King County

Dow Constantine
King County Executive
401 Fifth Avenue, Suite 800
Seattle, WA 98104-1818
206-263-9600 Fax 206-296-0194
TTY Relay: 711
www.kingcounty.gov

February 20, 2024

The Honorable Dave Upthegrove
Chair, King County Council
Room 1200
C O U R T H O U S E

Dear Councilmember Upthegrove:

This letter transmits a Vanpool Program Update Report addressing current and planned changes to the program to address changing ridership patterns in response to King County Ordinance 19546, Section 114, Proviso P6.

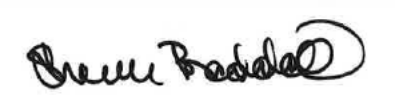
As required, the enclosed report includes the number of active vanpool groups in 2023 and projected groups that will be active through 2026; number of vehicles owned, in use, and not in service in 2023, and vehicle purchase plans through 2026. Additionally, the report includes the proposed strategy and timeline to convert the vanpool program to zero emission vehicles; and proposed changes to the design of the vanpool program to respond to changing ridership patterns.

The enclosed report includes a description of the current conditions of the Vanpool program that was significantly impacted by the COVID-19 pandemic. The report demonstrates that in the post-pandemic recovery period, the program has experienced a surge in vanpool groups forming as employees at large companies return to work both in hybrid and full-time scenarios. The report demonstrates that Metro is adapting to meet changing employer and customer expectations, and providing offerings to attract shift, hospitality, custodial, and other entry-level workers, along with small businesses that may benefit from vanpool program features. The report also summarizes how the fleet is moving toward right-sizing vehicle numbers and types. It also addresses Metro's planning and progress to transition the fleet to zero emissions.

Thank you for your consideration of this report. The service Metro's Vanpool program provides is vital to ensuring that King County residents have a safe, reliable, and effective network of transportation options to get them where they need to go, when they need to get there.

If your staff have questions, please contact Gwen Clemens, Managing Director of Contracted Services Section, Department of Transportation, at 206-263-9686.

Sincerely,



for
Dow Constantine
King County Executive

Enclosure

cc: King County Councilmembers
ATTN: Stephanie Cirkovich, Chief of Staff
Melani Hay, Clerk of the Council
Karan Gill, Chief of Staff, Office of the Executive
Penny Lipsou, Council Relations Director, Office of the Executive
Michelle Allison, General Manager, Metro Transit Department
Chris O'Claire, Division Director, Mobility Division, Metro Transit Department

..title
Metro Transit Department -Vanpool Program Update Report- Ordinance #19546, Section 114, P6

Attachment A

Vanpool Program Update Report

February 22, 2024

King County

I. Contents

II. Proviso Text

SECTION 114, TRANSIT, PROVISO, P6 [1]

Of this appropriation, $100,000 shall not be expended or encumbered until the executive transmits a vanpool program update report and a motion that should acknowledge receipt of the report, and a motion acknowledging receipt of the report is passed by the council. The motion should reference the subject matter, the proviso's ordinance number, ordinance section and proviso number in both the title and body of the motion.

The report shall include, but not be limited to, the following:
A. The number of active vanpool groups;
B. The total number of vanpool vehicles owned by the Metro transit department, specifying the number of vehicles being used for vanpool groups or other public transportation uses and the number of vehicles that are not in service; and
C. A description of the Metro transit department's plans for the vanpool program, including, but not limited to:
1. The number of vanpool groups that were active in 2023, as well as estimates of the number of vanpool groups that will be active at the end of 2024, 2025 and 2026;
2. Estimates of the number of vehicles the vanpool program will acquire in 2024, 2025 and 2026;
3. The proposed strategy and timeline to convert the vanpool program to zero emission vehicles; and
4. Any proposed changes to the design, structure or staffing of the vanpool program to respond to changing ridership patterns.

The executive should electronically file the report and motion required by this proviso no later than February 22, 2024, with the clerk of the council, who shall retain an electronic copy and provide an electronic copy to all councilmembers, the council chief of staff, and the lead staff for the transportation, economy and environment committee or its successor.

[1] Ordinance 19546

III. Executive Summary

This report is provided as required by Ordinance 19546 calling for a Vanpool Program Update addressing current and planned changes to the Vanpool Program (program) to address changing ridership patterns.

Background. Metro began the first-ever commuter van program, branded as Metro Vanpool, in 1979, with four employers and 189 participants in 21 Vanpool groups. Forty years later, in 2019, the program had grown to be one of the largest publicly owned Vanpool programs in the nation serving 10,724 participants in 1,649 Vanpool groups providing more than 3.3 million annual boardings. Due to the impacts of COVID-19, including state stay at home requirements by January of 2021 the Vanpool program had dipped to a low of 2,309 participants in 395 Vanpool groups. In 2023 with return-to-work requirements, and hybrid work schedules implemented for the Vanpool program's larger employer participants to varying degrees, the program has seen unprecedented growth, ending the year with 975 vans on the road more than (59 percent of pre-pandemic levels). While the program saw substantial growth in 2023, demand is expected to level off in 2024, as employers have mostly welcomed back employees to both hybrid and full-time schedules.

Metro's Vanpool program is a public transit rideshare service for a consistent group of commuters with a similar origin, destination, and work schedule to share the driving responsibilities and split fares in a Metro-provided van. This service is best suited for trips not well served by fixed route transit. Vanshares are available for commuters who need to share the ride to or from another public transit mode such as a park-and-ride, train station or transit hub. this report references them ,

Traditionally, Vanpool is marketed directly to employers who provide Vanpool fare subsidies and benefits to their employees. Vanpool fares cover the vehicle, fuel, insurance, tolls, maintenance, roadside assistance, and an emergency ride home program. Each Vanpool needs at least two or more to volunteer as drivers and at least one to complete the monthly reports and collect fares. Fares collected from the Vanpool groups are required, per County Code (KCC)) 4A.700.130, to recover 100 percent of operating and capital costs and 25 percent of administrative costs[2].

