintaining the infrastructure Metro needs to expand, improve, and operate service.

Metro has already made significant investments in infrastructure to support service on the streets. Maintenance of our bus bases, other support facilities, and structures for customers such as bus shelters, transit centers, and park-and-rides is critical to the delivery of quality service. Because Metro's capital infrastructure is aging, the need for investment continues to grow. Maintaining a state of good repair would help to prevent larger costs for deferred maintenance down the line and ensure that our customers enjoy a world-class transit system.

Maintaining the transit fleet and facilities in a state of good repair helps Metro avoid the high costs of deferred maintenance, qualify for federal funding, and deliver safe, reliable, and comfortable customer service.

What would bases and support facilities look like?

Long before a Metro bus arrives at a stop, many hands prepare it for the trip. Mechanics do maintenance or repairs. Employees clean and fuel the bus and may post "rider alerts" about upcoming service changes. Drivers check in and learn about events that might affect transit service that day. Activities like these are performed at our seven bus bases and other facilities, and METRO CONNECTS proposes infrastructure to support the service proposed for the future.

Bus bases

Metro's seven bus bases support an average of 200 buses each, and have both operations and maintenance facilities. Metro is currently near capacity at existing bases, limiting our ability to add more vehicles to the fleet.

To support the proposed service network, we would need two or three additional bases for our expanded fleet and non-revenue vehicles. Bases are major facilities that require extensive work to site and plan.

The exact facilities required would depend on many factors, such as the sizes of buses needed, their propulsion technologies, and partnerships with other transit providers. Bases would be sited and designed according to these criteria:

- **Sustainability.** King County's Green Building and Sustainable Development Ordinance sets building requirements to reduce waste and increase operational efficiency.
- **Location.** The location of bases near the start and end points of service provides significant operational benefits by limiting the distance vehicles travel without passengers. Locating facilities near transit service also lets bus operators take transit to work.
- **Partnerships.** Metro has agreements with Sound Transit to share bus base capacity, helping both agencies operate efficiently.

- **Change.** Bases and other facilities should accommodate changes in fleet and propulsion technology—including electric trolley, battery and hybrid buses.
- **Operational success.** Bases should be located and designed for efficient and effective operations and maintenance to occur, and should provide working space for employees.
- **Employee parking.** Bases must provide adequate space for employees to park on-site.

Metro is continuously exploring ways to maximize the use of facilities and reduce costs. An example: parking some North Base buses near downtown Seattle during the day rather than driving empty buses back to the base. Metro would continue to pursue innovative use of existing facilities, such as using park-and-rides for overnight bus parking.

Support facilities

Beyond the bases, we would have to expand and accommodate a variety of facilities and functions if Metro service grows as proposed in this plan.

Vanpool distribution base. Metro currently manages the largest publicly owned vanpool program in the county. This fleet is expected to increase by more than 2,000 vans by 2026. To support the continued growth of the vanpool program, METRO CONNECTS calls for another vanpool distribution base.

Operations support. More people would be needed to manage and support the operation of a growing transit system.

The Transit Control Center (TCC) is the nerve center for Metro's bus operations. The TCC staff monitors and manages the movement of buses while they are in service. They also coordinate radio contact with all bus drivers on the road, supervisors in the field, emergency responders, and other groups that support bus operations, helping manage problems and occasional emergencies.

Today, the TCC actively manages RapidRide lines to keep buses well-spaced along their corridors and minimize "bunching." As RapidRide expands and new technology emerges to help manage the transit system, the TCC would evolve, providing real-time headway management of all frequent service by 2040.

The TCC must have specialized equipment and dedicated space to do its work.

Metro Transit Police would need a headquarters that accommodates a larger police force for a larger system.

Service Quality staff and field supervisors need space to accommodate staff members when they are not in the field.

Classrooms and test areas for driving buses would be needed to train operators and keep their skills fresh.

On the road, bus operators need adequate restroom facilities and places to rest between trips.

Maintenance and power distribution. The number of bus stops, shelters, and park-and-rides would grow as METRO CONNECTS is implemented. Expanded RapidRide service would mean a need for enhanced shelters and signs at stops. Expanded use of technology would lead to more sign maintenance, radio maintenance, battery charging and more.

The employees who build, repair, clean and maintain these structures must have adequate space and equipment to do their work, located as close as possible to major service areas.

Administrative support. Metro needs office space for customer service, planning, engineering, marketing, information technology, and other functions that support the overall transit system. As service expands, some of these functions would grow, particularly as new capital projects are planned and built. Revenue-processing requires secure physical space for processing cash and fare media that riders pay with every day.

