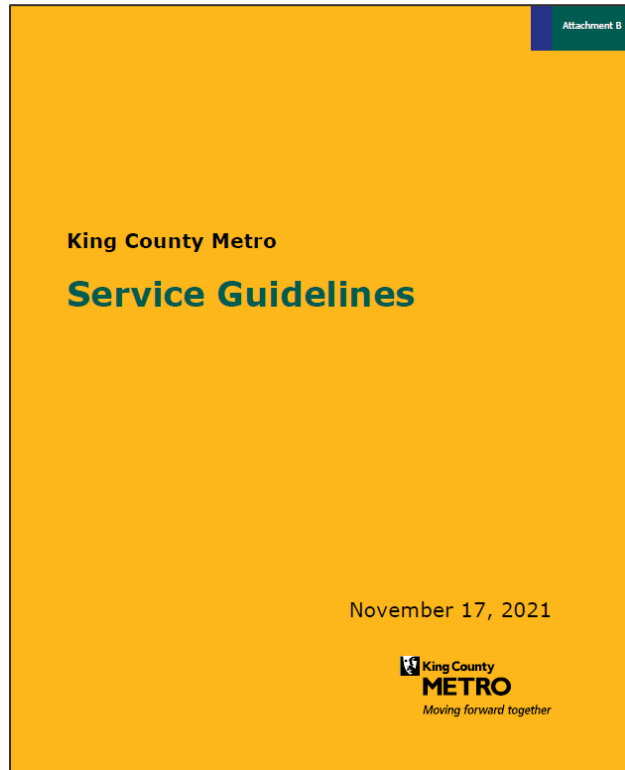


2022 System Evaluation

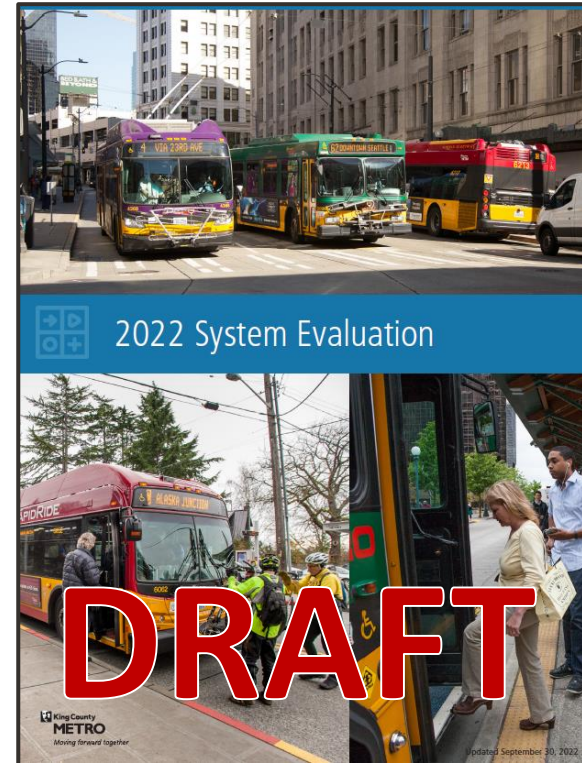
Applying King County Metro's Service Guidelines to evaluate investment needs

Service Guidelines

Annual System Evaluation

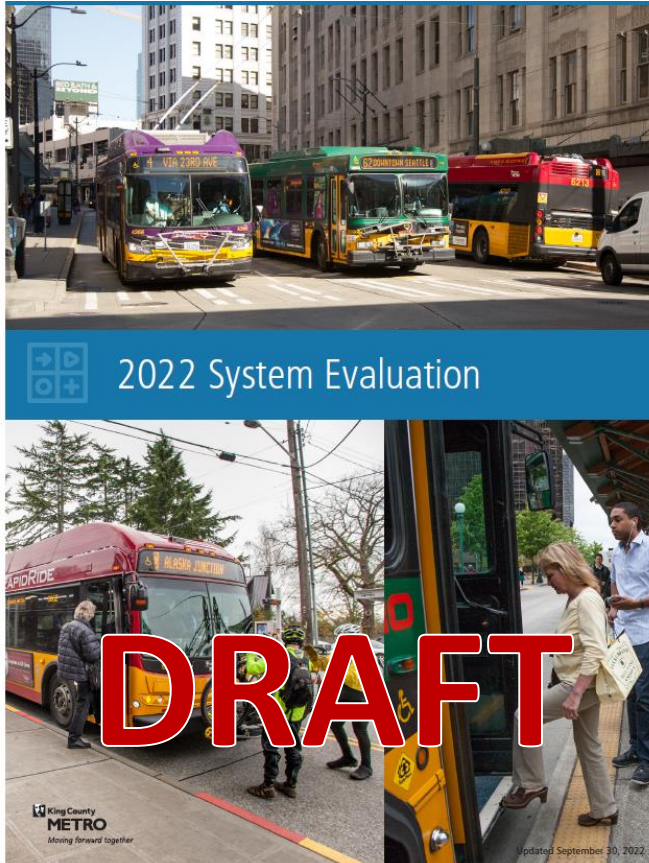


Policy outlining evaluation methods and priorities



Annual evaluation of system investment needs (fixed route, flexible, marine)

2022 System Evaluation



What is in the Annual System Evaluation?

