



Application

19831 - 2024 Unique Projects
20478 - Electric Vehicle (EV) Carshare at Suburban METRO Gold Line BRT Stations
Regional Solicitation - Unique Projects

Status: Submitted
Submitted Date: 12/14/2023 10:10 AM

Primary Contact

Feel free to edit your profile anytime your information changes. Create your own personal alerts using [My Alerts](#).

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What Grant Programs are you most interested in? Regional Solicitation - Roadways Including Multimodal Elements

Organization Information

Name: WASHINGTON CTY
Jurisdictional Agency (if different):
Organization Type:
Organization Website:
Address: PUBLIC WORKS
11660 MYERON RD

* STILLWATER City Minnesota State/Province 55082 Postal Code/Zip
County: Washington
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Project Information

Project Name Electric Vehicle (EV) Carshare at Suburban METRO Gold Line BRT Stations
Primary County where the Project is Located Washington
Cities or Townships where the Project is Located: Oakdale and Woodbury
Jurisdictional Agency (If Different than the Applicant):

Brief Project Description (Include location, road name/functional class, type of improvement, etc.) Project would place EV carshare hubs and public charging at select Gold Line stations in Washington County, substantially increasing the number of destinations available to Gold Line users, and creating public charging infrastructure. Project would include make-ready infrastructure for chargers, and shared electric vehicles.

The TAB-funded expansion of the EV Spot Network to Saint Paul's East Side is creating hubs at urban Gold Line stations. That application described potential expansion to the more suburban eastern half of the Gold Line. This project would deliver that extended connectivity to suburban stations.

Washington County's Application of Interest is supported by the City of Saint Paul (owner of the EV Spot Network), HOURCAR (which operates the Evie Carshare portion of the EV Spot Network under contract to the City of Saint Paul), the City of Oakdale (location of the Greenway and Helmo stations), and Metro Transit (Gold Line owner/operator). The preliminary project description includes three stations: the Woodlane hub would be located at the planned Washington County Service Center; the Greenway hub would be located on street, and the Helmo hub would be located either on-street or in the Metro Transit park and ride lot. These stations were selected based on:

- the availability of on-street parking or publicly owned parking lots adjacent to stations.
- Greenway station is within Low-Income Housing Tax Credit (LIHTC) Qualified Census Tracts administered by HUD.

(Limit 2,800 characters; approximately 400 words)

TRANSPORTATION IMPROVEMENT PROGRAM (TIP) DESCRIPTION - will be used in TIP if the project is selected for funding. See MnDOT's TIP description guidance. Gold Line EV Suburban Carshare

Include both the CSAH/MSAS/TH references and their corresponding street names in the TIP Description (see Resources link on Regional Solicitation webpage for examples).

Project Length (Miles) 5.0
to the nearest one-tenth of a mile

Project Funding

Are you applying for competitive funds from another source(s) to implement this project? No

If yes, please identify the source(s)

Federal Amount \$639,936.00

Match Amount \$159,984.00

Minimum of 20% of project total

Project Total \$799,920.00

For transit projects, the total cost for the application is total cost minus fare revenues.

Match Percentage 20.0%

Minimum of 20%

Compute the match percentage by dividing the match amount by the project total

Source of Match Funds Washington County

A minimum of 20% of the total project cost must come from non-federal sources; additional match funds over the 20% minimum can come from other federal sources

Preferred Program Year

Select one: 2026

Select 2026 or 2027 for TDM and Unique projects only. For all other applications, select 2028 or 2029.

Additional Program Years: 2027

Select all years that are feasible if funding in an earlier year becomes available.

For All Projects

County, City, or Lead Agency Washington County

Zip Code where Majority of Work is Being Performed 55125

For Construction Projects Only

(Approximate) Begin Construction Date

01/01/2026

(Approximate) End Construction Date

12/31/2026

TERMINI: (Termini listed must be within 0.3 miles of any work)

From:

(Intersection or Address)

7225 Guider Dr, Woodbury, MN 55125

To:

(Intersection or Address)

6592 Hudson Blvd, Oakdale, MN 55128

DO NOT INCLUDE LEGAL DESCRIPTION

Requirements - All Projects

All Projects

1. The project must be consistent with the goals and policies in these adopted regional plans: Thrive MSP 2040 (2014), the 2040 Transportation Policy Plan (2018), the 2040 Regional Parks Policy Plan (2018), and the 2040 Water Resources Policy Plan (2015).

Check the box to indicate that the project meets this requirement.

Yes

2. The project must be consistent with the 2040 Transportation Policy Plan. Reference the 2040 Transportation Plan goals, objectives, and strategies that relate to the project.

Briefly list the goals, objectives, strategies, and associated pages:

Goal C: Access to Destinations (2040 TPP 2.10)

Objectives:

- Increase the availability of multimodal travel options
- Increase travel time reliability and predictability
- Increase the number and share of trips taken using transit, carpools, bicycling, and walking.
- Improve multimodal travel options for people of all ages and abilities to connect to jobs and other opportunities, particularly for historically under-represented populations.

Strategies: C1, C3, C4, C11

Goal D: Competitive Economy (2040 TPP 2.26)

Objectives:

- Improve multimodal access to regional job concentrations identified in Thrive MSP 2040.
- Invest in a multimodal transportation system to attract and retain businesses and residents.

Strategies: D1, D3, D4

Goal E: Healthy and Equitable Communities (2040 TPP 2.30)

Objectives:

- Reduce transportation-related air emissions.
- Reduce impacts of transportation construction, operations, and use on the natural, cultural, and developed environments.
- Increase the availability and attractiveness of transit, bicycling, and walking to encourage healthy communities using active transportation options.
- Provide a transportation system that promotes community cohesion and connectivity for people of all ages and abilities, particularly for historically under-represented populations.

Strategies: E1, E2, E3, E4, E7

3. The project or the transportation problem/need that the project addresses must be in a local planning or programming document. Reference the name of the appropriate comprehensive plan, regional/statewide plan, capital improvement program, corridor study document [studies on trunk highway must be approved by the Minnesota Department of Transportation and the Metropolitan Council], or other official plan or program of the applicant agency [includes Safe Routes to School Plans] that the project is included in and/or a transportation problem/need that the project addresses.

List the applicable documents and pages: Unique projects are exempt from this qualifying requirement because of their innovative nature. Exempt

Limit 2,800 characters, approximately 400 words

4. The project must exclude costs for studies, preliminary engineering, design, or construction engineering. Right-of-way costs are only eligible as part of transit stations/stops, transit terminals, park-and-ride facilities, or pool-and-ride lots. Noise barriers, drainage projects, fences, landscaping, etc., are not eligible for funding as a standalone project, but can be included as part of the larger submitted project, which is otherwise eligible. Unique project costs are limited to those that are federally eligible.

Check the box to indicate that the project meets this requirement. Yes

5. Applicant is a public agency (e.g., county, city, tribal government, transit provider, etc.) or non-profit organization (TDM and Unique Projects applicants only). Applicants that are not State Aid cities or counties in the seven-county metro area with populations over 5,000 must contact the MnDOT Metro State Aid Office prior to submitting their application to determine if a public agency sponsor is required.

Check the box to indicate that the project meets this requirement. Yes

6. Applicants must not submit an application for the same project elements in more than one funding application category.

Check the box to indicate that the project meets this requirement. Yes

7. The requested funding amount must be more than or equal to the minimum award and less than or equal to the maximum award. The cost of preparing a project for funding authorization can be substantial. For that reason, minimum federal amounts apply. Other federal funds may be combined with the requested funds for projects exceeding the maximum award, but the source(s) must be identified in the application. Funding amounts by application category are listed below in Table 1. For unique projects, the minimum award is \$500,000 and the maximum award is the total amount available each funding cycle (approximately \$4,000,000 for the 2024 funding cycle).