Safety and security

Safety is Metro's foremost goal, and METRO CONNECTS identifies infrastructure and resources needed to make our system safe for our customers and our employees.

- **Build systems that support the safety of customers and employees.** Metro would need to expand capacity for the Metro Transit Police, fare enforcement officers, security monitoring centers, subcontracted security personnel, and equipment storage. Safety onboard buses and at stops and stations, transit centers, and park-and-rides would remain a priority in facility design and in staffing. We would seek opportunities to include security cameras, additional lighting, emergency call boxes, or other security measures at transit facilities or add fare enforcement officers.
- **Provide resources for the Metro Transit Police.** As the transit system grows and urban centers expand, the need for security to protect transit users would grow. Although security needs and approaches continue to evolve, we know that we would need more personnel, vehicles, technology and equipment as well as more space for facilities.
- **Support security and enforcement around transit priority facilities.** Bus-only lanes, busways, high-occupancy vehicle lanes, and roadway features that keep buses moving require enforcement to be effective.
- **Partner to ensure security at shared facilities, including expanded Link stations.** Metro would continue working with partners to ensure that shared facilities are safe and secure for riders and employees.

Intelligent Transportation Systems (ITS)

Emerging technologies that interconnect travelers, vehicles, management centers and the roadway—called Intelligent Transportation Systems (ITS)—will transform the way we travel.

Metro has been a leader in using ITS. A wireless communications network on our RapidRide corridors enables buses to request priority treatment at traffic signals, lets passengers pay their fares before boarding, and delivers "next bus" information to electronic signs at stations.

We'll build on this architecture to deliver such improvements systemwide, connecting the management of transit and other transportation modes to make our service faster, more reliable, and easier to use. Many of Metro's concepts for using ITS are mentioned throughout this plan, including:

- **Intelligent buses** that report the availability of seats, bike racks, and space for mobility devices; engine diagnostics; have weather and pollution information; and also communicate with the road network and other vehicles.
- **Integration of public and private travel options** such as bus, rail, carshare, bikeshare, and TNCs like Uber and Lyft into a single trip-planning and payment system.
- **Integration of transportation management centers** operated by Metro, WSDOT, the City of Seattle, and others.
- **Improve and share raw transit data** among our regional partners to better understand our customers' needs. We would build on recent initiatives such as the Metro/Sound Transit Integration effort and the Five Agency downtown Seattle effort to share data.
- **Other future technologies** such as automated buses and active safety systems.

With the ongoing extension of Link, Metro is continuing to restructure our route network around the rail system as well as multi-modal connections and new travel options. As this service network evolves, service integration will become ever more critical. We would need better tools to analyze ridership, productivity, on-time performance, traffic congestion, roadway volumes, corridor performance, and other aspects of operations in a more regional and collaborative manner. The region's transit agencies could become better aligned by sharing more data and analysis.

Metro won't be able to fully understand our own riders' needs and travel patterns without knowing where and how they transfer to other services and modes. We would need agreements with the ORCA partners to obtain regional data and conduct integrated service planning.

What would it take?

- **Investment** in operations and system preservation such as:
  - Building base capacity for up to 650 new vehicles, along with a new vanpool distribution base, Access fleet base, and other support facilities.
  - Expanding safety and security infrastructure to keep customers and employees safe.
  - Continuing to lead in the testing, development, and procurement of information technology assets that are vitally important to providing excellent customer service over the long term.

Metro's Workforce

Preparing to deliver more and better service.

To attain the METRO CONNECTS vision, we would have to substantially grow our workforce. We would need employees with highly specialized skills who can adapt to change as we adopt innovative vehicle and communications technologies. We would maintain our commitment to building a diverse workforce and giving all employees equitable access to development opportunities.

Above all, we would make sure employees have what they need to provide the highest level of customer service and safety.

What would our workforce look like?

As of 2015, Metro had more than 4,600 full and part-time employees. These include about 1,700 full-time and 900 part-time bus operators. Other Metro employees plan service, purchase and maintain buses, build and keep up customer facilities, respond to events affecting service, safety and security, and in many other ways support the successful daily operation of the Metro system.

Efforts to attract and retain a quality workforce would include robust employee training and development programs—especially important as we currently face a high retirement rate among supervisors and managers.

As the changes envisioned in METRO CONNECTS unfold, effective internal communications would be critical for building a common understanding and commitment to transforming the Metro system.

We would also maintain a focus on productive labor-management relationships with the unions that represent a majority of the workforce.