- Evaluation of the transit system at the route level
- Focus on fixed route, flexible, and marine services
- RapidRide progress report (Bus Rapid Transit)
- Investment needs per King County's Service Guidelines
- Must be formally accepted by County Council

Data Analysis: services & evaluation measures

Fixed Route Services



Flexible Services



Marine (Water Taxi)



Data Analysis: services & evaluation measures

Fixed Route Services

- **Crowding**
- **Reliability**
- **Service Growth**
 - Equity
 - Land Use
 - Connectivity

- **Productivity**
- **Equity**

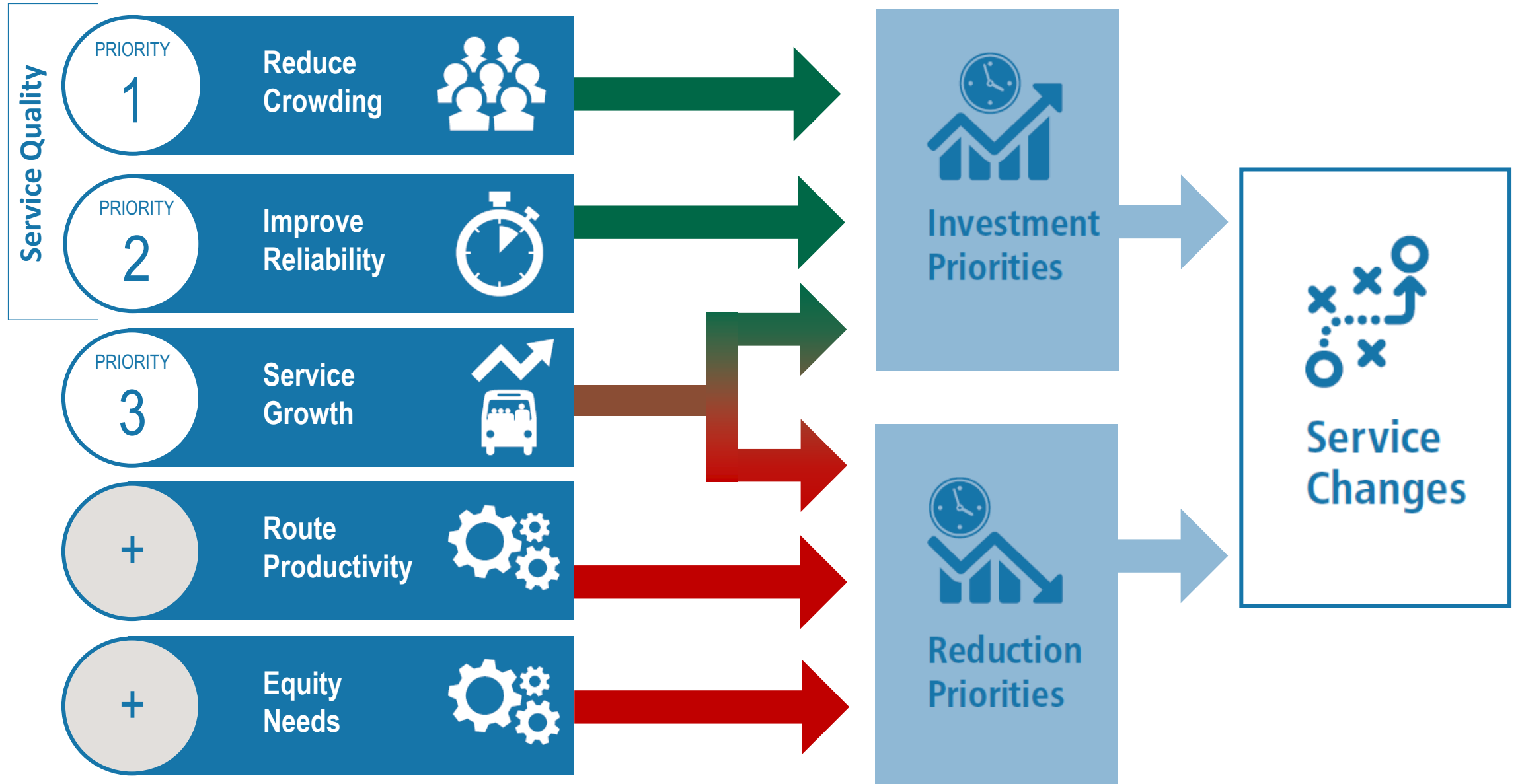
Flexible Services

- **Existing Services**
 - Equity
 - Efficiency
 - Productivity
- **New Services & Pilots**
 - Density
 - Equity
 - Accessibility