Check the box to indicate that the project meets this requirement. Yes

8. The project must comply with the Americans with Disabilities Act (ADA).

Check the box to indicate that the project meets this requirement. Yes

9. In order for a selected project to be included in the Transportation Improvement Program (TIP) and approved by USDOT, the public agency sponsor must either have a current Americans with Disabilities Act (ADA) self-evaluation or transition plan that covers the public right of way/transportation, as required under Title II of the ADA. The plan must be completed by the local agency before the Regional Solicitation application deadline. For the 2022 Regional Solicitation funding cycle, this requirement may include that the plan is updated within the past five years.

The applicant is a public agency that employs 50 or more people and has a completed ADA transition plan that covers the public right of way/transportation. Yes

The applicant is a public agency that employs fewer than 50 people and has a completed ADA self-evaluation that covers the public right of way/transportation.

(TDM and Unique Project Applicants Only) The applicant is not a public agency subject to the self-evaluation requirements in Title II of the ADA.

Date plan completed: 06/18/2015

Link to plan: <https://www.co.washington.mn.us/DocumentCenter/View/8045/Washington-County-Transition-Plan-Draft-20150616?bidId=>

Date self-evaluation completed:

Link to plan:

Upload plan or self-evaluation if there is no link

Upload as PDF

10. The project must be accessible and open to the general public.

Check the box to indicate that the project meets this requirement. Yes

11. The owner/operator of the facility must operate and maintain the project year-round for the useful life of the improvement, per FHWA direction established 8/27/2008 and updated 6/27/2017. Unique projects are exempt from this qualifying requirement.

Check the box to indicate that the project meets this requirement. Yes

12. The project must represent a permanent improvement with independent utility. The term "independent utility" means the project provides benefits described in the application by itself and does not depend on any construction elements of the project being funded from other sources outside the regional solicitation, excluding the required non-federal match. Projects that include traffic management or transit operating funds as part of a construction project are exempt from this policy.

Check the box to indicate that the project meets this requirement. Yes

13. The project must not be a temporary construction project. A temporary construction project is defined as work that must be replaced within five years and is ineligible for funding. The project must also not be staged construction where the project will be replaced as part of future stages. Staged construction is eligible for funding as long as future stages build on, rather than replace, previous work.

Check the box to indicate that the project meets this requirement. Yes

14. The project applicant must send written notification regarding the proposed project to all affected state and local units of government prior to submitting the application.

Check the box to indicate that the project meets this requirement. Yes

Measure 1: Significance

A. Describe the regional impact of the project. In the response, consider the following:

- How many people does the project directly impact?
- What percent of the people (in a given community/area) are directly impacted?
- What is the project's geographic reach?

Response:

Summary: Expanding the EV Spot Network along METRO Gold Line is a project of regional significance. The Gold Line serves one of the region's densest concentrations of residents and jobs. Yet many of the destinations in the corridor are not reachable by walking or rolling from stations, and many more are located outside the corridor. Placing cars and chargers at Gold Line stations will substantially improve the usefulness of the region's investment in the Gold Line.

Discussion:

Geographic reach: This project will extend the geographic reach of the Gold Line to any destination within driving distance of a Gold Line station. The project will provide "last mile" connections to numerous critical destinations just beyond the Gold Line, such as the Allina Woodbury Clinic. But the term "last mile" underplays the geographic reach of this project. Washington County has many destinations too disseminated to be served by the Gold Line. This project will enable users to reach further into Washington County and other parts of the region. It would be impossible to list all the destinations to which residents would gain access, but important options would include the Washington County Government Center; many county, regional, and state parks; shopping and recreational centers, schools, and educational facilities, and the many medical and related (e.g., senior care) facilities.

People impacted: Roughly 48,000 people live within a half-mile of Gold Line stations, and an estimated 93,000 jobs are located just a half-mile from Gold Line stations. Ready access to carshare at stations in Washington County would extend access for those living and working to destinations beyond the half-mile walkshed of Gold Line. Approximately 14 percent of all households within a half-mile of Gold Line stations are without cars and will benefit from having a shared vehicle option. Gold Line ridership will increase as riders gain access to more destinations.

How many people does the project directly impact: Studies elsewhere and current regional experience suggest that each of the proposed 15 vehicles will be driven by 40 unduplicated individuals annually, or 600 total per year. Carshare members, however, are not the only residents directly benefiting from the service. Other household members, friends, and extended family members receive rides, and gain benefit from the service "amplifying the impact to be far greater than the carshare membership counts.

The project will install EV chargers at each station: two for shared vehicles, and two for public charging. The public chargers will serve EV drivers from a broad area and residents near the proposed hubs.

(Limit 2,800 characters; approximately 400 words)

B. Describe the expandability of the project. If the project requires an adequate private market response, describe the characteristics of the market it could serve beyond the initial project. In the response, consider the following:

- *How can the idea be used regionwide?*
- *If not regionwide, is it a replicable project (i.e., could it be adapted elsewhere)? Describe the extent of the potential locations.*

Response:

Summary: In the language of the Regional Solicitation, this project will help solve ? Problems that have been a long-term issue where progress has been limited.? That problem/challenge is: how can the region connect our residents to destinations that cannot be effectively served by current forms of transit?

This project answers that question by placing shared EVs at suburban Bus Rapid Transit (BRT) stations. Shared EVs are: i) a proven solution in parts of the region; and ii) a solution that needs to be refined to best serve new markets.

Discussion:

Evie Carshare is providing critical connections to the region?s residents, saving them money, and reducing local and global emissions. In October 2023, Evie Carshare provided 14,000 trips, trips that users decided no other mode could provide, or provide as well. In its first year of operation (February 2022-January 2023), users saved \$5.8 million in transportation costs. At least a third of these benefits are going to low-income and/or BIPOC users.

The project extends an approach that has been proven in one area to another suburban BRT stations.

The proposed expansion is unique in expanding the EV Spot Network to suburban transit stations.

The region?s residents are enjoying large transportation savings, producing substantial ROI on TAB?s previous investment. Washington County would like to make this transportation option available to more people.

In doing so, the project would develop a proof of concept that other jurisdictions and agencies could use to expand transportation options, especially at other suburban BRT stations.

Connecting transit users across ?the last mile? has long been recognized as a fundamental need in making transit as useful as possible.

To give a local example: ideally, someone who lives near the Gold Line and needs to go to a doctor?s appointment at the Allina Woodbury Clinic should be able use transit to get there; the Clinic is in the kind of relatively dense, mixed-use location that transit should be able to serve. Yet, the Woodbury Clinic is not served by transit, and is a 49-minute walk from the closest Gold Line station.

The project will serve residents, increase the return on the region?s transit investments, and help create a playbook for how to connect the many new suburban transit stations that will be coming on-line in the future.

EV Spot Network hubs provide an important, and mutually supportive, set of services in providing both charging and EV carshare. One reason the EV Spot Network is succeeding is that it solves the EV/charging chicken & egg problem by providing both at the same time. Further, it provides public charging. These services cross the boundaries of Regional Solicitation categories.

C. Describe the new approach of the project to address existing and/or emerging challenge(s). Identify the challenge(s) that the approach is trying to address and discuss how the approach was developed (e.g., replicated from another region, created a new technology/idea). Also briefly describe the risk assessment of the new approach any mitigation strategies to manage risks, and who will mitigate the risk, if needed.

Examples of challenges include:

- Problems that have been a long-term issue where progress has been limited
- Lack of opportunity for an emerging technology or innovation to penetrate the Twin Cities market
- Leveraging connected and automated (CAV) vehicle technology and infrastructure
- Outdated function or effectiveness of existing infrastructure

Response:

Summary: Placing EV carshare hubs at suburban transit stations can be replicated and expanded regionwide. This project will provide valuable lessons about how best to use shared EVs to extend the reach of transit and connect people to destinations in suburban settings.

Discussion: Our region faces substantial transportation challenges. The region needs to:

- Better connect people to where they need to go affordably and reliably;
- Reduce the impacts of providing that transportation.

Transit is and will continue to be a core strategy to meet those challenges. However, transit cannot connect all destinations and serve all trip purposes 24/7/365. EV carshare offers a way to extend the utility of transit, and to serve trips that transit cannot.

With the support of the Transportation Advisory Board, the region has tested and learned from a regionally adapted model: Evie Carshare. As a public service, Evie Carshare reports total use, and who is using the service.