Vanpool by the Numbers. King County Metro's Vanpool program is operated with a fleet of five-, seven-, 12-, and 15-passenger, light-duty vehicles. The fleet is operated and managed utilizing an eight-year life cycle. The fleet is used for:

- Active Vanpool groups;
- Service loaners assigned to program maintenance and repair facilities throughout King County and used by Vanpool groups while their primary rideshare vehicle is out of service for maintenance or repair; and
- Vehicles available for new Vanpool groups.

[2] Rates of Fare Report

Table 1: Vanpool Active Groups in Operation and Fleet

Year	Active Vanpool Groups*	Active Fleet*				Retired Fleet	Total Fleet Inventory
		In Operation	Available for Service	Service Loaner	Active Inventory		
2019	1,649	1,564	161	109	1,834	343	2,177
2020	395	356	1,128	110	1,594	299	1,893
2021	485	461	678	93	1,232	294	1,526
2022	602	703	305	81	1,089	302	1,391
2023	975	943	206	74	1,223	124	1,347

*Active Vanpool Groups may drive Active, Retired or Service Loaners.

Lower mileage retired vehicles are repurposed for other rideshare services, including Vanshare, Job Access Reverse Commute (JARC),[3] and Community Van, as well as supporting the King County Council's van grant program authorized in King County Code (KCC) 4.56.100. The balance of the retired fleet is traditionally sold as allowed for per County Code (KCC) 4.56.195. Sales revenues are used to support cost recovery requirements set in the County Code (KCC) 4A.700.130.

In 2023, the program ended with an active fleet of 1,223 and a retired fleet of 124 for a total of 1,347 vehicles. Due to the rapid reutilization of the Vanpool program, and the County's moratorium[4] on the procurement of gasoline-powered light-duty vehicles, the program will not be disposing of retired fleet during the early stages of its ZE transition and program regrowth to ensure vanpooling demand will be satisfied.

Beginning in 2024, the program will procure 120 all-electric seven-passenger vehicles. This purchase will be the first significant ZE vehicle procurement and will begin the evolution of business practices and prepare customers and staff for an all-electric Vanpool future. The program will continue procuring ZEs in future years and surplus its Internal Combustion Engine (ICE) fleet at a rate that supports the region's vanpooling needs and allows the program to achieve its 100 percent ZE rideshare fleet by 2030.

Metro's Planned Program Changes. While Metro's top Vanpool employers remain key customers to cultivate and support, their commute patterns have evolved away from the traditional five commuters traveling together multiple days each week to a more hybrid work environment. Metro must evolve to meet this change and allow for Vanpool schedule flexibility. Additionally, the pandemic highlighted other markets that could benefit greatly from the flexibility and quick availability of a Vanpool commute including rural workers, students who attend schools with fewer public transportation options, and essential workers whose schedule and/or worksites are not well served by transit.

In collaboration with stakeholders, Metro advanced several initiatives outlined below to support these changes:

[3] Job Access Reverse Commute Data
[4] Ordinance 19052

- Vanpool app (FlexVanpool) added to the State's rideshare system (RideshareOnline.com) that helps participants and commuters find and reserve seats with Vanpool groups along their commute, automatically report on their trip calendar, communicate through the app, and view the van along the route.
- New Vanpool fare calculator added to the Vanpool website to make it easier for customers to understand Vanpool costs based on each Vanpool group's unique commute.
- New employer toolkit is in development for 2024 to assist with program promotion.
- New marketing and messaging are underway including a recently completed website refresh and Vanpool Manual refresh work that will be completed in 2024.
- New web-based program application implemented to streamline the Vanpool application 'process.
- New self-service vehicle pick-up and drop-off process for Vanpool customer; and
- Streamlined vehicle maintenance exchange process to eliminate repeated customer trips and vehicle transactions at garages.
- Emphasis on developing pilots for new markets:
    - Reduced fare Vanpool pilots for commuters and communities who may most benefit from Vanpool and Vanshare including lower income, shift workers, hospitality employees, and essential workers; and
    - School Vanpool Pilot for early adopter schools to support transporting K-12 students to and from school and after school activities to help communities address school bus driver shortages.

Metro's Vanpool program is evolving - evolving to right-size and move toward an all-electric fleet, evolving products and pilots to engage all customers and provide a welcoming and thriving rideshare community and evolving to invest in the future of Vanpool with innovations that improve mobility, complement fixed-route transit and advance equity and sustainability in the community.

IV. Background

Department Overview: King County's Transit Department (Metro) is the Puget Sound region's largest public transportation agency. Metro provides bus, paratransit, rideshare, on-demand, and water taxi services, and operates Seattle Streetcar, Sound Transit Link light rail, and Sound Transit Express bus service. Metro is committed to providing safe, equitable, and sustainable mobility, and prioritizing service where needs are greatest.

Key Context: Metro began the first commuter van program (branded as Metro Vanpool) in 1979, with four employers and 189 participants in 21 Vanpool groups. Forty years later, the program had grown to be one of the largest publicly owned Vanpool programs in the nation serving 10,724 participants in 1,649 Vanpool groups providing more than 3.3 million boardings.

On March 24, 2020, Washington State Governor Jay Inslee issued Proclamation 20-25 Stay Home – Stay Healthy[5] "prohibiting all people in Washington State from leaving their homes or participating in social, spiritual and recreational gatherings of any kind regardless of the number of participants, and all non-essential businesses in Washington State from conducting business…" which lasted through May of the same year.