Marine (Water Taxi)

- **Ridership**
- **Productivity**
- **Passenger Loads**
- **Schedule Reliability**

Fixed Route Service Evaluation



Priority 1: Crowding



Reduce
Crowding



Defining “Crowding” Investment Needs

- Routes with trips exceeding the vehicle’s crowding threshold
- Routes with standing loads for more than 20 minutes
- Must be crowded consistently for multiple months

2022 Findings

- Zero hours of service are needed to relieve crowding

Priority 2: Reliability



Improve
Reliability



Defining “Reliability” Investment Needs

- Routes that operate late more than 20% of the time
- Routes that miss their designated headways more than 20% of the time

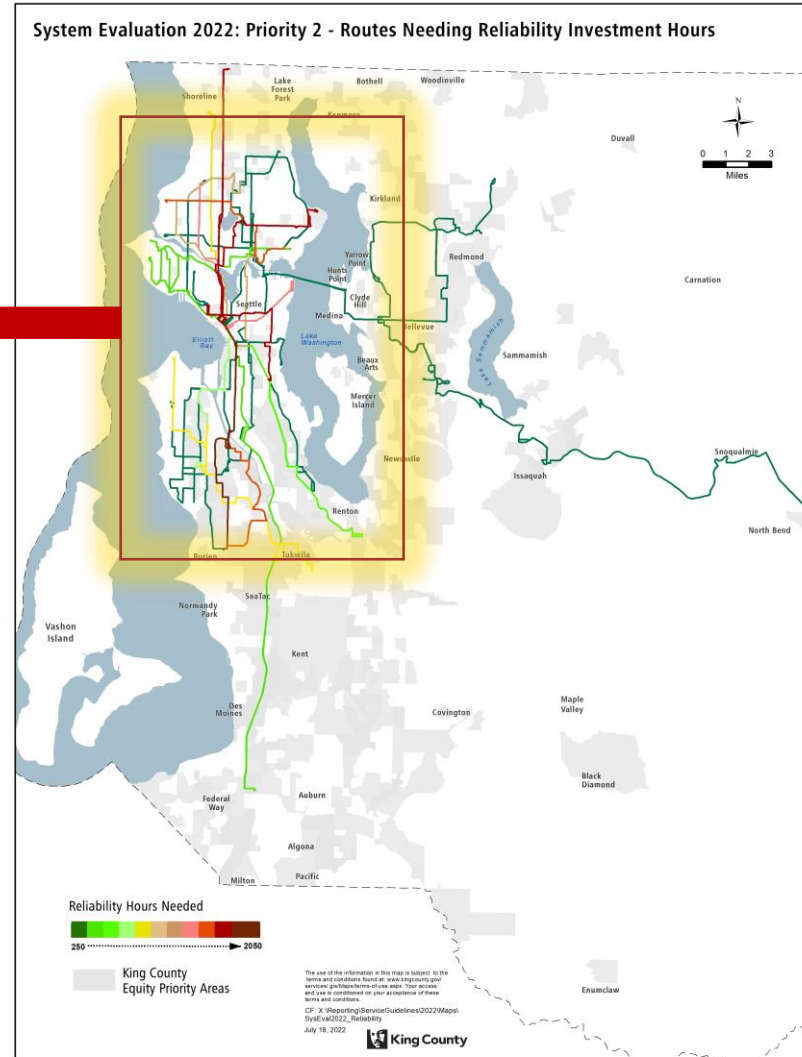
2022 Findings:

- 24,750 additional bus hours needed to improve reliability
(*18,250 increase from 2021*)
- 40 routes identified for reliability investments
- 26 routes identified for reliability investments operate in the City of Seattle

Priority 2: Reliability Investment Needs



Improve
Reliability



Top Seattle-Based Routes

Route	Hrs. Investment Needed
E Line	1900
8	1700
62	1700
45	1250
11	1150
28E	1150
40	1050
49	900
5	750
24	500
31	500
33	500

Priority 3: Service Growth



Service
Growth



New Methodology!

