



PLANNING FOR INCREASED PERSONAL MOBILITY

SUN VALLEY NEIGHBORHOOD
DENVER, CO



Planning for Increased Personal Mobility in the Sun Valley Neighborhood, Denver, CO

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executive summary

problem statement

The United States Environmental Protection Agency (EPA) implements federal environmental laws and works to improve and protect environmental quality. Sun Valley is a historically poor neighborhood within Denver, Colorado and is currently undergoing redevelopment to create better housing for current residents of the Denver Housing Authority's Sun Valley Homes and for future market-rate renters. EPA hopes to improve local and regional air quality by promoting a larger array of clean transportation options, including ultra-light duty electric vehicles (ULDEVs) such as e-bikes and e-scooters, for current and future Sun Valley residents. ULDEVs are a novel technology, and little research has been done to establish how they may affect local transportation systems.

Increasing the number of trips to and from the Sun Valley neighborhood made using ULDEVs could improve personal mobility for residents. To facilitate additional trips made by ULDEV and traditional bicycles, the Denver Department of Transportation and Infrastructure (DOTI) is working to implement the City's Bicycle Program. Several existing and planned parts of the City's bicycle network run to and through the Sun Valley neighborhood.

background

Multiple off-street, multi-use trails exist within Sun Valley today, including the South Platte River Trail and the Lakewood Dry Gulch Trail. These trails provide low-stress access to destinations to the north, south, and west of Sun Valley, but there is a general lack of bicycle facilities to cross large barriers such as Interstate 25 to the east and Federal Boulevard to the west. Riders often must travel out of their way to find dedicated crossing points. One-way streets are also an issue. For example, 13th Avenue, a key eastbound route from Sun Valley, becomes a one-way street without dedicated bicycle infrastructure near the Cherry Creek. However, most planned improvements in and around the Sun Valley neighborhood laid out in Denver Moves: Making Bicycle and Multi-Use Connections are related to the trails mentioned above. Most notably, no new on-street bicycle infrastructure improvements are proposed for Sun Valley in the Denver Moves plan.

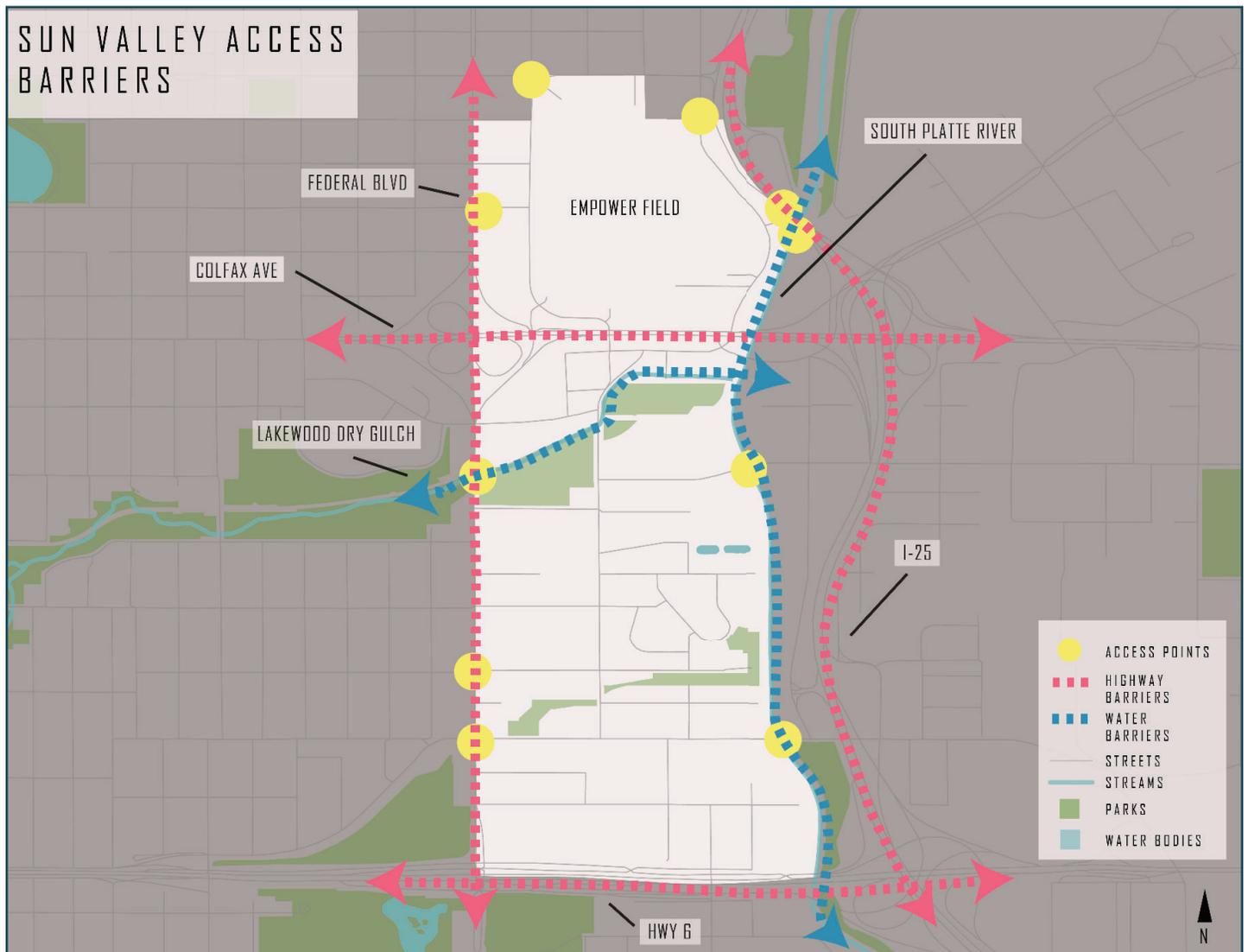
ULDEVs are commonly offered for per-minute rentals by private fleet operators in larger cities throughout the United States. While traditional bike share systems have been a model for shared mobility by using "docks" throughout a coverage area as fixed starting and ending points for trips, most companies in the ULDEV space operate "dockless" fleets. These fleets are composed of vehicles that are typically unlocked via smartphone app and that can be left within the public right-of-way by users at the end of trips.