The onset of the COVID-19 pandemic in March 2020 had immediate, profound, and ongoing impacts on King County Metro. For example, in January and February 2020, Metro Vanpool program provided more than 400,000 monthly boardings. By April of 2020, the program had contracted to just over 30,000 boardings for approximately 4,000 participants in approximately 600 active vans and dipped to a low of 2,309 participants in 395 active vans by January of 2021. More information about Metro response to COVID-19 in 2020-21 is available in Metro's COVID-19 Response and Recovery Report[6] and associated progress update.[7] After the Stay Home – Stay Healthy proclamation was lifted and a phased statewide reopening was implemented, the program began seeing steady growth throughout much of 2021 and 2022, ending with 3,457 participants in 602 Vanpool groups. In 2023, with return-to-work requirements, and hybrid work schedules implemented for the Vanpool program's larger employer participants to varying degrees, the program has seen unprecedented growth, ending the year with 975 vans on the road (59 percent of pre-pandemic levels).

Metro's Vanpool program is a public transit rideshare service for a consistent group of commuters with a similar origin, destination, and work schedule to share the driving responsibilities and split fares in a Metro-provided van. This service is best suited for trips not well served by fixed route transit. Vanshares are available for commuters who need to share the ride to or from another public transit mode such as a park-and-ride, train station or transit hub. Given the two services are substantially the same as it relates to the context of this report, they are referenced collectively as 'Vanpool' in this report, unless otherwise noted.

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[5] 20-25 Coronavirus Stay Safe-Stay Healthy (tmp) (002).pdf (wa.gov)
[6] King County Metro Transit, COVID-19 Response and Recovery Report, https://kingcounty.gov/~/media/depts/metro/schedules/ready-when-you-are/metro-covid-recovery-report.pdf
[7] King County Metro Transit, COVID-19 Response and Recovery Report Progress Update – March 2021, https://kingcounty.gov/~/media/depts/metro/schedules/ready-when-you-are/metro-covid-recovery-report-update-march-2021.pdf

Vanpools are unique to other Metro services because each commuter group has volunteer drivers approved by King County who take turns driving instead of Metro using paid drivers to operate the vans. There are no planned or fixed routes; each group instead sets their mileage, pick-up and drop-off points that best streamlines their route to and from work. Vanpool customers are engaged in their commute, choose Vanpool as a convenient, flexible, and efficient public transit mode, and actively take on roles as part of their Vanpool group such as volunteer bookkeeper, driver, public contact, and recruiter. Vanpool fares cover the vehicle, fuel, insurance, tolls, maintenance, roadside assistance, and an emergency ride home program. Each Vanpool needs at least two or more to volunteer as drivers and at least one to complete the monthly reports and collect fares. Fares collected from the Vanpool groups are required, per County Code (CKCC) 4A.700.130, to recover 100 percent of operating and capital costs and 25 percent of administrative costs.[8]

Vanpool helps support Metro's sustainability goals by taking approximately 4.5 single-occupancy trips off the road and replaces them with one for each Vanpool group formed. In 2023, Vanpool groups traveled 7,388,305 million miles, saving:

- 418,177 gallons of gasoline
- 3,757 metric tons GHG (tailpipe)[9]
- 4,495 metric tons GHG (well to wheels)[10]

Report Methodology: Metro staff from Metro's Transit Mobility Division developed this report. Report Requirements

V. Report Requirements

This section is organized to align with Ordinance 19546, Proviso P6.

A. The number of active vanpool groups.

The Vanpool program contracted from a high of serving 10,724 participants in 1,649 Vanpool groups providing more than 3.3 million trips in 2019, to a low of 2,309 participants in 395 Vanpool groups providing just fewer than 1 million trips in 2020. With pandemic related along with return-to-work requirements of major employers in the region in 2023, the program grew to more than 5,400 participants in 975 active Vanpool groups (59 percent of 2019 levels) taking just over 1.1 million trips. See Table 1 below.

Table 1: Active Vanpool Groups, Participants and Boardings by Year

	Groups		Participants		Boardings	
Start of Month	Active Count	% of Pre-COVID Level	Active Count	% of Pre-COVID Level	Active Count	% of Pre-COVID Level

[8] Rates of Fare Report

[9] US Average pounds of GHG per gallon of gasoline, well-to-wheel (US GREET 2017 model, https://www.afdc.energy.gov/vehicles/electric_emissions_sources.html)

[10] Ibid

2019	1,649	N/A	10,724	N/A	3,336,425	N/A
2020	395	24%	2,309	22%	994,750	30%
2021	485	29%	2,559	24%	509,346	15%
2022	602	42%	3,457	32%	689,207	21%
2023	975	59%	5,451	50%	1,110,103	33%

B. The total number of vanpool vehicles owned by the Metro transit department, specifying the number of vehicles being used for vanpool groups or other public transportation uses and the number of vehicles that are not in service;

King County Metro's Vanpool program is operated with a fleet of five-, seven-, 12-, and 15-passenger, light-duty vehicles utilizing an eight-year life cycle. The fleet is used for:

- Vanpool groups in operation.
- service loaners assigned to program maintenance and repair facilities throughout King County, used by Vanpool groups while their primary rideshare vehicle is out of service for maintenance or repair; and
- vehicles available for new Vanpool groups.
  Vehicles at the end of their life cycle are retired.

In 2023, the program ended with an active fleet of 1,223 and a retired fleet of 124 for a total of 1,347 vehicles. See Table 2 below. vanpool

Table 2: Fleet Inventory

	Active Fleet*					
Year	In Operation**	Available for Service	Service Loaner	Active Inventory	Retired/ Surplus	Total Inventory
2019	1564	161	109	1834	343	2177
2020	356	1128	110	1594	299	1893
2021	461	678	93	1232	294	1526
2022	703	305	81	1089	302	1391
2023	943	206	74	1223	124	1347

* Active Fleet Life Cycle is 8 years.