Defining “Service Growth” Investments Needs:

- Targets from Metro Connects interim network
- New service growth methodology prioritizes growth based on:



Equity



Land Use



Geographic Value

2022 Findings:

- 1,644,200 hours of service needed over the next 15 years to implement the Metro Connects interim network
- On average, Metro needs to add 110,000 service hours per year to stay on track with the interim network

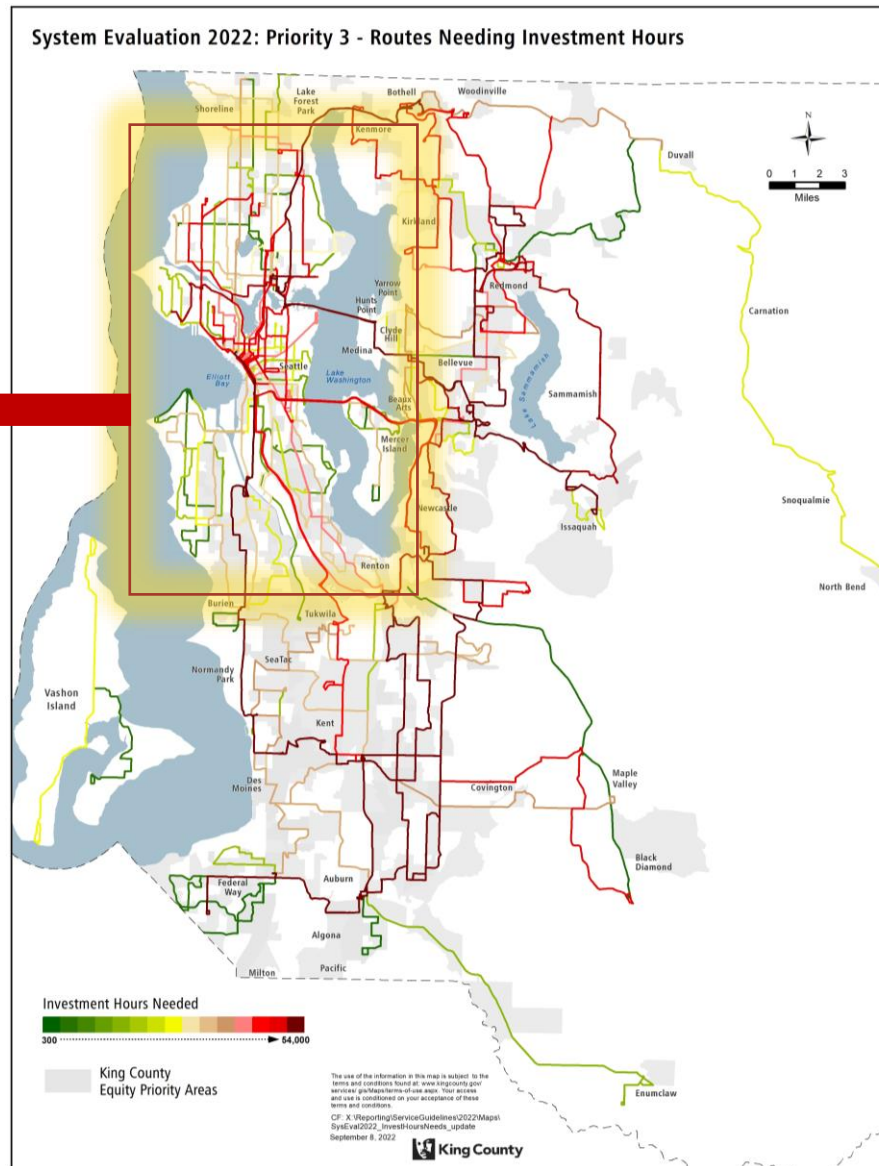
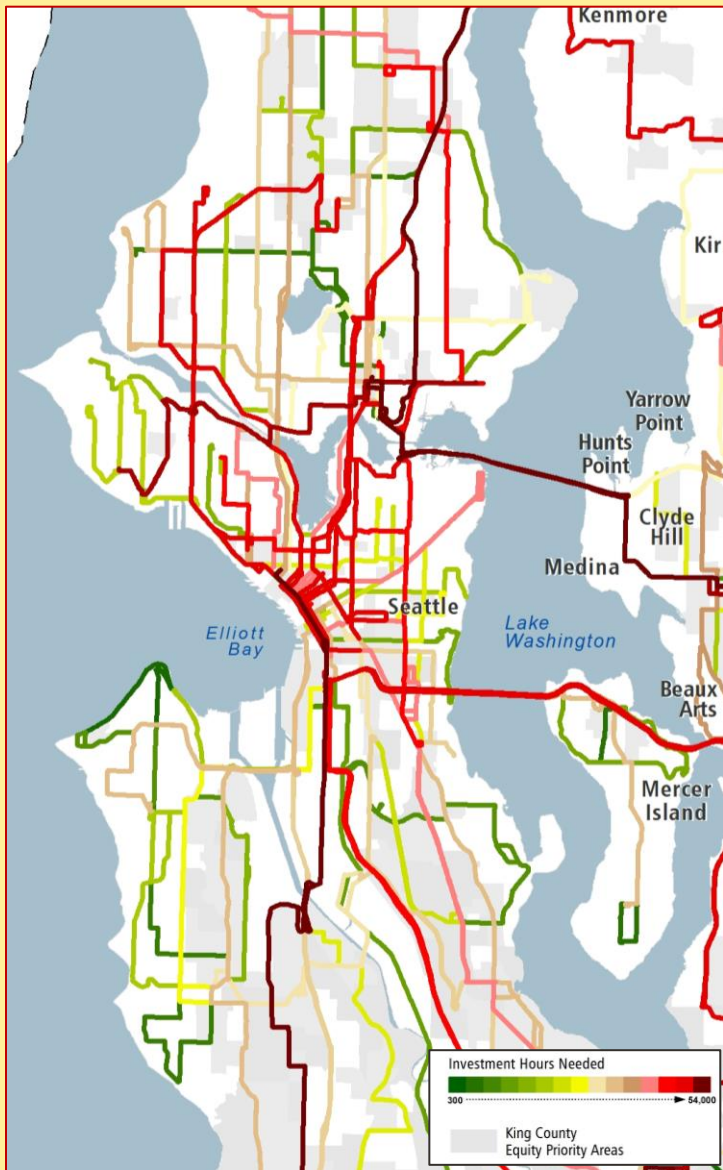
Priority 3: Service Growth