That model has proven successful across a variety of metrics:

- Evie Carshare provided 150,000 trips since February 2022
- Evie Carshare is meeting its goals of serving low-income communities and communities of color, who accounted for 42% and 37% of total users respectively.

See: <https://climateaction.stpaul.gov/actions/7>, and <https://www.stpaul.gov/news/mayor-carter-and-city-saint-paul-celebrate-major-milestones-with-evie-carshare>.

Now is the time for TAB to build on that success. This project will make a successful model available to more people and set the region up to learn how to further expand the model.

The need to understand how to best create connectivity at suburban transit stations will be especially important as Metro Transit and other regional transit providers expand service to suburban stations. The Gold Line will be the first of the planned BRT and LRT stations to come online. The region would benefit from the opportunity to learn from this project. Lessons are anticipated to include:

- How and where to locate EV hubs at stations. Saint Paul and Minneapolis have learned a great deal about how to locate EV Spots. Suburban locations will have their own challenges. We expect this project to produce insight into the important question of whether to place EV Spots in transit-owned parking lots, versus on the street;
- How to size EV Spot hubs at suburban stations? While Evie Carshare's performance shows high demand for this option, we can't know what that demand will be at suburban stations until we pilot them.

Suburban Gold Line stations offer an excellent opportunity to answer these questions, and to provide the information necessary to successfully replicate a version of the project at the region's many other suburban stations.

(Limit 4,200 characters; approximately 600 words)

A. Describe how the project will improve regional air quality.

Applicants must describe their methodology for determining the project impact. Also, provide a description of the people/groups that will receive either direct or indirect benefits from the project. Examples of benefits include:

- Reduction of single-occupant vehicle (SOV) trips
- Access to electric vehicle charging stations
- Reduction of peak-hour auto trips
- Increase in non-motorized trips
- Increase in multiple-occupant vehicle trips

Response:

Summary: This project will improve regional air quality by reducing SOV trips in internal combustion engine (ICE) vehicles, increasing transit and non-motorized trips through mode shift, and facilitating trips in electric vehicles powered by 100% renewable energy. The new EV Spots will also provide access to EV charging in areas that do not now have it.

Discussion: Our approach to determining project impact is derived from the FHWA 2020 CMAQ Cost Effectiveness Update (<https://bit.ly/3LEuH95>), which describes the environmental benefits of carsharing as follows: "Shared vehicles provide alternatives to reduce household LDV, and in some cases enable households to own fewer cars, both of which may result in decreases in VMT through eliminating some discretionary trips and mode shift to public transit". FHWA defines a methodology for calculating VMT reductions from carsharing: "For purposes of this analysis, it was assumed that each shared vehicle is used by fifteen owners of light duty vehicles, fleet size of 500, and each participant reduces net annual VMT by 2500 to 4500?."

We use this methodology:

- calculate on a per-vehicle basis at 15 users per vehicle

- take the mean of the high- and low-end VMT reduction estimates cited by FHWA: 3,500.

Following FHWA, then, each carshare vehicle put into service reduces 52,500 VMT in SOVs annually (= 15 users x 3,500 VMT reduced), or 144 VMT per day.

The FHWA methodology anticipates the use of ICE carshare vehicles. An extra calculation is thus required to capture the benefit of substituting EVs powered by 100% renewable energy. Based on internal data provided by project partner HOURCAR, we estimate that each EV carshare vehicle will travel 18,834 miles annually, or 52 miles per day. Those 52 miles per day create zero emissions, effectively reducing an additional 52 miles of VMT over ICE carshare vehicles

We then combine the FHWA-proposed methodology with the adjustment for zero-emission carshare vehicles: 144 VMT (FHWA baseline) + 52 VMT (additional reduction) = 196 VMT reduced per EV carshare vehicle per day.

Using this methodology, we estimate that 15 shared electric vehicles will reduce 7,511,700 VMT over the 7-year project period.

By reducing VMT in SOVs and replacing ICE vehicle trips with trips in EVs, our project will significantly reduce harmful criteria pollutants. The FHWA Cost Effectiveness Update indicates that carsharing has "strong cost effectiveness" for reducing CO, NOx, and VOC, and moderate cost effectiveness for reducing PM2.5. Using the Argonne AFLEET Tool and data on criteria emissions reductions from mode shift, we estimate our project will reduce 9 metric tons (mTs) CO, 1.2 mTs VOC, .1 mTs NOx, and .04 mTs PM2.5.

(Limit 2,800 characters; approximately 400 words)

B. Describe how the project will contribute to climate change improvement. Explain how the project will reduce greenhouse gas emissions.

Response:

Summary: The region needs to quickly reduce greenhouse gas emissions (GHG) to achieve state and regional climate goals. Thanks to the partnership with Xcel Energy which powers the network with 100% renewable energy, EV Spots are a proven tool for providing transportation with zero GHG emissions. EV carshare allows the region's residents to meet their transportation needs and reduce emissions.

Discussion: The project will reduce GHG emissions by enabling mode shift from SOVs to transit; replacing trips in ICE vehicles with trips in EVs powered by clean energy; and promoting adoption of EVs.

As noted in the response to Measure A, FHWA defines a methodology for calculating VMT reduction. Using this methodology, and adding an additional calculation to account for carsharing with EVs powered by 100% renewable energy, gives:

□ Mode shift to public transit, biking, and walking: The project will reduce 5,518,800 VMT (=15 vehicles x 144 VMT reduced per day x 365 days x 7 years)

□ Replacing trips in ICE vehicles with trips in EVs powered by 100% renewable energy: The project will reduce an additional 1,992,900 VMT equivalent (=15 vehicles x 52 VMT reduced per day x 365 days x 7 years)

To calculate GHG impacts:

1. For VMT reduced by mode shift to transit, we calculate GHG reductions using USDOT estimates (<https://bit.ly/3r6F7Xr>) of .96 pounds of GHG per trip-mile for an SOV and .45 pounds per trip-mile for transit, for a total of 3,755 metric tons (mTs) of GHG reduced. This is a conservative estimate, as some of these trip-miles would otherwise have been made by biking, walking, and combined trips.

2. For VMT reduced by replacement of ICE vehicle trips with EVs fueled by renewable energy, we calculated the emission reduction as 100% of the GHG that would have been emitted by the ICE vehicle trips. The Argonne AFLEET Tool gives a total GHG reduction as 688 mTs.

This project will also increase adoption of EVs. Familiarity drives adoption: according to JD Power and Associates (<https://bit.ly/37pfTwi>), 46% people who have previously driven an EV are "very likely" to purchase one in the future. Based on HOURCAR data, we estimate at least 600 people will use one of these 15 electric vehicles each year. As a very conservative estimate, we assume around 16 users per year will go on to purchase an EV instead of an ICE vehicle due to increased familiarity. Combining these, using the Argonne AFLEET tool set to an electricity generation mix based on Xcel Energy's Upper Midwest mix (<https://bit.ly/35lb3tJ>), and using FHWA's 11,467 annual miles per vehicle, produces GHG reductions of 1,192 metric tons over seven years.

Summing these calculations produces a total estimated GHG reduction of 4,947 mTs GHG reduced over the seven-year project period.

(Limit 2,800 characters; approximately 400 words)

C. Describe how the project will improve surface or ground water quality and management. Examples of improvements include:

- *Reduction of stormwater runoff and improvements to on-site stormwater management*
- *Improvements to the resiliency of infrastructure in response to stormwater events*

Response:

Summary: The project will improve regional water quality by reducing emissions of toxic hydrocarbons, particulates, and heavy metals which contaminate the region's waterways and groundwater.

Discussion: In "Relating Vehicle-Generated Pollutants to Urban Stormwater Quality" (<https://bit.ly/3J28PD2>), J. Gunawardena describes how emissions from ICE vehicles contribute to the buildup of harmful substances, including hydrocarbons and heavy metals, on impervious surfaces (including roadways and sidewalks). These harmful substances are then washed away into waterways.