** In Operation excludes 32 Vanshare groups operating in 2023 supported with retired vans.

Vehicles at the end of their life cycle are retired. Lower mileage retired vehicles are repurposed for other rideshare services, including Vanshare, Job Access Reverse Commute (JARC),[11] and Community Van,[12] as well as supporting the King County Council's van grant program, donating vehicles annually per King County Code (KCC) 4.56.100. The balance of the retired fleet is sold as allowed for per King County Code (KCC) 4.56.195. Sales revenues are used to support cost recovery requirements set in the King County Code (KCC) 4A.700.130. Vehicles are sometimes retained to support surges in demand for Vanpool service that can occur due to the expansion and contraction of workforces in the community, as well as

[11] Job Access Reverse Commute (JARC) Transportation Program (kingcounty.gov)
[12] Community Van - King County, Washington

many other factors affecting regional public transit demand. Due to the rapid reutilization of the Vanpool program in 2023 and the County's moratorium on the procurement of gasoline-powered light-duty vehicles[13], the program will retain vehicles beyond eight years during the early stages of its EV transition and program regrowth to ensure sufficient Vanpools are available to meet demand.

C. A description of the Metro transit department's plans for the vanpool program, including, but not limited to:

1. The number of vanpool groups that were active in 2023, as well as estimates of the number of vanpool groups that will be active at the end of 2024, 2025 and 2026;

Metro supported 975 Vanpool and Vanshare groups in 2023. While 2023 saw sharp growth from pandemic levels, demand in early 2024 continued steadily as more vanpool Large employers e.g., Amazon, Microsoft, Expedia, University of Washington, Boeing, City of Seattle, Swedish Medical Center, and King County Government) return to some in office work.

Based on the current rate of Vanpool applications, Metro anticipates a return to near pre-COVID levels in 2025 and 2026, with approximately 48 new groups per year. An eight-year trend of Groups in Operation 2019-2026 is reflected in Table 3. Additional several initiatives over the next biennium will expand industry and community access to the Vanpool program, including hospitality, warehouse and manufacture, and K-12 school transportation.

Table 3: Vanpool Groups in Operation 2019 - 2026

	Actuals					Projected		
Year	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Vanpool Groups	1,660	388	493	735	975	1,104	1,152	1,200

2. Estimates of the number of vehicles the vanpool program will acquire in 2024, 2025 and 2026

Metro's Capital Investment Plan calls for Vanpool program expansion by 50 Metro vehicles per year to support county-wide needs. The existing Vanpool fleet consists of primarily seven-passenger minivans (93 percent), seven 12- and 15 percent passenger vans, and 22 five-passenger electric vehicles (EVs). Customers voiced preference for minivans because they are easier to drive and park in cities. Active vehicles are those with eight or less years of active revenue service, as well as vanpool service loaner vehicles used to maintain service while a group's primary Vanpool vehicle is being maintained or repaired. The Vanpool program's service loaner fleet provides, or one service loaner per 10 active vehicles.

Metro typically retires vehicles once they reach the active revenue service requirements, repurposing them to support other ridesharing programs including Vanshare, Job Access Reverse Commute (JARC), Community Van, van loans/leases, and donations to the community through the Council's van grant program. King County's moratorium[14] on the procurement of gasoline-powered light-duty vehicles,

[13] Ordinance 19052.pdf (kingcounty.gov)
[14] Ordinance 19052.pdf (kingcounty.gov)

recent spikes in demand, and low availability of EVs led Metro to retain retired vehicles with internal combustion engines (ICE).

As shown in Table 4 below, beginning in mid-2024, Metro plans to add 120 all-electric seven-passenger vehicles to its fleet. This will mark the first significant EV Vanpool procurement. Metro anticipates that will continue procuring EVs in future years, maintain its surplus ICE fleet at a rate that supports Vanpooling needs and allow for a fully electric rideshare fleet by 2030.

Table 4: Fleet Procurement through 2030

Year	Replacement	Expansion	Total Inventory	% ZE Fleet**
2023	0	*136	1225	1%
2024	0	120	1345	10%
2025	168	50	1395	26%
2026	288	50	1445	47%
2027	251	50	1495	65%
2028	285	50	1545	85%
2029	275	50	1595	100%

* Previously retired 7p returned to fleet to satisfy demand

**All expansion vehicles purchased beginning in 2024 will be ZE

3. Proposed strategy and timeline to convert the vanpool program to zero emission vehicles

As designed, the Vanpool program seeks to increase public transit mobility options and reduce single occupancy car trips that cause, congestion, and increase emissions. The Vanpool program contributes to emissions reduction by reducing single occupancy vehicle trips. The electrification of the vanpool fleet will further reduce the greenhouse gas emissions associated with fleet operations in communities served by the program. The Vanpool program is actively planning to transition to zero emission vehicles by 2030 consistent with Ordinance 19052.[15]

Accelerating the electrification of the Vanpool fleet will require investment in suitable ZE vehicles, technology to track energy consumption, and charging infrastructure. It will also require expanded partnerships with power utilities, jurisdictions, and employers to ensure sufficient charging locations and utilities are available to support a distributed Vanpool fleet.

Electrification of the Vanpool Fleet:
Metro began the transition to zero emissions Vanpool vehicles in 2011 with the purchase of five-passenger EV vehicles. Through these vehicles, Metro piloted technology to understand the operational impact and feasibility of deploying, maintaining, charging and support for zero emission vehicles. Today, the program's fleet includes 22 ZE five passenger vehicles and 10 hybrid vans.