What would it take?

- **Continuously improve safety—Metro's highest priority.** Enhance employee safety through steps like improving layover facilities and reducing onboard cash fare payment to minimize conflicts with passengers. Promote passenger safety through operator training, onboard safety and security features in new vehicles, and use of emerging technologies.
- **Promote diversity and inclusion in the workforce.** Metro, ATU Local 587 and PTE Local 17 have teamed up on the Partnership to Achieve Comprehensive Equity (PACE) initiative. PACE is striving to create an environment for positive change, improved communication among all employees, and a workforce that reflects, respects and embraces diversity as a shared core value of our service to the public.
- **Respond to a high retirement rate by training a new wave of employees and leaders.** Offer robust training and development programs and stay competitive with the private sector for hiring and retaining the next generation of Metro employees. For example, Metro could work with technical institutes and colleges to recruit and train employees and develop leaders for jobs in maintenance, operations, and administration.
- **Keep employee skills up to date with changing technology and innovation in the transit industry.** For example, as our fleet modernizes, both operators and maintenance workers will need updated training and new skills.

What drivers had to say

Metro drivers experience first-hand the factors that affect their ability to transport passengers safely and on time. They also hear from our customers about the quality of service.

As we developed METRO CONNECTS, we asked our drivers for their ideas about the future of Metro's service and how to achieve our vision. Some of the key themes we heard and incorporated into the plan are:

- Time transfers to make the system reliable and useful.
- Reduce overcrowding on buses.
- Improve fare payment:
  - Eliminate paper transfers.
  - Improve fare payment technology, including options for more offboard fare collection and elimination of onboard cash payments.
  - Have consistent fare structures among the region's transit agencies.
  - Add fare enforcement officers.
- Strengthen safety and security for riders and drivers, including cameras on all buses.
- Make speed and reliability improvements throughout the system.
- Improve customer information at stops, on buses, and via mobile devices.
- Provide more night service.
- Keep the walking distance to stops and between transfer points short.

How we would attain the vision

Metro can't achieve the METRO CONNECTS vision all at once, and we can't do it alone.

Collaboration, partnerships, and incremental change over time will be the keys to getting there.

Consistent with the way we developed METRO CONNECTS, Metro would continue to collaborate with jurisdictions,transportation agencies, and the public as we move toward our shared vision.

METRO CONNECTS is a living document that we expect to update every six years, incorporating intermediate changes that occur on the ground and in local plans. This iterative process will contribute to an enduring consensus about the future of transit and will help cities realize their visions for the future as well.

In addition to updating the METRO CONNECTS vision, we would develop a rolling six-to-eight year Development Program that would focus on internal coordination and collaboration with local jurisdictions to make sure we are on track to attain our vision. This program is intended to better prepare us to support the existing legislative processes for service changes and capital investments.

The Development Program would set us on a course to know what is coming up and to better communicate what will be in upcoming biennial (two-year) budgets, helping us further define the resources needed.

The program would also help Metro align transit service expansion with changes in local community development and plans, keeping our service relevant in the places where people want to use public transportation. The next page has more information about the Development Program.

We would engage the public in shaping major service changes before they are adopted by the King County Council. The capital program would be subject to budget review and approval by the King County Council.

The interplay between METRO CONNECTS, the Development Program, Metro's Service Guidelines, local land use and comprehensive plans, and the service change process is shown in Figure 24, on page 81.


7200

METRO CONNECTS Development Program

To make the METRO CONNECTS vision a reality, Metro would develop a rolling six-year Development Program in collaboration with riders, community members, cities, and transportation stakeholders.

King County would use the METRO CONNECTS Development Program to coordinate internally and with jurisdictions to deliver the near-term service changes, complementary capital investments, and other program and policy work needed to support the METRO CONNECTS vision. Decisions to make changes to the transit network would be made through our existing service change process, which includes extensive public engagement prior to the King County Council's adoption of service change ordinances. The needs identified in the program would inform and be informed by our biennial budgets.

Each of the project areas in METRO CONNECTS would require more detailed analysis and consideration as we move toward project delivery. For example, the Development Program would help Metro coordinate construction of a new bus-only lane where a RapidRide alignment has been planned, or begin early conversations with Sound Transit around transit hubs where we know passenger volumes will grow.

In some cases, the Development Program will suggest the need for new research, feasibility analysis, or other study of topics like enhanced data collection systems, new customer information tools, fare integration opportunities, or application of emerging technology.