Among the findings are:

- Runoff from road surfaces contributes 19-40% of toxic heavy metal water pollution. Vehicle brake wear is a significant contributor to heavy metal particulate generation.
- Internal-combustion engine vehicles emit benzene, toluene, ethylbenzene, and xylene (BTEX), uncombusted fuel molecules collectively referred to as volatile organic compounds, or VOC. These insoluble toxic compounds accumulate on surfaces and are then washed away into regional waters.
- Vehicular emissions contribute 25-35% of ultrafine particulate (PM2.5) mass to the atmosphere. Much of the PM2.5 pollution results from incomplete combustion of hydrocarbons. This particulate mass is then absorbed by raindrops and returned to the groundwater.
- In "Conserving Energy and Preserving the Environment: The Role of Public Transportation," Shapiro, Hasset and Arnold find that mode shift to public transit reduces VOC emissions by over 90% (<https://bit.ly/3j4Vak3>).
- Replacing trips in ICE vehicles with electric vehicles powered by 100% renewable energy reduces VOC emissions by 100%.

Using the Argonne AFLEET Tool to calculate the emissions benefits of both mode shift to transit and replacement of trips in ICE vehicles with EVs as documented above in Measure A, this project will reduce 1.2 metric tons (mTs) of VOCs over seven years.

Using the same method, we estimate our project will also reduce .4 mTs of PM2.5, harmful airborne particulates that would have reentered the waterways through rainfall.

Finally, this project will reduce heavy metal emissions from brake wear. Electric vehicles use regenerative braking, which efficiently converts kinetic energy from the vehicle's momentum into electricity to slow and stop vehicles. JD Power and Associates found that regenerative braking systems reduce wear on brake drums and pads, and associated heavy metal particulate emissions, by up to 70% (<https://bit.ly/3DIQvhk>).

(Limit 2,800 characters; approximately 400 words)

D. Describe how the project will make other environmental improvements. Examples of other environmental elements include:

- *Protection of or enhancement to wildlife habitat or movement*
- *Protection of or enhancement to natural vegetation, particularly native vegetation*
- *Reductions in or mitigation of noise or light pollution*

Response:

Summary: This project will reduce noise pollution by replacing trips in noisy internal-combustion engine (ICE) vehicles with quiet EVs, as well as with transit. The project will also reduce the environmental impacts of autos not otherwise captured in Measures A ? C.

Discussion: The evaluation criteria include noise pollution because it has significant detrimental public health effects. According to the World Health Organization's report "Burden of Disease from Environmental Noise" (<https://bit.ly/3j7aa0H>) at least one million disability-adjusted life-years (DALYs) are lost every year due to noise from traffic. Research demonstrates the harmful impacts of traffic noise in terms of increased heart disease, cognitive impairment of children, sleep interruption, and annoyance/anger incitement and other negative outcomes. According to "Environmental Burden of Disease in Europe: Assessing Nine Risk Factors in Six Countries" (<https://bit.ly/3NWIG0v>), a separate study using WHO data, noise pollution comes in just after air pollution in terms of its harmful impacts on public health, and at a similar level to secondhand smoke and radon exposure.

This project will reduce noise pollution by replacing nearly 2 million trip-miles in ICE vehicles with trips in EVs, which are far quieter than ICE vehicles. In fact, these vehicles are so quiet that manufacturers are now required to place noise-producing devices in the vehicles for pedestrian safety. Nissan performed an experiment measuring the noise impacts of replacing ICE vehicles with EVs (<https://bit.ly/3NUu6Cb>). The study concluded that using EVs on city streets in place of ICE vehicles reduced the decibel (dB) level by over 75%, from 90 dB to 21 dB. As a reference point, WHO recommends nighttime ambient noise levels not exceeding 40 dB for children and adults to get healthy sleep (<https://bit.ly/3KijsD9>).

As documented above, this project will also replace trips in ICE vehicles with trips by transit, biking and walking. While transit buses are noisier than ICE cars, transit produces less noise overall by consolidating many trips into one HOV. Assuming mode shift reduces noise pollution at a similar rate as it reduces air pollution, we estimate our project will reduce noise pollution by roughly half for trips impacted by mode shift.

(Limit 2,800 characters; approximately 400 words)

Measure 3: Racial Equity

A. Describe how the project will improve connectivity and access to places and opportunity for black, indigenous, and people of color (BIPOC) communities. Examples of improvements include:

- *Better connecting people to places, but also demonstrating an understanding of the places people want to go*
- *Connecting communities where known gaps exist (document why connection is needed and where that documentation was sourced from)*
- *Outreach to, and involvement from, BIPOC communities in project selection, development, or delivery*

Response:

Summary: The project partners have invested in community engagement to understand the transportation needs of the region's diverse residents, and how those residents might use carshare to meet their transportation needs. Residents said that carshare would fill transportation gaps and connect them to places they need to go. The project incorporates lessons learned through that engagement.

Robust Evie Carshare use by Black, indigenous, and people of color (BIPOC) residents demonstrates that EV carshare improves access and opportunity for BIPOC residents.

Discussion: In late 2019 and early 2020, stakeholders in what would become the EV Spot Network invited diverse residents of the region to participate in focus groups about their transportation needs. BIPOC and low-income resident feedback was the focus of engagement, and participants were compensated. The engagement included a) keeping a travel log; b) in-depth discussion of how that log reflected transportation needs that were met/not met/met poorly; c) how a potential carshare service, at various prices, would or would not help meet transportation needs. The engagement combined data on behavior with in-depth conversation about that behavior.

In 2020, project partner HOURCAR engaged ten Community-Based Organizations (CBOs) in BIPOC neighborhoods. Each of the ten CBOs represented a neighborhood of a majority BIPOC residents where more than 40% of households live under poverty thresholds. The CBOs formed a "Core Partner Council" to advise on the design of the EV Spot Network. These CBOs conducted their own outreach and communicated results to HOURCAR. HOURCAR then prepared a first-of-its kind community engagement report with findings and recommendations (<https://hourcar.org/community>). To the best of our knowledge, no other shared-mobility provider in the US has ever conducted such a process on similar scale or produced such a report.

Subsequently, during the COVID pandemic, partners convened focus groups on transportation options during COVID. These groups again over-sampled BIPOC residents. Participants consistently identified transportation needs that current options did not meet. These needs included traveling to medical and other time-critical appointments such as job interviews, and traveling outside the transit-served core, whether for medical or economic needs or to visit friends and family.

Focus group participants consistently said that a carshare service would help meet their unmet transportation needs, supporting health and well-being. The results also underscored that post-COVID, the combination of transit limitations and increasing vehicle costs deepened the need for flexible and affordable transportation options. Residents saw carshare as a valuable addition to their choice set.

(Limit 2,800 characters; approximately 400 words)

B. Describe how the project will remove or lessen barriers to movement, participation, or cultural recognition. Examples of improvements include:

- *Physical barriers being addressed (directly or indirectly)*
- *Cultural barriers being addressed (language, etc.)*
- *Engagement barrier being addressed (improving systemic outreach issues)*

Response:

Summary: The community engagement process described above underscored that carshare would be a valuable addition to residents' transportation toolkits. Engagement also identified potential barriers to accessing the service. Among these barriers was the cost of the service, language barriers for non-English speakers, and unfamiliarity with carsharing and electric vehicles. Service design responded to these learnings.

The EV Spot Network partners, including Saint Paul, included targets for low-income and BIPOC participation in the contract with carshare operator HOURCAR. To our knowledge, no other city in the US has crafted such an arrangement with a shared-mobility provider.

As a result of this arrangement, EV Spot Network partners have worked to make Evie Carshare as accessible as possible. For example:

1. Cost: Before the launch of Evie Carshare, HOURCAR cut its rates by nearly 40% and implemented a qualified low-income rate structure. HOURCAR has also set up a system which allows applicants to self-certify their income level, reducing barriers to applying.

2. Language: Concern was expressed that it would be difficult for non-English speakers to navigate customer service during a stressful real-time event such as a crash. HOURCAR responded by adding a translation service to its member services hotline, whereby members can request and receive real-time translation in their preferred language.