While acquisition of these vehicles has been critical for Metro to better understand how to support an electric fleet, these vehicles do not meet program requirements for the broader fleet. The Vanpool program requires vehicles that fit:

[15] Ordinance 19052.pdf (kingcounty.gov)

- Vanpool's cost recovery model, which includes allowing Metro Vanpool to have competitive fares with surrounding public transit agencies while still collecting 100 percent of operating and capital costs, and 25 percent of administrative costs,
- County electrification requirements, which include reaching 100 percent zero – emission rideshare fleet by 2030[16].
- Federal rideshare seven-passenger vehicle definitions qualifying for county Federal Transit Administration (FTA) grant formula contributions,[17] and
- Internal Revenue Service (IRS) 15-B (2023) Qualified Transportation Benefits eligibility for employers[18] that seat at least six adults and one driver.

In 2024, Metro will purchase 120 seven-passenger EVs that meet this criteria to help accommodate program growth as well as into early 2025. This purchase will bring the EV total to just under 10 percent of the fleet. 100Metro Additional purchases are planned to through 2029 to replace all existing seven-passenger vehicles (at the eight-year lifecycle replacement schedule) and consistent with the program's fleet plan and capital budget.

Charging infrastructure:

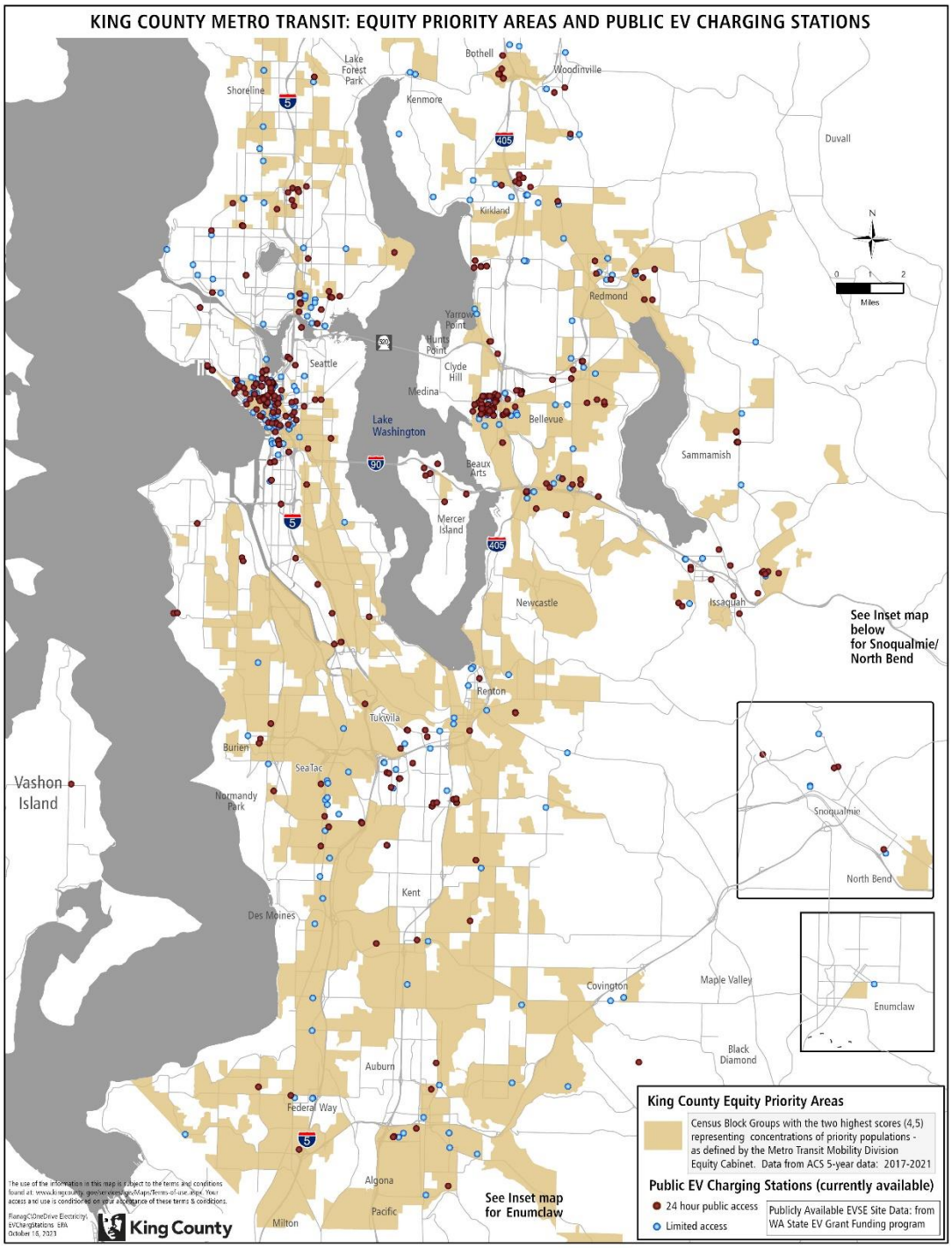
EV charging infrastructure has not been widely deployed in King County, with even less access available in priority population areas. Map 1 below identifies current public EV charging stations that provide 24-hour public access overlayed with areas that include populations of greatest need based on equity priority identified as areas where equity priority area scores are used as a weighting methodology by the following categories:

1. Persons of Color – 40 percent of the score
2. Poverty – 30 percent of the score
3. Limited English Proficiency – 10 percent of the score
4. Disable population – 10 percent of the score
5. Foreign Born Population – 10 percent of the score

The map identifies socioeconomic disparities experienced by underserved and underrepresented communities in the highlighted areas. The map highlights where it is clear that opportunities exist to enhance and expand the charging infrastructure access across King County.