By breaking the METRO CONNECTS vision down into smaller, achievable pieces, we could ensure that the needed system infrastructure, land use, service, policies, and programs are coordinated and scaled appropriately. We would form partnerships early and often to make sure transportation infrastructure is in place as transit expands.

This program would be informed by Metro's Service Guidelines, which help us evaluate, design, and modify transit services to meet changing needs and deliver high-quality service. The guidelines are based on three principles: productivity, geographic value, and social equity.

The Development Program would evaluate concepts such as RapidRide alignments and express pathways, providing a solid basis for community engagement when we begin a service change proposal.

Decisions regarding service allocation would be shaped by the following factors:

- Existing service hours on Metro routes in the project area.
- The estimated service-hour need identified in METRO CONNECTS and in Metro's annual System Evaluation Report, including hours needed to create new RapidRide lines.
- Partnership contributions such as financial or in-kind contributions and transit-supportive policy changes.
- Distribution of service across all areas of the county.
- Presence of communities with large minority and low-income populations.

By considering both planning factors and available resources, the Development Program would provide opportunities to reconcile the needs identified in Metro's annual System Evaluation Report with the METRO CONNECTS service network and vision. Metro expects to begin work in 2017 on our first Development Program, to help inform the 2019–2020 budget.

What guides the METRO CONNECTS Development Program? (relationship of plans)

The implementation of METRO CONNECTS will be guided by various King County and Metro policies, refined and discussed with regional partners, and carried out through existing methods for changing service and capital projects, described in more detail below. Metro's planning documents can be separated into those that provide overarching policy, those that are direct inputs to the Development Program, and existing methods for making service and capital changes to the Metro system that will move us toward the vision laid out in METRO CONNECTS.

The planning documents below are a description of existing Metro policy. Other guiding policy documents include the King County Strategic Plan, the Fund Management Policies for Public Transportation and Countywide Financial Policies, the King County Strategic Climate Action Plan, and the King County Equity and Social Justice Strategic Plan.

Overarching policy

- The **Strategic Plan for Public Transportation** describes Metro's goals, strategies and objectives concerning safety, equitable access, economic vitality, environmental sustainability, service excellence, financial stewardship, public engagement, and workforce quality.
- The **Service Guidelines**, which are used to evaluate, design, and modify transit services to meet changing needs and to deliver efficient, high-quality service.

Inputs to the METRO CONNECTS Development Program

This new initiative provides the forum for discussions—both internal and with jurisdiction partners—about the factors that influence our service and capital decisions. Participants will share their ideas and priorities, which will inform the development of Metro's budgets going forward.

Metro will share information with regional partners about the following:

- **METRO CONNECTS**, which establishes a long-term vision for how we will serve the mobility needs of the county that is consistent with our policies. It defines service concepts and types of capital investments (including in areas of the county with Service Guideline needs) or that would be necessary to support long-term changes to the transit network.
- The **Service Guidelines**, which include the tools for guiding near-term service decisions such as restructuring service, planning alternative service, and working with partners.
- The **System Evaluation Report**, which will present the results of the Service Guidelines assessment and the performance and progress of the Alternative Services program. The Service Guidelines assessment identifies where the county's greatest transit needs are, based on four investment priorities: routes that are crowded, routes that are unreliable, routes that do not have enough service, and highly productive routes.

Cities' and transportation agencies will bring information to the forum about:

- **Local and regional plans** and known projects that will have impacts on the transportation network, such as land-use changes, roadway improvements, and Link extensions, that Metro should respond to.
- **Local priorities** for transit service whether based on the existing Service Guidelines needs or on the METRO CONNECTS vision.