Robust Evie Carshare use by Black, indigenous, and people of color (BIPOC) members demonstrates that this work to remove barriers is successful. The next step is to improve access to destinations in the suburbs.

(Limit 2,800 characters; approximately 400 words)

C. Describe how the project will contribute to quality-of-life improvements for BIPOC communities. Examples of improvements include:

- *Placemaking or strengthening a sense of place*
- *A sense of safety or security*
- *Job creation, increased economic development*
- *Access to green space and recreation*
- *Improved public health (excluding environmental impacts discussed in criterion two)*

Response:

Summary: This project will provide significant quality-of-life benefits to Black, Indigenous, and People of Color communities by offering practical, cost-effective access to the full range of destinations in the Metro.

Discussion: The Metropolitan Council's fundamental goal is that the region be a "great place to live, work, and do business." To that end, "Efficient transportation systems smoothly move people and goods to their destinations, and our residents enjoy a reasonable cost of living, benefitting from lower-priced public services" (Thrive 2040, pp. 2-3). As described in Measures 3A and 3B, the Metro has not yet achieved the goal of efficient transportation at a reasonable cost on the East Side, among other places.

This lack of transportation worsens health. According to the American Hospital Association: "Each year, 3.6 million people in the United States do not obtain medical care due to transportation issues. Transportation issues include lack of vehicle access, inadequate infrastructure, long distances and lengthy times to reach needed services, transportation costs and adverse policies that affect travel" (bit.ly/3v5f97D). Our project will improve health outcomes by increasing transportation options and decreasing travel time to get to and from medical appointments.

BIPOC seniors are especially vulnerable to the health impacts of social isolation due to the combined effects of age and race discrimination. A 2020 study by the AARP Foundation and the United Health Foundation (<https://bit.ly/3xe4QRx>) found that seniors were at particular risk for social isolation during the pandemic, with many seniors experiencing associated symptoms of anxiety and depression. The study noted that "Key signs to identify if someone is at risk for social isolation are access to food, healthcare, transportation and other vital resources." For seniors who do not own a car, access to carsharing can be a lifeline.

This project will increase access to jobs for the majority-BIPOC communities served by our proposed expansion. University of Minnesota research has documented the existence of a "spatial/skills mismatch" whereby it is difficult for residents of low-income and majority BIPOC neighborhoods to access jobs due to the slow nature of available transit: "transit-dependent workers living in these areas face prohibitively long commutes even to spatially proximate jobs" (<https://bit.ly/3693DQg>). EV carshare enables such workers to make more rapid connections to BRT/LRT, improving access to jobs.

Finally, residents in our focus groups described the loss of dignity from being dependent on others for rides. Access to a carshare vehicle, they said, would make it possible for them to give rides and be helpful, making them contributors to their community.

(Limit 2,800 characters; approximately 400 words)

Measure 4: Multimodal Communities

A. Describe how the project improves multiple non-single-occupant vehicle (SOV) modes within the system (e.g., transit, biking, walking, carpooling). Examples of improvements include:

- *Creating interconnectivity between modes*
- *Creating structures or facilities that serve multiple modes*
- *Improvements to multimodal trip planning or ease of use*

Response:

Summary: The project is designed as a multimodal connector, complementing transit and expanding the range of multimodal options available.

Discussion: The 2017 Shared-Use Mobility Center's "Action Plan for the Twin Cities," with input from more than 75 regional stakeholders, identified the absence of one-way carsharing as a major gap in the region's multimodal network (<https://bit.ly/36ZxNWF>). While Evie Carshare has filled this gap where the service operates, the gap remains in substantial parts of the region.

Studies consistently demonstrate that access to carshare enables residents to make more multimodal choices. "Mobility and the Sharing Economy: Impacts Synopsis" (<https://bit.ly/3KdDcYx>), a summary of five studies prepared by the Transportation Research Center at UC Berkeley, finds that:

- Each carshare vehicle replaces 9-13 private vehicle purchases (current or future).
- Carshare members increase their public transit and non-motorized use
- "A majority of [carshare] members walk more frequently."
- "More people increased their overall public transit and non-motorized modal use after joining carsharing than decreased it."

Internal data from project partner HOURCAR supports these findings: 44% of HOURCAR members reported that they shed a vehicle or deferred an auto purchase, and most increased use of transit, biking and walking as a result.

The project will place new EV Spot two-way carshare hubs at or near transit stations, substantially expanding the reach of transit. These hubs will also be available to nearby residents, who will always know where to find a shared EV near their home or place of business. One study found that living near a fixed carshare location within walking distance reduced the probability of owning a vehicle by 20% (Cervero, et al., "San Francisco City CarShare: Longer-Term Travel-Demand and Car Ownership Impacts," <https://bit.ly/3E8l28o>).

(Limit 2,800 characters; approximately 400 words)

B. Describe the land use and development strategies that the project directly influences or supports that help create walkable, bikeable, and transit-friendly communities. Examples of strategies include:

- *Contributing to the growth of dense, mixed-use communities or neighborhoods*
- *Addressing the outcomes and goals in Thrive MSP 2040 and the 2040 TPP*
- *Reducing demand or need for automobile parking infrastructure (e.g., shared parking arrangements, parking management techniques)*

Response:

Summary: The proposed EV Spot Network expansion fulfills the TPP's goal of "Leveraging Transportation Investments to Guide Land Use Outcomes," by "help[ing] create walkable, bikeable, and transit-friendly communities."

Discussion: As documented above, the EV Spot Network supports multimodal communities. As such, it aligns with a variety of outcomes and goals in the 2040 Transportation Policy Plan (Chapter 13: Outcomes):

- Percent Non-Single Occupancy Vehicle Travel: Target of greater than 25 percent "reflects the TPP's vision of travel via multiple modes and decreased single-occupancy vehicle use"

- Transit Ridership: Increase in daily transit ridership

- Modal participation rate: Percent of people who use these modes at least once on a typical day

- On-Road Mobile Source Emissions: Total amounts.

As detailed in the response to Question 2A, the EV Spot Network will reduce VMT in SOVs. The TPP identifies minimizing VMT per capita as a preferred outcome: "When people are driving further, there are implications for the environment (beyond just air quality), the economic viability of travel and related equity of access, the potential for fatal and serious crashes, and wear and tear on the region's transportation infrastructure."

The Council's Housing Policy Plan sets a priority to "help low-income households reduce the combined costs of housing and transportation." According to the "Impacts Synopsis" of the Transportation Research Center at UC Berkeley (<https://bit.ly/3xc2PW6>), households that use carsharing save \$1,848 - \$5,220 per year on transportation costs; these costs have only increased since that study. Averaging high- and low-end estimates and multiplying by the anticipated number of users per vehicle (15; cf. the answer to Question 2 Measure A), we estimate our project will save residents \$795,150 annually, or \$5,566,050 over the seven-year project period.

Finally, carshare reduces residential off-street parking needs. Parking is a major cost driver in multifamily development. Reducing parking needs improves housing affordability, a major goal of the Metropolitan Council. The Council notes that "As car-sharing services, such as HourCar or Car2Go, become more common, the number of parking spaces needed will lessen in developments" (bit.ly/37hHZd0). Millard-Ball et al. (bit.ly/3r6kACm) outline the ways in which carshare reduces private vehicle ownership and parking demand, concluding that "making convenient and visible parking spaces available for car-sharing vehicles is one of the most useful actions partner organizations can take to implement car-sharing as a parking reduction strategy." This reduced parking demand can then be translated into more productive land uses, including the denser development called for in Council policies.

(Limit 2,800 characters; approximately 400 words)

C. Describe how the project supports first- and last-mile solutions for people connecting to places they need to go. Describe the destinations the project will connect and their level of demand. Examples of strategies include.

- *Mobility hubs and centralized connections for multiple modes*
- *Increasing shared trips/shared mobility*
- *Access to job centers not located on fixed transit routes*

Response:

Summary: Shared EVs at transit stations are a textbook first/last mile connector, enabling people to make direct trips from and to transit stops. The proposed EV Spot network carshare stations along the Gold Line will facilitate access to destinations not reached by fixed-line transit, substantially expanding the range of destinations reachable from the Gold Line.