[16] Ordinance 19052.pdf (kingcounty.gov)
[17] What is a commuter highway/van pool vehicle? | FTA (dot.gov)
[18] Publication 15-B (2023), Employer's Tax Guide to Fringe Benefits | Internal Revenue Service (irs.gov)

Map 1: King County Metro Transit: Equity Priority Areas and Public EV Charging Stations

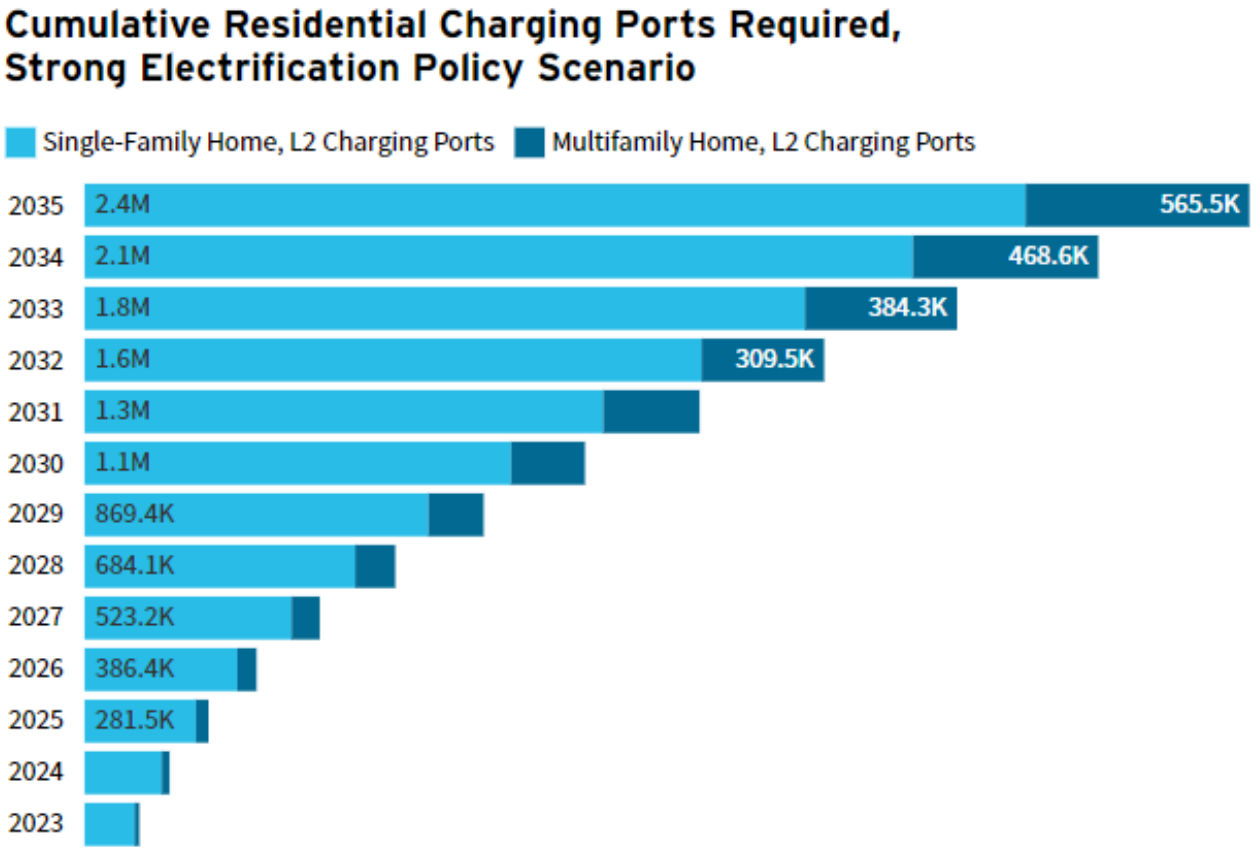


The Interagency Electric Vehicle Coordinating Council,[19] created as part of the Move Ahead Washington Legislation (ESSB 5974), recognizes that, in addition to inequitable distribution of public charging infrastructure, home charging (which Vanpool participants will likely rely on in the near term) is primarily accessible to those who live in a single-family home with access to a 110v outlet or a personal

[19] EV Coordinating Council - Washington State Department of Commerce

level II charger. There is limited charging infrastructure in multi-family dwellings, and most charging infrastructure is deployed in higher-income areas or along highways.

Addressing the charging infrastructure is going to require a regional/national approach where electric vehicle incentives and infrastructure accessible and available to all Washingtonians. The strategy notes "…To ensure that these monetary and equity benefits are realized, Washington will need to focus on enabling charging access for residents of multi-family homes, whether directly on-site or nearby at neighborhood charging sites to closely replicate the convenience home charging offers to residents of single-family homes. The chart below "depicts the estimated number of residential charging ports for both single-family and multifamily dwellings required to support LDVs in the Strong Electrification Policy scenario, totaling more than 2.9 million by 2035."[20]



[20] Final_RMI-US-WA-Transportation-Electrification-Strategy_full-report_020224.pdf | Powered by Box, page 27.

To improve access to EVs and charging infrastructure for populations of greatest need, Metro is working in ways, highlighted below.

- Prioritizing The ZE Vanpools purchases to serve communities, disproportionately impacted by air pollution and climate change to the extent that demand exists for vanpooling and suitable charging infrastructure is available;
- Helping Vanpool participants find existing charging locations;
- Identifying partnering opportunities with Metro's employer and jurisdictional customers to expand charging infrastructure for Vanpools and,
- Seek grants and other funding to expand charging infrastructure for Metro fleet, including Vanpool.

4. Any proposed changes to the design, structure or staffing of the vanpool program to respond to changing ridership patterns.