Budget and next steps

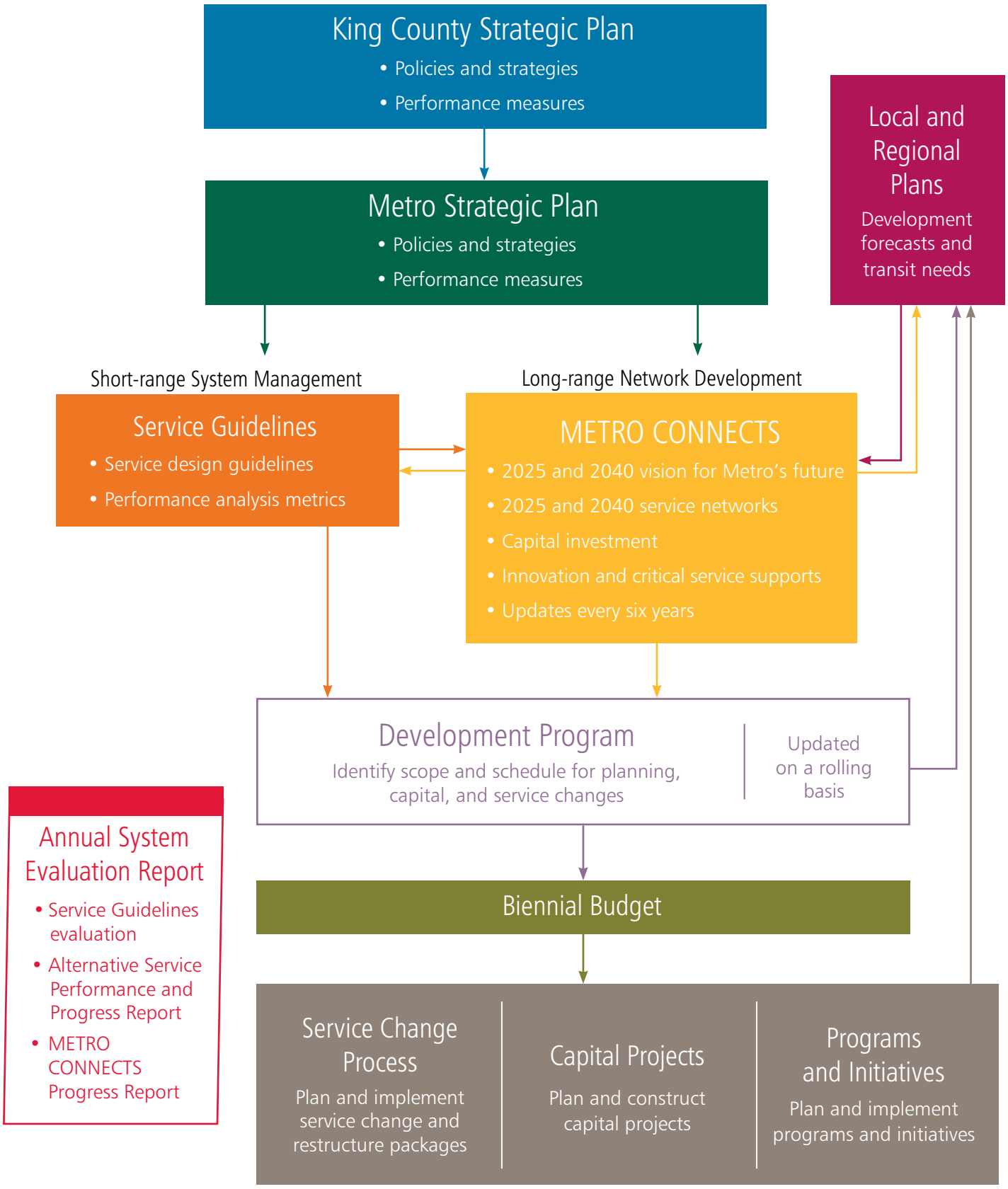
Input from regional partners would inform the development of Metro's budget and a six to eight-year service and capital program. The budget would be adopted by the King County Council as part of King County's biennial budget.

Metro would work with communities and partner agencies to plan and implement service changes; plan and construct capital projects to support transit service; and plan and implement other programs and initiatives that support the METRO CONNECTS vision.

Reporting

In addition to reporting on the Service Guidelines assessment and the performance of the Alternative Services Program, Metro's annual System Evaluation Report would report on progress toward the METRO CONNECTS vision.

Fig. 24: Plans that Guide the METRO CONNECTS Development Program



Financial Overview

METRO CONNECTS is consistent with forecasts of future transit needs and PSRC's long-range transportation plan.

The costs for METRO CONNECTS are high-level planning estimates expressed in year-of-expenditure dollars (YOE$), which include inflation. These costs are subject to change as investments are further defined and sequenced. Due to the effect of inflation and the ongoing cost of service once implemented, the timing of investments can have a significant impact on the total costs.

Metro's primary revenue source is sales tax. Sales tax is volatile, and future economic events will affect the amount of revenue actually available for the program. The sales tax growth rates used to construct the METRO CONNECTS program were reviewed by King County's Office of Economic and Financial Analysis (OEFA) for the period of 2026–2040. The revenue estimate for 2017 through 2025 came directly from forecasts developed by OEFA and approved by the King County Forecast Council. With these assumptions about revenue growth, the cost of attaining the METRO CONNECTS vision will exceed our existing revenue sources.