key findings

ULDEVs allow for trips that are quicker, cheaper, and easier than both public transit and traditional bicycles. During real-world round trips to potential destinations in Denver, authors recorded data showing dockless ULDEVs to be cost-competitive and quick when compared to public transit. Authors also noted that the motors in ULDEVs made climbing hills easier when compared to standard bicycles, potentially lowering real and perceived physical fitness barriers to using active modes.

Bicycle/ULDEV infrastructure in and around Sun Valley is lacking. “High comfort” routes into and out of the neighborhood are limited and far apart from one another, which is of particular concern due to the relative lack of jobs, goods, and services within the Sun Valley neighborhood.

All-day availability of dockless ULDEVs in Sun Valley is an issue. Permits issued as a part of Denver’s Dockless Mobility Vehicle Pilot Program encourage dockless ULDEV fleet operators to keep a portion of their fleets in “opportunity areas” and require rebalancing at least once per day, but during trips to the Sun Valley neighborhood authors consistently failed to find more than one or two dockless ULDEVs available to rent.



Map: Sun Valley Access Barriers

recommendations

Encourage close working relationships between DOTI, EPA, and other stakeholder groups to ensure that mobility solutions fit the needs and wants of Sun Valley residents. Continue existing work to improve Denver's bicycle network, to ensure that current and future Sun Valley residents have safe and comfortable places to ride. EPA, DOTI, and others should advertise and conduct community outreach to spread knowledge of existing reduced-price programs offered by dockless ULDEV fleet operators.

Reassess whether current and future bicycle facilities have the infrastructural capacity to support safe and comfortable ULDEV operation. Catalog facilities that do not meet existing NACTO guidelines for high-comfort bikeways.

As a condition to operate within the public right-of-way, DOTI should require dockless ULDEV fleet operators to offer reduced-price programs for people with low incomes, and to have systems in place that allow for cash payments and vehicle operation without smartphones. Consider seeking financial support from the City and County of Denver and/or non-profit organizations to subsidize these programs. Additionally, require dockless ULDEV fleet operators to rebalance fleets on an ongoing basis throughout the day to ensure vehicle availability in Sun Valley and other places like it.

final thoughts

ULDEVs are an emerging technology that could improve personal mobility for residents of the Sun Valley neighborhood and reduce equity gaps that currently exist due to poor access to jobs, goods, and services. Increasing the number of high-comfort bikeways to and through Sun Valley has the same potential to improve outcomes for current and future residents. More importantly, failing to ensure ULDEV access, ULDEV affordability, and safe and comfortable riding facilities may well lead to an even larger gap between the rich and the poor and between white, Anglo Denverites and Denverites of color.

A hands-off approach allowed the ULDEV market to flourish in Denver prior to the COVID-19 pandemic. Now is the time for the EPA, the City and County of Denver, and non-profit organizations to take leadership roles to fully integrate ULDEVs into Denver's transportation network and to ensure that communities like Sun Valley share the benefits.