Discussion: Shared EVs at Gold Line stations will increase (shared) mobility in two ways.

1. Provide last mile connections to destinations not otherwise reachable from Gold Line stations.

While the Gold Line will provide excellent service to station areas, most potential destinations in Washington County are not within walking distance of those station areas. Of the many possible destinations that will be newly reachable with EV carshare, it is worth emphasizing the many medical facilities in Washington County not served by transit, including, for example: Allina Woodbury Clinic, Allina Oakdale Clinic, Allina Cottage Grove Clinic, and Lakeview Hospital Stillwater. Some of these are further than a "last mile" from the Gold Line; fortunately, EV carshare puts these within reach of people who do not own a car.

2. Provide connections when transit is not direct enough

As noted above in the answer to Question 3A, the City and HOURCAR convened focus groups with diverse sets of residents to learn about their unmet transportation needs. Residents consistently identified needs that current options could not easily meet. These included traveling to and from medical and other critical appointments such as job interviews. While many of these destinations are served by transit, residents said the trips might take too long in a given situation. For example, to ensure timely arrival to a 30-minute medical appointment, residents described needing to take a half-day off work. In some cases, residents decided to forego the trip, degrading health outcomes and increasing downstream medical costs. Access to carshare increases residents' ability get medical care.

Focus group participants consistently said that carshare would help meet both kinds of unmet transportation needs. The substantial use of Evie Carshare by residents (150,000 trips since February 2022) shows that EV carshare is successfully helping meet those needs. Expanding carshare access will make this connectivity option available to even more residents.

(Limit 2,800 characters; approximately 400 words)

Measure 6: Partnerships

A. Describe the number of stakeholder groups that have helped or will help develop the project and their role in the project's delivery. In the response, consider the following:

- How many partners will be involved in the project?
- Will there be public/private partnerships (or 4P: Public, Private, Philanthropic, and People)?
- What percent or number of partners are small or minority-owned businesses (e.g., disadvantaged business enterprise [DBE], targeted group business [TGB], Met Council underutilized business [MCUB])?
- Are businesses or partners locally owned or run?

Response:

Summary: This project builds partnerships and collaboration. The EV Spot Network is the fruit of a public-private partnership that has brought together two cities (Saint Paul and Minneapolis), a publicly regulated utility (Xcel Energy), a local nonprofit shared-mobility operator (HOURCAR), and two additional nonprofits (East Metro Strong and the American Lung Association Minnesota Chapter). The network's chargers are made by ZEF Energy, headquartered in Minneapolis. This project will add Washington County and the Cities of Woodbury and Oakdale.

Discussion:

Beyond the formal project partners, the EV Spot Network benefitted from a wide variety of other partners and stakeholder input. Early on, the partnership developed formal relationships with community-based organizations (CBOs) in 10 neighborhoods in Minneapolis and Saint Paul, all of which are predominantly non-white and low-income. The CBOs were constituted as a "Core Partner Council," with staff and residents making critical contributions to the design and promotion of the network. (See: <https://bit.ly/3uKkcZV>)

The partnership has also benefitted from the support of local and national philanthropy, including the McKnight Foundation, 3M, the Saint Paul Foundation, the Otto Bremer Trust, the Minneapolis Foundation, and GM's Climate Equity Fund.

The project has been supported with federal funds from the Federal Highway Administration (via the Transportation Advisory Board), and two substantial awards from the US Department of Energy (DOE). The DOE awards are made via the American Lung Association Minnesota Chapter.

This emphasis on partnership and collaboration helped overcome a wide variety of challenges. The strong usage of Evie Carshare is a testament to the strength of the collaborative approach.

This project would again build new partnerships, with Washington County, and the Cities of Woodbury and Oakdale.

(Limit 2,800 characters; approximately 400 words)

B. Identify the funding partners and amounts of local match provided.

Response:

Washington County will provide a 20% match on the project (\$159,984) from County funds.

HOURCAR will provide the specialized hardware required to technologize the vehicles for carsharing operations at a cost of \$7,500.

The project will build on and take advantage of substantial existing assets of the EV Spot Network and its partners. These assets include:

- The electronic and staff structure through which residents book and pay for EV carshare trips. This includes both an app (available for Apple and Android phones, and desktop computers) and the ability to book via live phone conversation for residents without a smart phone or computer.

- Maintenance and repair capacity for the EV proposed for this project. (Maintenance and repair to be provided by HOURCAR.)

The value of these assets is substantial. It would be difficult at best to provide EV carshare at suburban transit stations without access to these assets. While we have not attempted to place a dollar value on them, they are a critical match from the current EV Spot Network partners.

To the partnership, Washington County will also bring substantial assets, including the county's outreach and communications capacity, which it will use to inform residents about this new transportation option, how to use it, and the benefits of doing so. This capacity includes GoWashington through which the County connects residents with transportation options that get them where they want to go safely and affordably. (<https://gowashingtonmn.com/>)

(Limit 2,800 characters; approximately 400 words)

Attachments

File Name	Description	File Size
EV Carshare Washington CountyOne Pager.pdf	One-Page Project Summary	278 KB
HOURCAR emissions methodology 2024.pdf	Emissions Methodology	174 KB
HOURCAR Letter of Support.pdf	HOURCAR Letter of Support	226 KB
Oakdale Letter of Support.pdf	Oakdale Letter of Support	128 KB
PROJECT BUDGET AND SOURCES.pdf	Project Budget	121 KB
Project Map.pdf	Project Map	153 KB
St. Paul Letter of Support.pdf	St. Paul Letter of Support	154 KB
Woodbury Letter of Support.pdf	Woodbury Letter of Support	180 KB

EV Carshare at Suburban METRO Gold Line Stations

Unique Projects Funding Category

Project Location

At or adjacent to selected METRO Gold Line stations in Washington County, in the cities of Oakdale and Woodbury.

Funding Request

Federal: \$ 639,936

Local Match: \$ 159,984 (20%)

Project Total: \$ 799,920

Project Goals

- ◆ Connect transit users to an area beyond the 'last mile'
- ◆ Better connect people to where they need to go, affordably and reliably
- ◆ Reduce the impacts of providing that transportation
- ◆ Expand public EV charging options

Project Summary

This project would place Electric Vehicle (EV) carshare hubs and public charging at select METRO Gold Line stations in Washington County, substantially increasing the number of destinations available to Gold Line users, and creating public charging infrastructure. The project will include make-ready infrastructure for chargers, and shared electric vehicles.

The TAB-funded expansion of the EV Spot Network to Saint Paul's East Side is creating hubs at urban Gold Line stations. This application is an expansion to the more suburban eastern half of the Gold Line, and delivers extended connectivity to suburban stations.

Summary of Project Benefits

- ⇒ Increase transportation options for cost-burdened households
- ⇒ Expand the reach and access of high frequency transit
- ⇒ Provide opportunity for public facing EV charging options in a suburban area
- ⇒ Reduce greenhouse gas emissions and congestion
- ⇒ Demonstration project to encourage future expansion into more suburban areas



Credit: evie Carshare

HOURCAR Proposed Approach and Methodology for Calculating VMT and Emissions Reductions in Regional Solicitation from Carshare

1. Vehicle trip and VMT reduction

In describing how our project will reduce SOV trips, we use the approach adopted by FHWA in its [2020 CMAQ Cost-Effectiveness Update](#):

Carsharing projects offer access to vehicles owned and maintained by third parties (e.g., cities) for intermittent trips best served by LDVs (LDVs). Shared vehicles provide alternatives to reduce household LDV, and in some cases enable households to own fewer cars, both of which may result in decreases in VMT through eliminating some discretionary trips and mode shift to public transit. (p.35)

Carsharing is unique among the CMAQ-eligible modes in that it uses SOVs to accomplish its goals of emissions and congestion reduction. Unlike transit, biking, and pedestrian improvements, *the benefits of carsharing cannot be quantified by direct replacement* (e.g., replacing 50 SOV trips with one 50-occupant HOV trip or 50 bike trips). Attempting to do so leads to a nonsensical conclusion: that carsharing achieves congestion and emissions benefits by replacing one SOV trip with another.