PRIORITY
3

Service
Growth



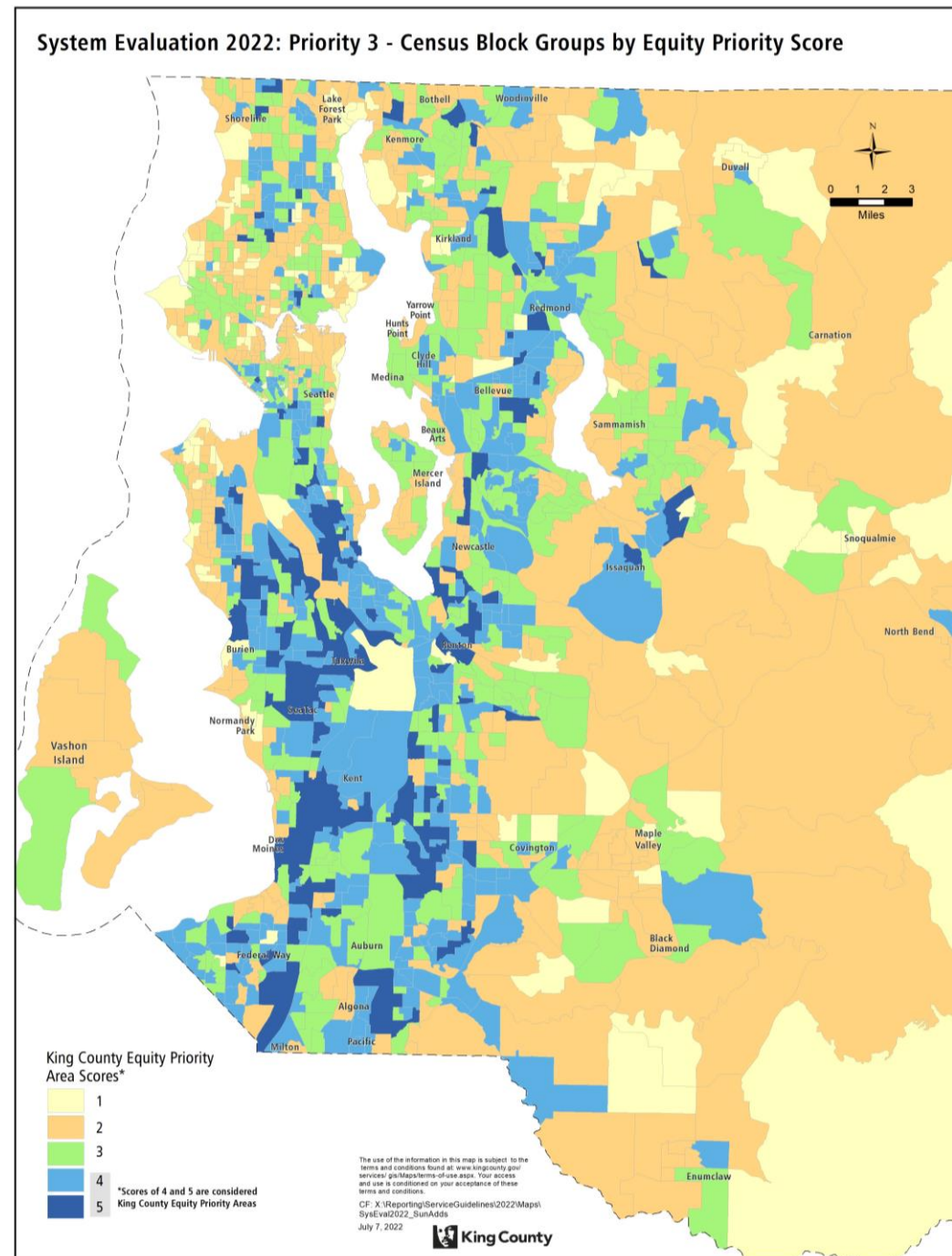
New Methodology!




