Transportation Demand Management for Affordable Housing

Report on parking reduction and TDM outreach strategies

Spring 2026

Project Team and Acknowledgements

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Affordable Housing Committee	*Susan Daggett, Rocky Mountain Land Use Institute*
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Executive Summary

Intended for local policymakers, affordable-housing developers, and their financial partners, this handbook summarizes findings, lessons learned, and next steps from ongoing work at the intersection of affordable housing and transportation demand management (TDM) in the Denver region. The content reflects collaboration among public agencies, developers, and community partners working to reduce the cost of living through integrated housing and transportation strategies.

Implications for policymakers, developers, and funders:

- Reducing parking minimums can increase affordable unit production by up to 180% in transit-rich areas.
- Current lender parking assumptions for parking supply exceed exhibited demand by ~2x.
- TDM investments can directly offset parking needs and reduce per-unit development cost.
- In TDM outreach to residents at affordable housing developments, lead with relationships and in-person outreach.

Reducing parking requirements, when paired with targeted TDM strategies, can significantly lower housing costs, increase unit production, and maintain or improve resident mobility outcomes.

Parking Oversupply and the Cost of Parking

History of Parking and Housing

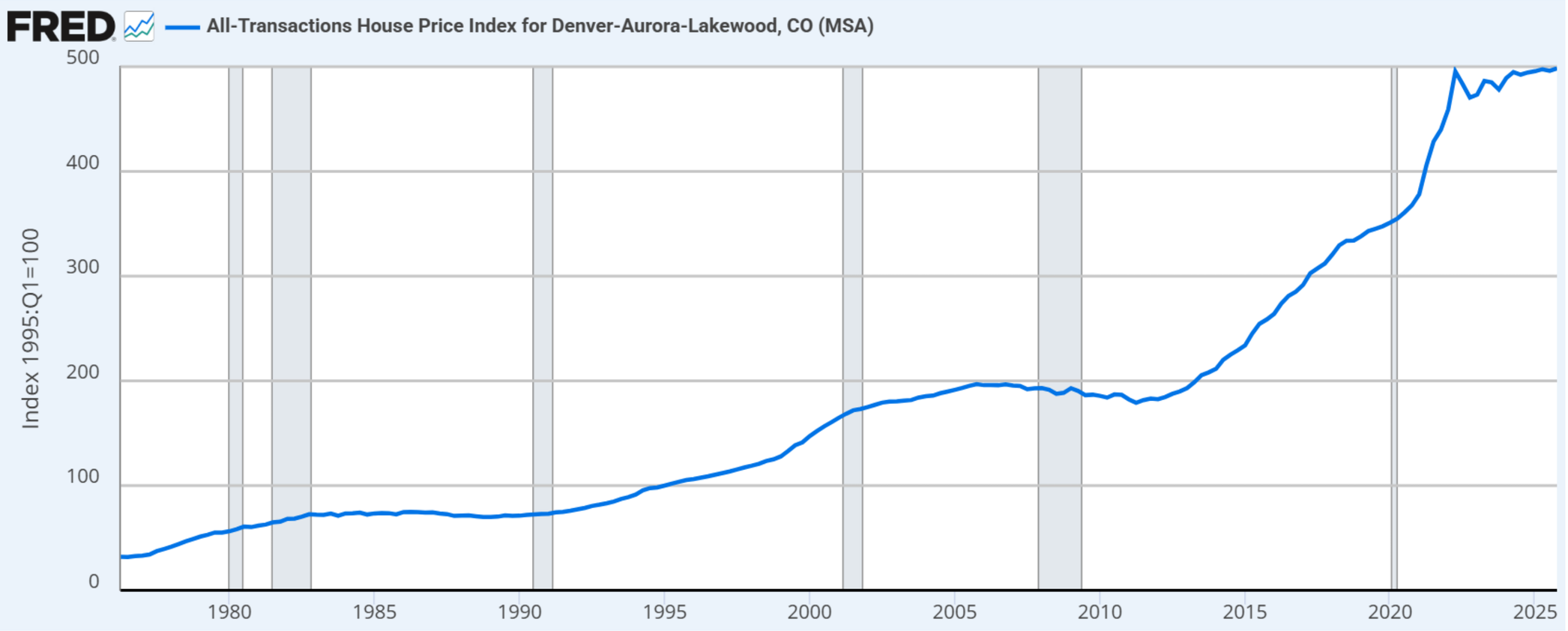
As America embraced suburbia, highways, and car culture after World War II, local zoning began to require a minimum number of parking spaces based on land use and development size to reduce on-street parking congestion. Then as now, communities relied on guidance from national surveys that evaluated parking demand from myriad development types and recommended respective parking supplies, prompting communities from Colorado to Connecticut to require the same arbitrary parking supply, like one parking space per bedroom or two parking spaces per unit.

Setting minimum parking requirements based on national averages long ignored local contextual details that affect parking demand and driving vis-à-vis other travel options, like the density and diversity of destinations and streetscape design that encourage routine walking or the availability of biking infrastructure and transit services.