The FHWA Cost Effectiveness Update cites an established research and literature base which demonstrates that the added convenience provided by carsharing for “intermittent trips best served by LDVs” enables fewer overall trips to be taken in SOVs than would otherwise have occurred in the absence of carsharing. Sources cited by FHWA (pp. 36-37) in support of this approach include the following:

R Cervero, A Golub, and B Nee, “City CarShare: Longer-Term Travel Demand and Car Ownership Impacts,” *Transportation Research Record: Journal of the Transportation Research Board*, 2007, 70–80
<https://iurd.berkeley.edu/wp/2006-07.pdf>

Amanda Suutari, “Flexcar: A Model of For-Profit Carsharing” (The Eco-Tipping Point Project, 2006), <http://www.ecotippingpoints.com/our-stories/indepth/usa-portland-flexcar-carsharing.html>

Laura Bliss, “Here’s How Many Cars This Car-Sharing Service Killed,” CityLab, July 20, 2016, <https://www.citylab.com/transportation/2016/07/car2go-car-ownership-vmt-ghg/491825/>

Elliot Martin and Susan Shaheen, “The Impacts of Car2go on Vehicle Ownership, Modal Shift, Vehicle Miles Traveled, and Greenhouse Gas Emissions: An Analysis of Five North American Cities” (Transportation Sustainability Research Center - UC Berkeley, July 2016), http://innovativemobility.org/wp-content/uploads/2016/07/Impactsofcar2go_FiveCities_2016.pdf

We intend to follow the FHWA-adopted approach, using the research base cited above, to answer how the project will reduce SOV trips and VMT.

2. Emissions reductions

We intend to use an FHWA-adopted methodology for calculating emissions reductions from internal-combustion engine (ICE) carsharing, and a modified version of the FHWA methodology for calculating emissions reductions from electric vehicle carsharing.

Internal Combustion Engine Carsharing: The FHWA 2020 CMAQ Cost-Effectiveness Update concludes that carsharing with internal-combustion vehicles has “strong cost effectiveness” for reducing the criteria pollutants CO, NOx, and VOC (pp. 1, 14, 35-38), and moderate cost effectiveness for reducing PM_{2.5} (pp. 5, 12). To arrive at this conclusion, FHWA used the following methodology:

For purposes of this analysis, it was assumed that each shared vehicle is used by fifteen owners of light duty vehicles, fleet size of 500, and each participant reduces net annual VMT by 2500 to 4500 with average travel speed of 35 mph. (p. 37)

To calculate VMT reductions from carsharing with internal-combustion engine (ICE) vehicles, we propose to use the methodology above adopted by FHWA. To refine this calculation, we propose to:

- adjust the fleet size to the number of HOURCAR vehicles by calculating on a per-vehicle basis
- take the mean of the high and low end VMT estimates cited by FHWA (3,500).

Following FHWA, then, for each ICE carshare vehicle put into service:

$$\begin{aligned} & 15 \text{ users per carshare vehicle} \\ & \times \text{ 3,500 VMT per user reduced annually} \\ & = 52,500 \text{ VMT reduced annually per carshare vehicle (144 VMT per vehicle per day)} \end{aligned}$$

Electric Vehicle Carsharing: The FHWA-adopted methodology cited above anticipates the use of ICE carshare vehicles. An extra calculation is therefore required to capture the additional benefit of substituting electric vehicles.

In addition to its fleet of internal-combustion engine carshare vehicles, HOURCAR operates Evie Carshare, which uses electric vehicles (EVs) powered by 100% renewable energy. For carsharing with EVs powered by renewable energy, we propose to use the above VMT methodology plus an additional calculation to account for the benefit of replacing VMT from ICE carshare vehicles with trip miles in an EV powered by 100% renewable energy.

To calculate this benefit, we used the [Argonne AFLEET tool](#) to compare EV and ICE vehicle trips, with the fuel source set to a custom mix of 100% renewable for EVs. We found that all emissions except PM₁₀ are reduced to zero for the EV trips (PM₁₀ emissions are a function of rubber tire wear, and are thus the same for ICE and EV LDVs). Since PM₁₀ is not included in the Regional Solicitation measures, this effectively reduces the emissions for VMT in EV carshare vehicles powered by renewable energy to zero.

We therefore propose adjusting the FHWA methodology for EV carsharing to increase the relevant VMT reductions in the calculation, as follows:

- Based on internal HOURCAR data, we estimate that each EV carshare vehicle will travel 19,585 miles annually, or 59 miles per day.

- For EV Spot Network vehicles fueled by 100% renewable energy, those 59 miles per day create zero emissions, effectively reducing VMT *for the purposes of calculating emissions reductions* by 59 miles over an ICE carshare vehicle. The effective VMT reduction for EV carshare fueled by 100% renewable energy is therefore an additional 59 miles per vehicle per day for these vehicles.
- For vehicles fueled by Xcel's [Upper Midwest Energy Mix](#) (the "Standard Mix"), using the Argonne AFLEET tool, we estimate that these vehicles reduce GHG emissions by 72% over VMT in ICE carshare vehicles. The effective VMT reduction for EV carshare fueled by the Standard Mix is therefore an additional 42 miles per vehicle per day for these vehicles.

We then combine the FHWA-proposed methodology for ICE carshare vehicles with the adjustment for zero-emissions carshare vehicles as follows:

- The FHWA baseline calculation produces reductions of 144 VMT per day for ICE carshare vehicles
- For carshare vehicles fueled by 100% renewable energy, we adjust for the fact that the carshare VMT would be zero-emitting by adding the number of zero-emissions VMT:
 - 144 VMT reduced per vehicle per day for ICE carshare
 - + 59 VMT reduced per vehicle per day for EV carshare vehicles
 - = 203 equivalent VMT reduced per EV carshare vehicle per day.

We would therefore input the 203 equivalent VMT reduced per day per EV carshare vehicle fueled by 100% renewable energy into the emissions multipliers in Measure B.

- For carshare vehicles fueled by 100% renewable energy, we adjust for the fact that the carshare VMT would create 72% less emissions than an ICE vehicle by adding the adjusted VMT:
 - 144 VMT reduced per vehicle per day for ICE carshare
 - + 42 VMT reduced per vehicle per day for EV carshare vehicles
 - = 186 equivalent VMT reduced per EV carshare vehicle per day.

We would therefore input the 186 equivalent VMT reduced per day per EV carshare vehicle fueled by 100% renewable energy into the emissions multipliers in Measure B.

In the aggregate, the proposed methodologies for EVs (100% renewable energy and standard mix) is equivalent to increasing the emissions reductions for EV carshare by roughly 35% over ICE vehicles ($144 + ((59 + 42) / 2) / 144 = 135\%$). Stated plainly, EV carshare increases the emissions benefit per vehicle by about a third relative to ICE carshare.



December 5, 2023

Wayne Sandberg
Public Works Director/County Engineer
Washington County Public Works
11660 Myeron Road
Stillwater, MN 55082

RE: **Support for Washington County's Regional Solicitation application in a Unique Projects category for EV Carshare at Suburban METRO Gold Line Stations in Washington County.**

Dear Mr. Sandberg,

The purpose of this letter is to express HOURCAR's support for Washington County's 2024 solicitation of Federal funds through the Metropolitan Council's Regional Solicitation program in a Unique Project category for EV Carshare at Suburban METRO Gold Line Stations in the cities of Oakdale and Woodbury. As the operator of Evie Carshare in Saint Paul and Minneapolis, and of EV carshare hubs throughout the region through our Multifamily EV Carshare Pilot program, HOURCAR supports the growth of clean transportation options for Twin Cities residents, especially those who live in low-income and disadvantaged communities. Washington's County's proposal to the Regional Solicitation continues in that same vein.