To address ridership decline during the COVID-19,more than . pandemic, in 2021 Metro engaged interested parties and the community to reimagine the Vanpool program, gathering attitudes, awareness, and opinions about Vanpools in King County. The following question was posed: "How might we reimagine the commuter van program to meet customer expectations, attract new customers from underserved populations and geographic areas, and stop COVID-related participation decline to ensure program viability to provide affordable, responsive, and flexible commuter services where fixed route service is not optimal?" Findings emphasized Metro's need to evolve and adapt to customers changing commute habits and expectations,[21] including updating Vanpool materials to better explain how to participate and providing a simplified fare structure. Participants also requested access to technology that allows them to join groups, track groups, and coordinate and pay for trips.

Metro advanced the following is advancing initiatives, outlined below. These are funded using existing budget (which includes one-time monies for ridership regrowth initiatives and grants):

- FlexVanpool, an app added to the State's rideshare system (RideshareOnline.com), helps participants and commuters find and reserve seats with Vanpool groups along their commute, automatically report on their trip calendar, communicate through the app, and view the van along the route;
- A new Vanpool fare calculator added to the Vanpool website to make it easier for customers to understand Vanpool costs based on each Vanpool group's unique commute;
- A new employer toolkit (anticipated in 2024) will assist with program promotion;
- New marketing and messaging are underway including recently completed website refresh. A Vanpool Manual refresh anticipated in 2024;
- New web-based program application implemented to streamline the Vanpool application process;
- New self-service vehicle pick-up and drop-off process for Vanpool customer;
- Streamlined vehicle maintenance exchange process to eliminate repeated customer trips and vehicle transactions at garages; and
- Development of pilots for new markets:
    - Reduced fare Vanpool pilots for commuters and communities who may most benefit from Vanpool and Vanshare including lower income, shift workers, hospitality, and essential workers; and

[21] Appendix A: Vanpool Improvement Project (VPIP) Findings

- School Vanpool Pilot for early adopter schools to support transporting K-12 students to and from school and after school activities to help communities address school bus driver shortages.

VI. Appendix A: Vanpool Improvement Project (VPIP) Findings

Jan. 13, 2022

We need to reimagine the commuter van program to meet returning customer's expectations, attract new customers, and stop COVID-related participation decline while ensuring program viability to provide affordable, responsive, and flexible commuter services that compliment fixed route service.

The project will identify, develop, test and implement improvements to our commuter van program that:

- Remove barriers to participation;
- Support returning customers and attract new customers from geographic areas, industries, and populations of greatest need of public transportation; and
- Evolve the program to meet changing customer expectations.

Vanpool Improvement Project

Customer Feedback

Employers/Cities/TMA Perspective

City of: Bellevue, Seattle, Renton, Redmond, Tukwila
TMAs: Commute Seattle, Move Redmond, TransManage

Why Vanpool?	Pain Points?	What do they want?
• Meet CTR goals • Get employees to work • Attract & retain talent • Enable employees to get more done • Efficient commute time • Be a good corporate citizen of Earth and Seattle • Keep employees happy • Reduce employee stress	• Current vanpool program is not flexible enough to support hybrid work schedule. • Actual usage data needed to understand ROI isn't available. • Hard to provide simple message during new employee onboardings – so don't. • Complicated program to understand and explain because the fare depends on several elements.	• **Modernization/on-line tools** for vanpool • Program **flexibility** and matching tools to support hybrid work. • **Simplify program and messaging** around start-up process and fares. • **Better data** to understand the ROI, like they get with Orca tap & track. • Better support for sustainability goals (e.g. **EVs**).

Vanpool Improvement Project

Customer Feedback

Vanpool Riders & Non-Riders Perspective

Why Vanpool?	Pain Points?	What do they want?
• Faster commute • Save money • Need fewer cars • Better or closer parking • Gives a reason to stick to a schedule • Commute more environmentally friendly • Enables community experience	• Non-riders haven't heard of vanpool or have seen it but unclear how it works. • Private companies like Lyft, Uber & Scoop are appealing, but too expensive for regular use and Scoop does not have enough trip offerings. • Program is too complex to explain, engage with and understand. • Small companies lack resources to promote.	• More **flexibility** with COVID-related schedule changes and ridership requirements. • **Continue current benefit of** direct commute route & saving money. • **Increase awareness.** • **Simplify message** with clear value propositions, during key life events.

Vanpool Improvement Project

Customer Feedback

Potential Employer & New Market Perspective

	Why Vanpool?	Pain Points?	What do they want?
Employers	• Supports shift schedule • Shortest travel time • Transportation option w/o putting the scheduling & coordination burden on employers	• Locations & shift hours are barriers to participating. • Ridematching logistics for users seems insurmountable to support.	• **Additional travel options** to address commute challenges • **Assistance** with starting new groups and **promotion**, as well as **ridematching tools**.
Schools	• Equitable, reliable & robust transportation option to enable learning • Safety for students • Solution to address **driver shortages**	• Private schools would be dependent on driver availability & need to pass costs to parents.	• **Solutions tailored to school needs.** • Access to **real-time information** on location & time. • Solution to fill **driver shortage.** • **Group dynamic support.**

Vanpool Improvement Project

Prototype Concepts

Top 5 Themes for Prototyping

1. **On-Demand, Modernization Features:**
   - On-demand software, tracks existing participants & allows scheduling, reporting & payments
   - *Leverage ORCA technology* integration with ORCA system– ease of payment
   - App where riders can easily track their rides, coordinate with members & vanpool staff

2. **Streamline Fare Structure & Reporting Process**
   - Simplify fare payment, make it simple to understand and explain
   - Simplify fare structure: consider same as bus for ad-hoc riders, cost/trip, flat fare, etc.
   - Reevaluate cost recovery, leverage other funds, explore grant opportunities to offset vanpool costs for priority populations

Top 5 Themes for Prototyping - Continued

3. Streamline & Target Marketing:

- Develop marketing materials with streamlined messaging
- Identify employers with ORCA and target marketing campaign to attract new riders
- Increase visibility of program through website improvements, vanpool kiosk, social media, etc.