Figures 25 and 26 illustrate the incremental capital costs and service additions identified in METRO CONNECTS between now and 2025 and also through 2040. These figures show the current estimate of what could be funded with currently forecasted existing revenue sources—sales tax, farebox revenue, federal and state grants, and others.

Based on current revenue assumptions and planning-level assumptions regarding timing of investments, by 2025 just over 25 percent of the additional capital costs and more than 70 percent of the service hours called for in METRO CONNECTS could be funded. By 2040, existing revenue forecasts could fund almost 30 percent of the additional capital costs and over 50 percent of the additional service hours called for in METRO CONNECTS. The actual balance of service to capital expenditures will evolve through the Development Program and budget development cycles. Without the capital investments, riders would not experience all the benefits, and the service would be less efficient. Therefore, METRO CONNECTS assumes capital investments would be made as service is implemented.

One of the key purposes of the METRO CONNECTS Development Program would be to schedule service and capital projects, further refine their costs, and determine what steps would have to be taken to fill any funding gaps. Partnerships with cities, transportation agencies, businesses and others would be an important part of closing revenue gaps.

Fig. 25: METRO CONNECTS Incremental Capital Costs and What Could be Funded with Forecasted Revenues*

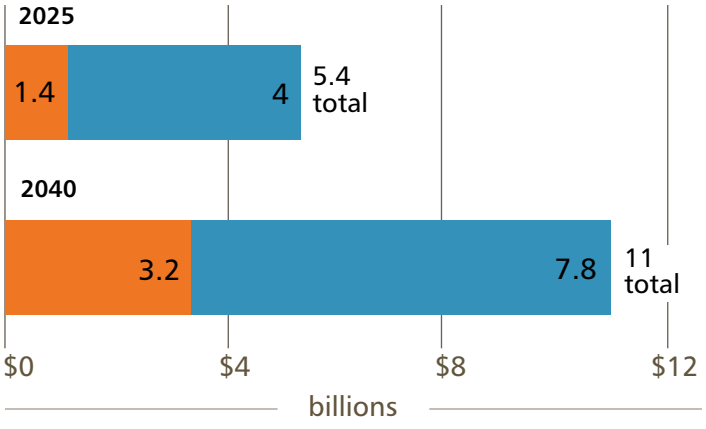
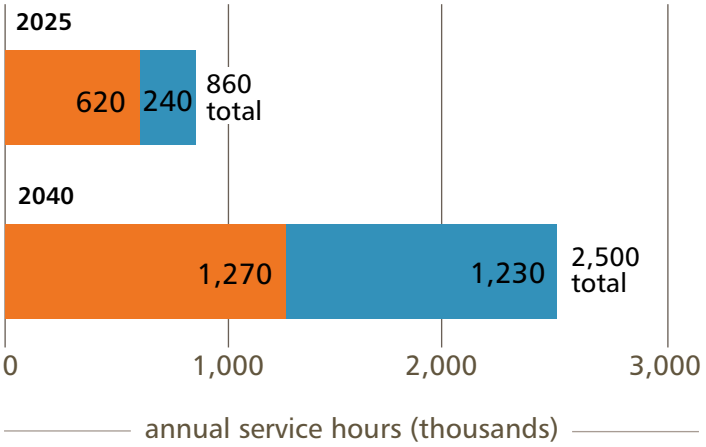


Fig. 26: METRO CONNECTS Incremental Service Adds and What Could be Funded with Forecasted Revenues*



* Based on July 2016 Economic and Revenue Forecasts for King County. Assumes grant revenues, fare revenues, and local and partnership funding. The Sustainable funding does not include approximately 270,000 hours currently funded through Move Seattle.

Working Together: What it Would Take to Form Partnerships

The METRO CONNECTS vision would fundamentally change the way transit serves King County, and we would need to work together as a region to fully implement it. Achieving the vision depends on investments that enable transit to serve more people, in more places, in more ways.

The METRO CONNECTS investment estimates were based on planning assumptions. Actual projects, costs, funding, and partnership contributions would be determined through the METRO CONNECTS Development Program.

Metro has traditionally partnered with jurisdictions and agencies on specific projects or investments, such as RapidRide, transit signal priority, and speed and reliability investments. The METRO CONNECTS Development Program would expand partnerships to improve transit. While Metro intends to make substantial investments toward our vision, full implementation of METRO CONNECTS would require investments from our partners as well. We would collaborate to refine needs and costs and to identify partnership opportunities in areas such as land-use zoning, traffic operations, transportation infrastructure and policies, and grant coordination as well as new and innovative kinds of partnerships.