The proposed project places EV Carshare hubs and public charging at select Gold Line stations in Washington County and helps to address the need for 'last mile' connectivity to transit for east metro residents. This in turn will make it possible for people to reach more destinations that make their lives better: trips to the grocery store, visits to family and friends, important medical appointments, etc.

Use of EV carshare in Minneapolis and Saint Paul has grown dramatically over the past several years and continues to grow; Evie Carshare just hit major milestones of 150,000 trips and 1.5 million miles. We look forward to supporting the expansion of these impactful services beyond the borders of Saint Paul and into the east metro suburbs.

Thank you for your consideration. If you have any questions, please contact me at pauls@hourcar.org or at (612) 343-2277.

Sincerely,

A handwritten signature in blue ink that reads "P. Paul Schroeder". The signature is fluid and cursive.

Paul Schroeder
President & CEO



Christina M. Volkers, City Administrator

1584 Hadley Avenue N | Oakdale, MN 55128
651-730-2705 | chris.volkers@oakdalemn.gov
www.oakdalemn.gov

November 7, 2023

Wayne Sandberg
Public Works Director/County Engineer
Washington County Public Works
11660 Myeron Road
Stillwater, MN 55082

SUBJECT: Support for Washington County's Regional Solicitation application in a Unique Projects category for EV Carshare at Suburban METRO Gold Line Stations in Washington County, in the City of Oakdale.

Dear Mr. Sandberg,

The purpose of this letter is to express the City of Oakdale's support for Washington County's 2024 solicitation of Federal funds through the Metropolitan Council's Regional Solicitation program in a Unique Project category for EV Carshare at Suburban METRO Gold Line Stations in the cities of Oakdale and Woodbury.

The proposed project places EV Carshare hubs and public charging at select Gold Line stations in Washington County and helps to address the need for 'last mile' connectivity to transit for our Oakdale residents. The proposed project is consistent with both the City of Oakdale's *and* Washington County's 2040 comprehensive plans, thus a priority for us both.

Thank you for your consideration. If you have any questions, please contact me at 651-730-2705 or at chris.volkers@oakdalemn.gov

Sincerely,

Christina M. Volkers

1. PROJECT BUDGET AND SOURCES (Provide a general budget for the project and budget description; at a minimum, include anticipated total budget and federal request figures – limit to 100 words):

The following general budget assumes three stations: Greenway, Helmo, Woodlane.

For each station: two 2-head chargers (2 heads for carshare, 2 for public charging); three shared EVs.

- Dual Port 80 kW charger 6 @ \$10,600
- Installation costs 6 @ \$ 3,000
- Design, Engineering and Make Ready 3 @ \$75,000
- Electric Carshare Vehicles 9 @ \$40,000

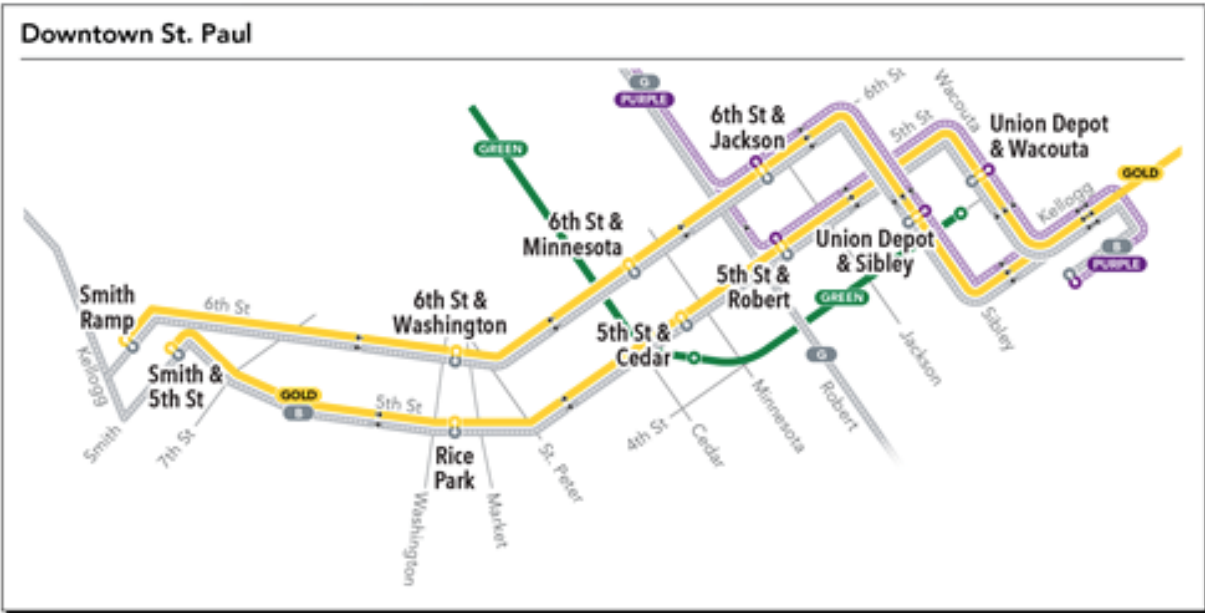
Using those assumptions:

Subtotal	\$666,600
20% inflation factor	\$133,320
Project cost	\$799,920

Cost estimates based on recent implementation costs and bids. Inflation factor based on volatile supply chain and associated costs. Likely high; 'conservative.'

20% match \$159,984

Regional Solicitation request \$639,936



	METRO Gold Line (Bus Rapid Transit)
	Park & Ride Lot
Current METRO lines	
	Green Line (Light Rail)
Planned METRO lines	
	Purple Line (Bus Rapid Transit)
	B, G & H lines (Bus Rapid Transit)



November 27, 2023

Wayne Sandberg
Public Works Director/County Engineer
Washington County Public Works
11660 Myeron Road
Stillwater, MN 55082

RE: Support for Washington County's Regional Solicitation application in a Unique Projects category for EV Carshare at Suburban METRO Gold Line Stations in Washington County, to compliment existing service in the City of Saint Paul.

Dear Mr. Sandberg,

The purpose of this letter is to express the City of Saint Paul's support for Washington County's 2024 solicitation of Federal funds through the Metropolitan Council's Regional Solicitation program, in the Unique Projects category, for EV Carshare at Suburban METRO Gold Line Stations in the cities of Oakdale and Woodbury.

The proposed project places EV Carshare hubs and public charging at select Gold Line stations in Washington County, and helps to address the need for 'last mile' connectivity to transit for east metro residents. The proposed project is consistent with both the City of Saint Paul's and Washington County's 2040 comprehensive plans, and would extend a project that has been funded by the Department of Energy to place EV carshare hubs along the five Gold Line Stations outside of downtown in Saint Paul.

Thank you for your consideration. If you have any questions, please contact me at 651-266-8511 or at russ.stark@ci.stpaul.mn.us.

Sincerely,

Russ Stark
Chief Resilience Officer



8301 Valley Creek Road • Woodbury, MN 55125 • woodburymn.gov
651-714-3593 • TTY 651-714-3568

November 9, 2023

Wayne Sandberg
Public Works Director/County Engineer
Washington County Public Works
11660 Myeron Road
Stillwater, MN 55082

RE: Support for Washington County's Regional Solicitation application in a Unique Projects category for EV Carshare at Suburban METRO Gold Line Stations in Washington County, in the City of Woodbury.

Dear Mr. Sandberg,

The purpose of this letter is to express the City of Woodbury's support for Washington County's 2024 solicitation of Federal funds through the Metropolitan Council's Regional Solicitation program in a Unique Project category for EV Carshare at Suburban METRO Gold Line Stations in the cities of Oakdale and Woodbury.

The proposed project places EV Carshare hubs and public charging at select Gold Line stations in Washington County and helps to address the need for 'last mile' connectivity to transit for Woodbury residents. The proposed project is consistent with both the City of Woodbury's and Washington County's 2040 comprehensive plans.

Thank you for your consideration. If you have any questions, please contact me at 651-714-3593 or at christopher.hartzell@woodburymn.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Hartzell". The signature is fluid and cursive, with a large, sweeping flourish at the end.

Chris Hartzell
Engineering Director