Recognizing the deleterious effects of context-insensitive codes, state and local governments recently have amended or eliminated minimum parking requirements, like Colorado and Denver among other Front Range communities, in favor of inviting developers to determine sufficient parking supply and other mobility investments for a successful property. In turn, developers have built less high-cost parking, have made more low-cost investments in walking, biking, and taking transit, and have built more units than previously available under prior minimum-parking codes.

Affordable Housing & TDM: Partners in Lower Cost of Living

Living in Colorado, particularly in the Metro Denver region, has become increasingly expensive, placing significant financial pressure on households. The Metro Denver Home Price Index has reached a record high of approximately 498, and Colorado now ranks among the top states nationally for both home prices and rental costs.



Federal Reserve Economic Data, All-Transaction House Price Index for Denver-Aurora-Lakewood, CO (MSA)

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Affordable Housing & TDM: Partners in Lower Cost of Living

The gap between cost of living and wages further underscores this affordability challenge. For example, the MIT Living Wage Calculator estimates a living wage for a single adult with three children at approximately $87 per hour, while the US Census estimates the area median income (AMI) in Metro Denver at roughly $67 per hour.

These conditions highlight the importance of addressing not only housing costs, but also transportation costs, which together make up the largest share of household expenses.

University of Denver, Examining Relationships between Eliminating Parking Minimums & New Housing Construction

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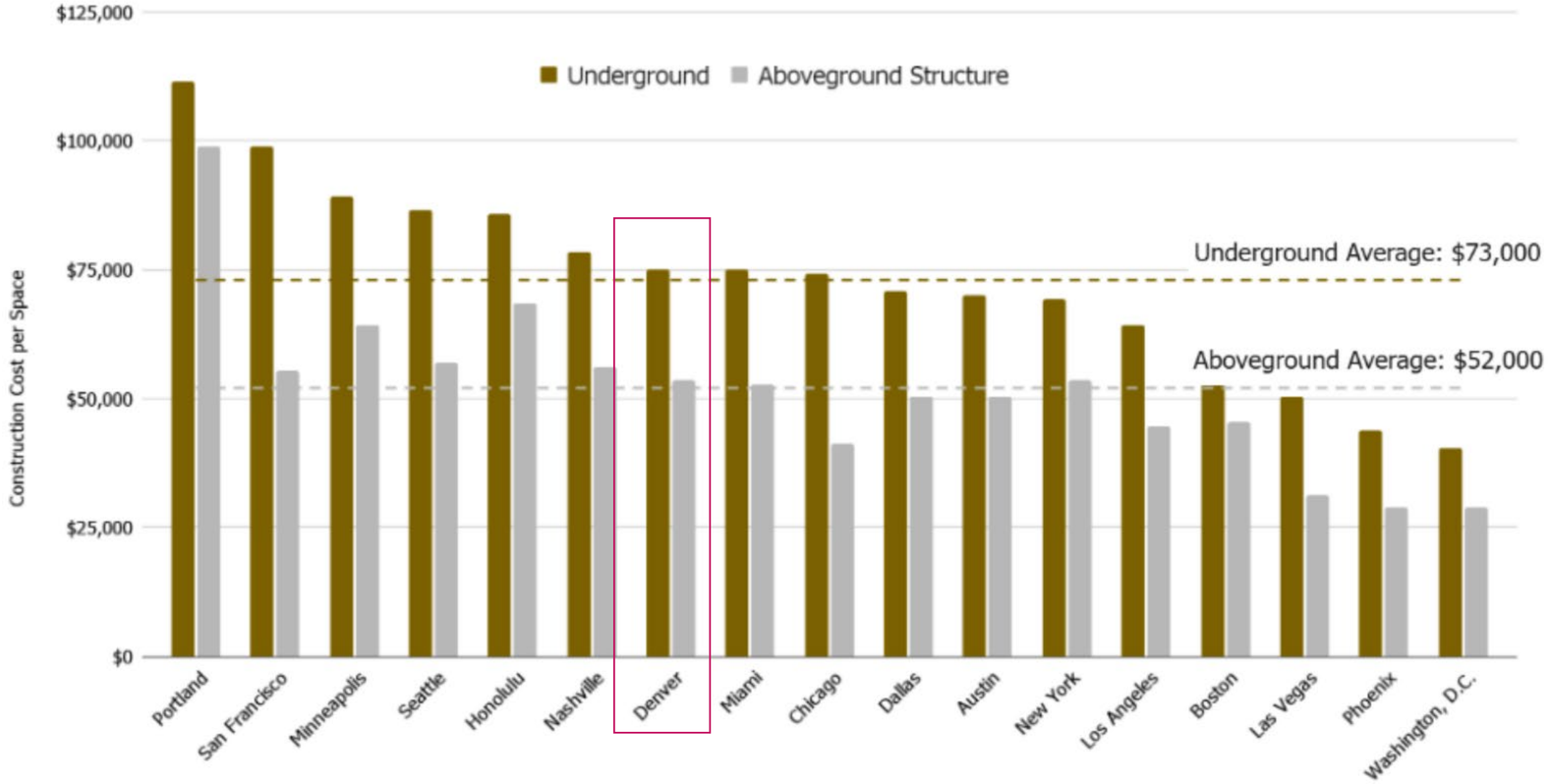
Affordable Housing & TDM: Partners in Lower Cost of Living

Parking is a major driver of housing construction costs, particularly in urban environments like Denver. According to UCLA, structured parking can cost between approximately $54,000 and $75,000 per space, which is higher than the national average. These costs are often embedded in development budgets and ultimately passed on to residents, regardless of whether they own a vehicle. As a result, parking policy plays a critical role in housing affordability.