Examples of what the partnerships could do:

- Improve and emphasize transit-supportive land-use policies around the county.
- Expand and improve infrastructure for RapidRide, other frequent routes, and all-day express service, to keep them running fast and on time.
- Support innovations in customer service and operations by adopting programs and tools to improve the quality, quantity, and analysis of the data we share with the region.
- Scale up Metro's capacity to deliver the capital and service improvements envisioned in METRO CONNECTS by engaging in proactive and opportunistic planning with regional partners.
- Build safe and comfortable passenger facilities that accommodate many more people, make transfers among services easy, and meet jurisdictions' needs.
- Help support an increase in bus service by more than 70 percent by 2040.
- Improve access to transit by increasing park-and-ride capacity, bicycle and pedestrian paths, and secure bicycle parking facilities at major transit hubs around King County.

We recognize that there is inherent risk in pursuing this bold vision. The scale and collaborative nature of METRO CONNECTS would require internal and external changes. Part of the work of the Development Program would be to identify key areas of risk and develop strategies to successfully navigate challenges. Metro would work with both large and small cities to help meet their needs and move partnership projects forward together.

Our estimated capital investment is based on planning assumptions. Table B-2 in Appendix B highlights the assumed partnership contributions, and detailed descriptions of these assumptions are located in Appendices B through F. Actual costs would be determined through the METRO CONNECTS Development Program.

Service Investments

In 2015 Metro spent $600 million on service operations. By 2040, an additional $460 million annually (in 2015 dollars), would enable Metro to implement the METRO CONNECTS service improvements, bringing frequent service to within a half mile of 70 percent of the county's population and expanding flexible transit options.

Currently, Metro's primary sources of revenue are sales tax, fares, property tax, and federal and state grants. Forecasted growth in existing revenue streams of taxes, fares, grants, and other service partnership funding would cover some of the proposed METRO CONNECTS service investments. To fund the remaining investment, King County would look to additional federal, state, and local funding options and partnerships.

State of good repair

Metro's first commitment is to support the existing system by keeping current assets (bus bases, maintenance facilities, revenue and non-revenue vehicles, trolley wire, substations, etc.) in good working condition. We will continue to plan for required maintenance on the existing system as part of our biennial budgeting process. As we have done in the past, Metro will look for federal, state, regional and grant funds to ensure we can meet our obligation to maintain and repair existing assets. The cost for maintaining current assets is not shown in Figure 27.

As METRO CONNECTS adds to current capital facilities and infrastructure, Metro's maintenance and repair costs are projected to increase. Those costs are shown as "State of Good Repair (New)" in Figure 27.