4. Market Expansion to Schools (parents & students)

- Pilot vanpool with parents to drop-off/pick-up kids at school
- Streamline program requirements to simplify vanpool program to parents
- Explore lease options to schools

5. Customer Experience/Features:

- Streamline and automate application process
- Improve vehicle transaction process
- Improve program maintenance experience

VII. Appendix B: King County Metro Leaf Pilot Wrap Up

King County Metro Leaf Pilot Wrap Up

In 2011, King County Metro launched "MetroPool", the nation's first electric vehicle (EV) Vanpool, in a test designed to assess how electric vehicles perform in a ridesharing urban commuter program. In alignment with the 2010 King County Energy Plan objectives of increasing transit use, providing transportation choices that reduce energy use and emissions, and being a leader in the early adoption of innovative technology with a focus on electric vehicles, Metro purchased 20 Nissan Leaf SVs (Leafs), leveraged Federal Department of Energy grants and partnered with key regional employers to install vehicle charging stations (also known as Electric Vehicle Supply Equipment or EVSEs) at work sites around the region. The Leafs went into service beginning in August of 2011.

Some key questions that needed to be answered were:

- How much energy can be saved with EVs?
- How much can greenhouse gas production be reduced?
- How does EV cost of ownership compare to current gas-powered assets?
- How does the Leaf fit into the vanpooling model?
- How accessible and convenient is it to charge EVs?
- Will employers commit to installation and growth of EVSE infrastructure?

In 2018, after seven years of Vanpool service, the Leafs were retired. Some results follow:

Energy: In seven years of service the Leafs traveled 904,166 miles, saving 53,155 gallons of gasoline, (the amount a Dodge Grand Caravan would have used in that many miles) and thereby saving 472 metric tons of greenhouse gas production. (Source: Greenhouse Gas Equivalencies Calculator)

Cost of Ownership Metrics: The chart below shows that, although the operating cost per mile was less than half that of the Dodge Grand Caravan, lower than expected usage rendered us unable to take advantage of the savings. Higher than expected depreciation also eroded the value of the asset.

	Pre-pilot est	Actual results	DGC
Capital costs	34940	34940	22721
EOP Salvage value	11880	6700	9150
Avg life cycle mileage	72234	45659	70699
Avg life cycle maint cost	2347	1908	4952
Avg life cycle operating costs*	6023	5610	21386
Avg life cycle op. cost/mile	0.08	0.12	0.30
Avg TOC/mile	0.38	0.74	0.48
TOC	29083	33850	34957

* Includes fuel

Estimated costs vs. Actual Costs vs. Dodge Grand Caravan Costs

Maintenance: Costs came in lower than projected and mechanical repairs were almost non-existent at less than a penny per mile (compared to the Dodge Grand Caravan at 3.2 cents/mile). Electricity costs were initially included in operating estimates but were almost completely borne by participating

employers, who offered no-cost EVSE access to MetroPool associates. Overall, operating a Leaf cost about 40 percent of the cost of operating a Dodge Grand Caravan.

Fit within VanPool: Initially, program was able to place Leafs with Vanpool groups that operated with round trip miles (RTMs) of up to 50 miles. When new, the Leafs had a range of up to 81 miles on a fully charged battery, operating in optimum conditions. Fifty-mile RTMs provided a cushion for less than optimum conditions that reduced battery life. As battery life degraded with age, RTM limit was reduced to 30 miles, making it harder to find good group fits. Another challenge was with the size of the vehicle. Fitting five adults into a Leaf is difficult and some Vanpool groups weren't willing to be squeezed that tightly. Additionally, it reduced the flexibility of Vanpool groups when they were required to have five subscribers but could not have more, if all were daily riders. With no ridership cushion, Vanpool groups were immediately forced into recruitment mode whenever a participant left the group. Still, the Leaf remained a popular vanpooling option with many participants expressing their interest and requiring us to maintain a waiting list.

Charging convenience: Finally, charging competition was a factor in MetroPool satisfaction. As more and more EVs entered the market, public and private, infrastructure at some employers became overwhelmed. Time limits were placed on charging equipment and drivers were required to leave work to move their cars after the allotted time was met. This proved to be a barrier to some and was the cause of some program attrition.

EVSE Infrastructure: The number of employers offering no-cost charging grew slightly through the pilot period but the employers with the most robust EVSE programs ended up attracting the most Leaf Vanpool groups. Currently, 85 percent of the MetroPool Leafs charge at only two area employers. Complying with the requirement of no-cost, employer provided charging remains perhaps the biggest barrier to widespread growth of the MetroPool program.

Summary: The MetroPool pilot has shown us that EVs operate "clean and green,", saving gas and helping to reduce greenhouse gas emissions into the atmosphere. The vehicle is dependable and efficient. Repair and maintenance costs are low and the potential exists for EV technology to provide Vanpool program cost savings and significant progress towards environmental sustainability. The key, however, will be in finding a path to full utilization of the asset which will require improvements to battery range, (improving all the time) growth in availability/access to charging stations and improved seating capacity. Additionally, with retail EV technology in its introductory stages, initial vehicle capital costs were high, which resulted in accelerated depreciation and unpredictable remarketing rates. Once EVs move into a market growth stage with increased competition, capital and operating costs should stabilize and begin to lower, and utilization should increase with more consumer awareness and established vehicle support infrastructure.

Recommendation: Continue to expand Commuter Van Plug-In EV/EV fleet as technology and associated costs allow.