King County

Equity Priority Area Scores

(2020 ACS data)



System Evaluation: Fixed Route Transit Summary

PRIORITY
1 Reduce Crowding 

- ▶ No major investment needs for crowding

PRIORITY
2 Improve Reliability 

- ▶ 40 Routes with investment needs (26 routes in Seattle)
- ▶ Reliability investment needs are up by 18,250 hours (24,750 total)
- ▶ Need to track progress as traffic congestion increases

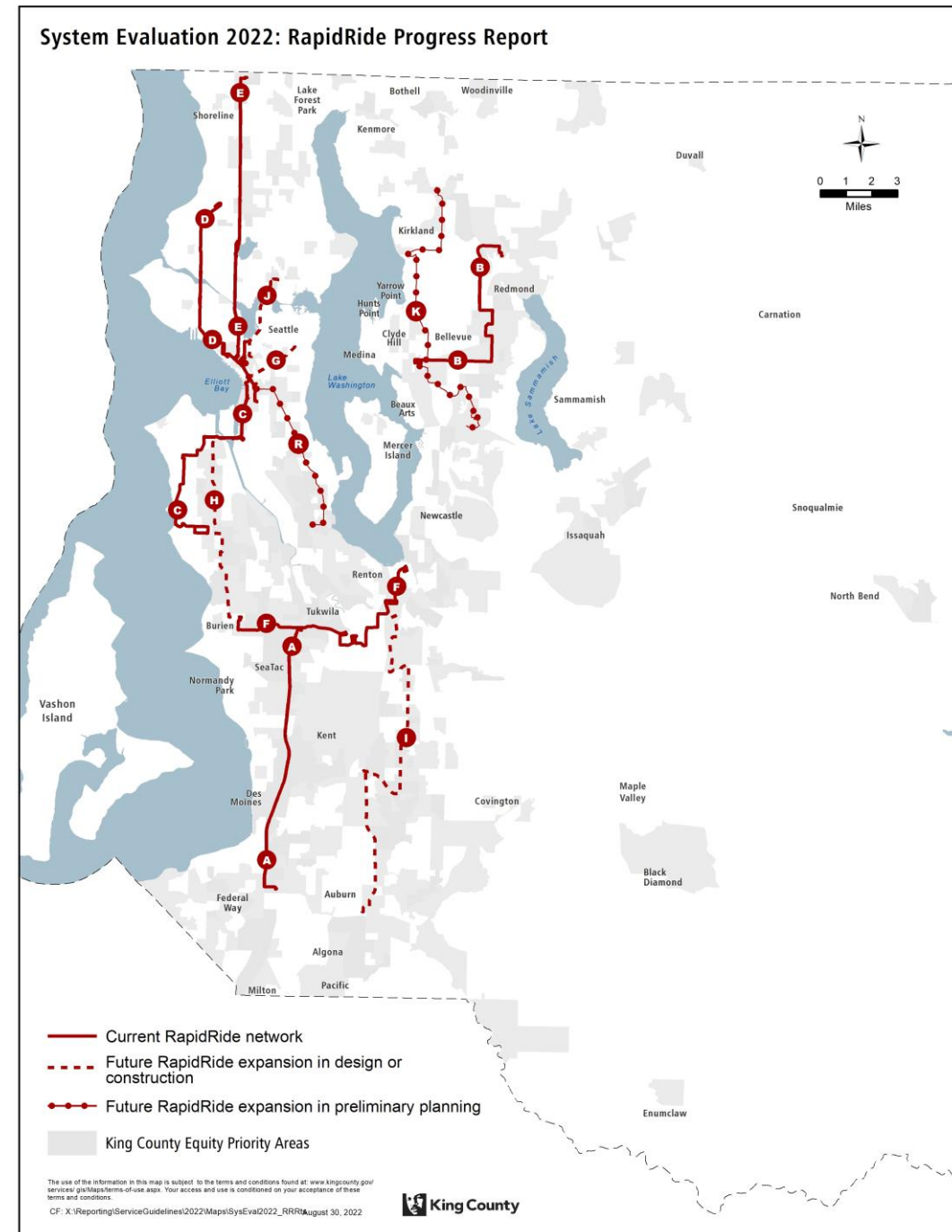
PRIORITY
3 Service Growth 

- ▶ 1,644,200 hours of service needed over the next 15 years to implement the Metro Connects interim network
- ▶ Avg. of +110,000 service hours needed annually to stay on track with the interim network

Note: Any investments in crowding and reliability will directly address service growth needs.

RapidRide Progress Report: Key Service Features

- **Frequent and Reliable Service:**
More frequent, expanded service hours, extra service at night / weekends.
- **Bus Stop Upgrades:**
Better lighting, real-time arrival signage, and more seating.
- **Improved Access:**
Coordination with partners to improve sidewalks, street crossings, etc. to ensure a safe and convenient experience.



RapidRide Progress Report (as of September 2022)

Route name	To / From / Via	Comparable Route(s)	One-Way Miles	Project Status	Expected Opening	Federal Funding (FTA) Funding
G Line*	Madison Valley - Seattle CBD - E Madison St	11, 12	2.4	Construction	2024	Small Starts grant, American Rescue Plan funding, & Congestion Mitigation and Air Quality Improvement funding
H Line	Burien – Seattle CBD – Westwood Village	120	13.8	Construction	2023	None
I Line	Renton – Auburn – Kent	160	17.9	Design - 60%	2026	Pending Small Starts Grant
J Line*	U. District – Seattle CBD – Eastlake	70	5.2	Design - 60%	2026	Pending Small Starts Grant, Congestion Mitigation and Air Quality funding, & Surface Transportation Program funding
K Line	Totem Lake – Eastgate - Kirkland	255, 271	14.6	Preliminary planning	TBD	TBD
R Line**	Rainier Beach - Seattle CBD - Mt Baker	7	9.4	Paused: Design - 10%	TBD	TBD

* City of Seattle is leading the design and construction of the G and J Lines