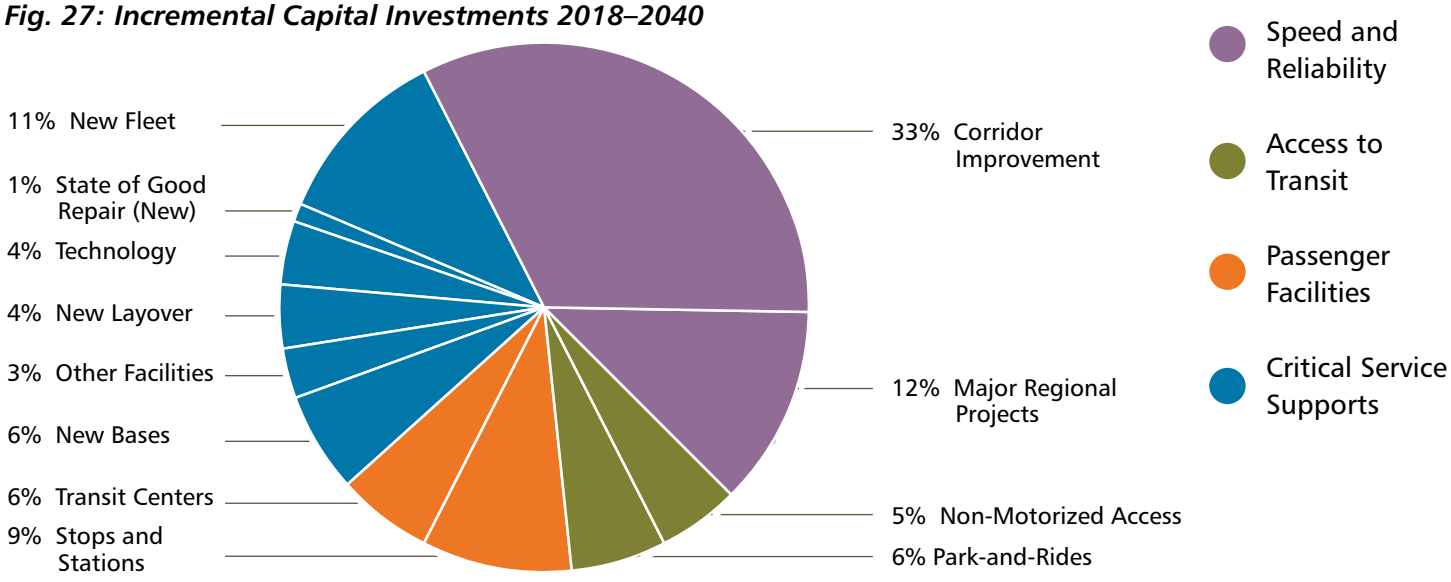
Capital Investments

METRO CONNECTS would require a substantial expansion of capital investments to create optimal transit travel conditions to keep buses moving and on time. Significant investments would also be necessary in passenger facilities to support the new service network. Metro would also invest in technology and supporting infrastructure to create the enhanced customer experience we envision. These capital investments would support the productivity gains associated with the METRO CONNECTS network. Without these investments, service would be slower, our operating costs would be higher for the same level of service, transit would be less productive, and it would be more difficult to meet regional mode share and ridership goals.

We estimate that between 2017 and 2040, Metro would need to invest approximately $11 billion in year-of-expenditure dollars on capital projects. Figure 27 illustrates how the additional capital investments would be distributed among the major capital elements.

As with the service investments, and as shown in Figure 26, forecasted growth in existing revenue streams of taxes, fares, grants, and other funding would cover some of the proposed METRO CONNECTS capital investments. To fund the remaining investment, King County would look to additional federal, state, and local funding options and rely on partnerships with jurisdictions within the county.

Fig. 27: Incremental Capital Investments 2018–2040



First Steps

As a first step toward the long-term vision, METRO CONNECTS describes an enhanced service network that would be developed by 2025—roughly when all known and funded Sound Transit 2 projects would be complete. This interim network would be the basis for further planning to fully achieve the 2040 vision. Figure 6, on page 24, is a map of the 2025 network.

METRO CONNECTS envisions that by 2025, Metro would:

- **Make the service investments identified in the annual Service Guidelines analysis.** The latest analysis identified the need for hundreds of thousands of additional service hours to better meet transit demand across King County in a socially equitable and geographically fair way. By increasing Metro's service to meet current demand, we would begin building the METRO CONNECTS service network and service levels.
- **Restructure around Link light rail expansion.** Sound Transit is planning to complete approved extensions of Link to the north, east and south by 2025. These extensions would provide an opportunity to review the entire transit network and build toward the METRO CONNECTS service network and service levels.
- **Build new RapidRide lines in coordination with the City of Seattle and other partners.** Expanded and enhanced RapidRide is the centerpiece of the METRO CONNECTS frequent network, which would integrate with our region's high-capacity transit network to connect our urban centers.

  METRO CONNECTS calls for the creation of 13 RapidRide lines across King County by 2025, and a total of 26 by 2040. Some of these are already funded in partnership with the City of Seattle by the Move Seattle levy. If METRO CONNECTS is implemented, these corridors would be accompanied by capital investments to improve speed and reliability as well as passenger amenities.
- **Expand the capacity of Metro's transit support systems.** To meet our region's growing demand for transit, Metro needs expanded capacity for buses—not only the vehicles but also the infrastructure to support them. In the near term, Metro anticipates buying additional fleet vehicles, considering expansion of bus base capacity, and hiring bus operators and other personnel.
- **Help riders get more and better access to the transit system.** In conjunction with other transit agencies and cities, Metro would continue efforts to improve options for transit riders to get to bus stops and high-capacity transit stations. Options would include parking improvements that allow us to use existing resources more efficiently, manage demand, and increase supply. We would also continue to work with local jurisdictions to improve bicycle and pedestrian facilities to make it easier to access transit.

King County
METRO

Department of Transportation
Metro Transit Division
King Street Center, KSC-TR-0415
201 S. Jackson St
Seattle, WA 98104
206-553-3000 TTY Relay: 711
www.kingcounty.gov/metro

Alternative Formats Available

206-477-3832 TTY Relay: 711

Para solicitar esta información
en español, sírvase llamar al
206-263-9988 o envíe un mensaje
de correo electrónico a
community.relations@kingcounty.gov