** R Line work is currently on hold



Evaluating Existing Flexible Services

Efficiency

- Cost per boarding

Productivity

- Rides per vehicle hour

Equity

- Percent of riders picked up or dropped off in a designated equity priority area

Evaluating Flexible Services Pilots

Service Type - location	Rides per Vehicle Hour	Cost per Boarding	Percentage of riders picked up/dropped off in Equity Priority Area	Launch Date
Community Ride – Juanita	1.15	\$115.00	39%	September 2020
Community Ride – Sammamish	2.09	\$60.00	12%	June 2019
Community Shuttle – Des Moines	4.61	\$31.00	20%	January 2018
Via to Transit – Othello	2.76	\$15.23	93%	April 2019
Via to Transit – Rainier Beach	3.62	\$11.62	93%	April 2019
Via to Transit – Tukwilla	3.02	\$13.93	88%	April 2019
Via to Transit – Renton Highlands	3.27	\$12.86	87%	August 2021
Via to Transit – Skyway	1.95	\$21.62	64%	August 2021
Ride Pingo – Kent Industrial Valley	1.51	\$83.00	95%	September 2021

Findings:

- Established services have a lower cost-per-boarding than newer pilots
- Metro will continue to monitor flexible services performance
- Metro may adjust marketing, service areas, service levels as needed

Evaluating Marine Services (Water Taxi)



Ridership

Average daily ridership

Productivity

Rides per round trip

Passenger Loads

Passenger loads/rides per trip

- **Threshold:** Exceeds 95% capacity 5+ times in 12 months

Schedule Reliability

Departure within 5 minutes of published schedule

- **Goal:** 98% on time
- **Threshold:** 25% late trips in 12 months

Evaluating Marine Services (Water Taxi)



Route	Average Weekday Boardings	Average Saturday Boardings	Average Sunday Boardings	Average Rides per Round Trip	Trips operating at over 95% of Capacity	Percent Late Trips
West Seattle	791	1179	834	55	0	0.42%
Vashon Island	285	NA	NA	48	0	0.51%

Findings:

- Water Taxi is currently meeting needs as defined in Metro's Service Guidelines
- West Seattle route maintaining increased summer sailing schedule through winter
- No other major service changes are planned

Questions?

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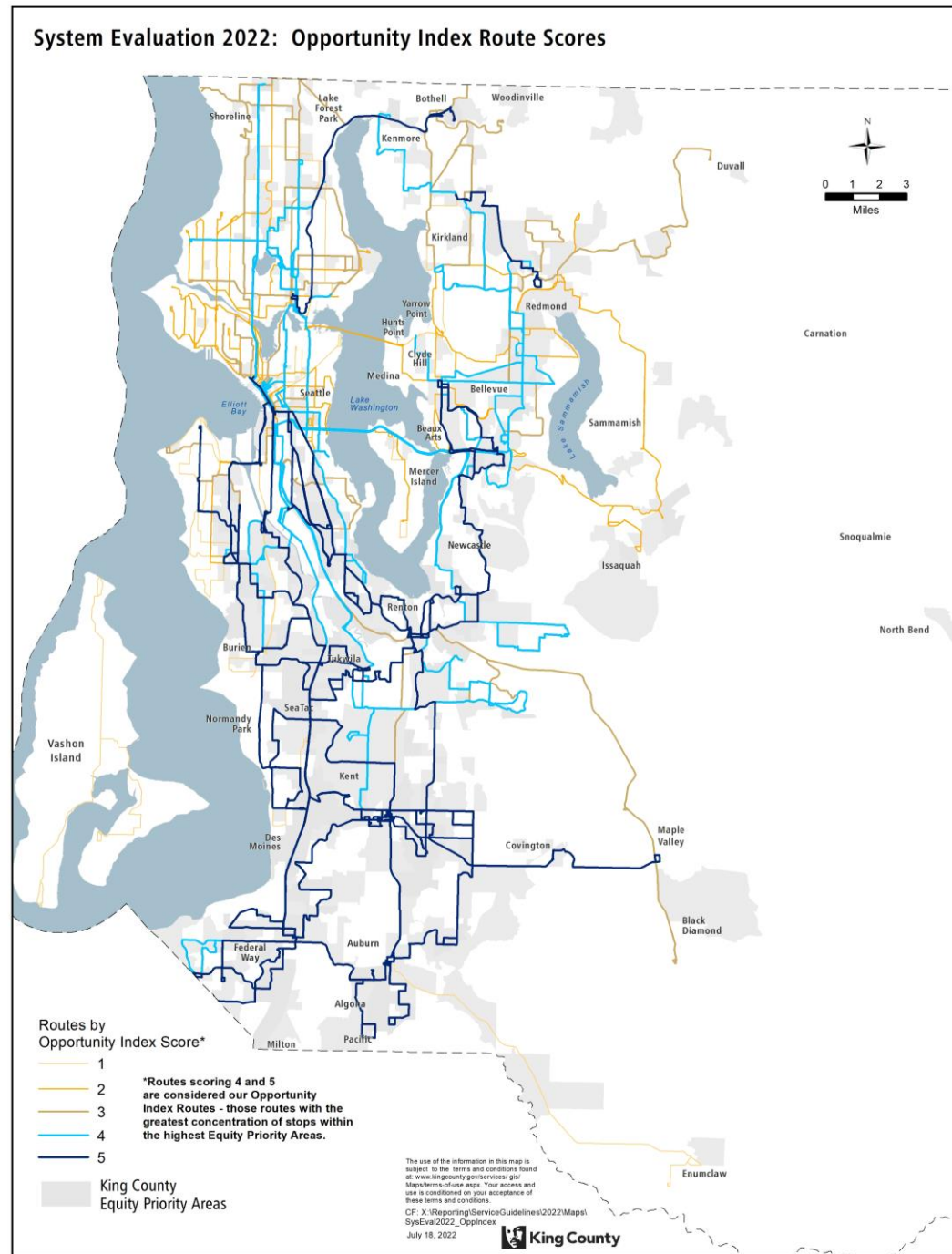
Equity Needs - methodology

- 1 Score Block Groups (Equity Priority Area Score [EPAS]):**
Assign 1-5 points to block groups based on "priority population" demographic data.
- 2 Score bus stops:**
Assign the equity priority area score to every bus stop within the block group.
- 3 Calculate Route Scores (Equity Prioritization Score):**
Average the bus stop scores for each route – "Equity Prioritization Score"

Priority Population weighting (for EPAS)	Variable Weight
Population that is non-white or Hispanic	40%
Population living 200% below the federal poverty line	30%
Population that is foreign-born	10%
Limited-English speaking households	10%
Population living with a disability	10%

King County

Opportunity Index Scores (2020 ACS data)



Reduction
Priorities