UCLA, No Such Thing as Free Parking

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Affordable Housing & TDM: Partners in Lower Cost of Living

Recent evidence suggests that housing in general and affordable housing in particular often includes more parking than necessary:

- 2021 RTD study (affordable TOD): 50% of parking unused
- 2021 Shopworks study (affordable): 55% of parking unused
- 2026 CU study (TOD, forthcoming): 45% of parking unused

Central Park Park-and-Ride, CPR News

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Policy Intervention

Recent state legislation in Colorado reflects a coordinated effort to increase housing supply and reduce overall housing costs. A suite of recent Colorado land use and housing laws is reshaping how communities plan for growth, including:

- SB24-174: Housing & Comprehensive Plans
- HB24-1313: Transit-Oriented Communities
- HB24-1304: Minimum Parking Requirements
- HB24-1007: Residential Occupancy Limits
- HB24-1152: Accessory Dwelling Units
- HB25-1273: Residential Stair Modernization

KOAA, Governor Polis before Signing HB24-1304

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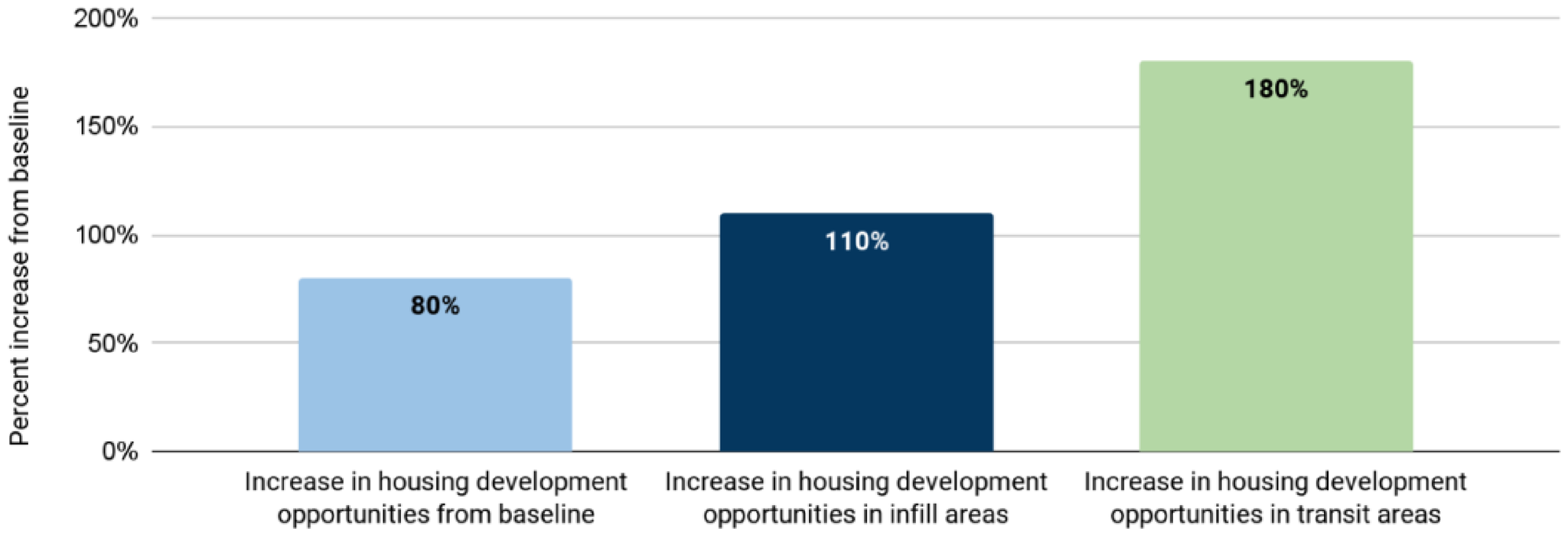
Policy Intervention

These policies collectively support higher-density development, transit-oriented housing, and reduced regulatory barriers. In particular, reforms to parking requirements create new opportunities to rethink how much parking is truly necessary in residential developments. State analysis suggests that HB24-1304 could significantly increase housing production, demonstrating the potential impact of parking reform on housing outcomes.

Expected Impact on Housing Supply of HB24-1304, per Colorado Energy Office



Southwest Energy Efficiency Partnership, Parking Reform Primer

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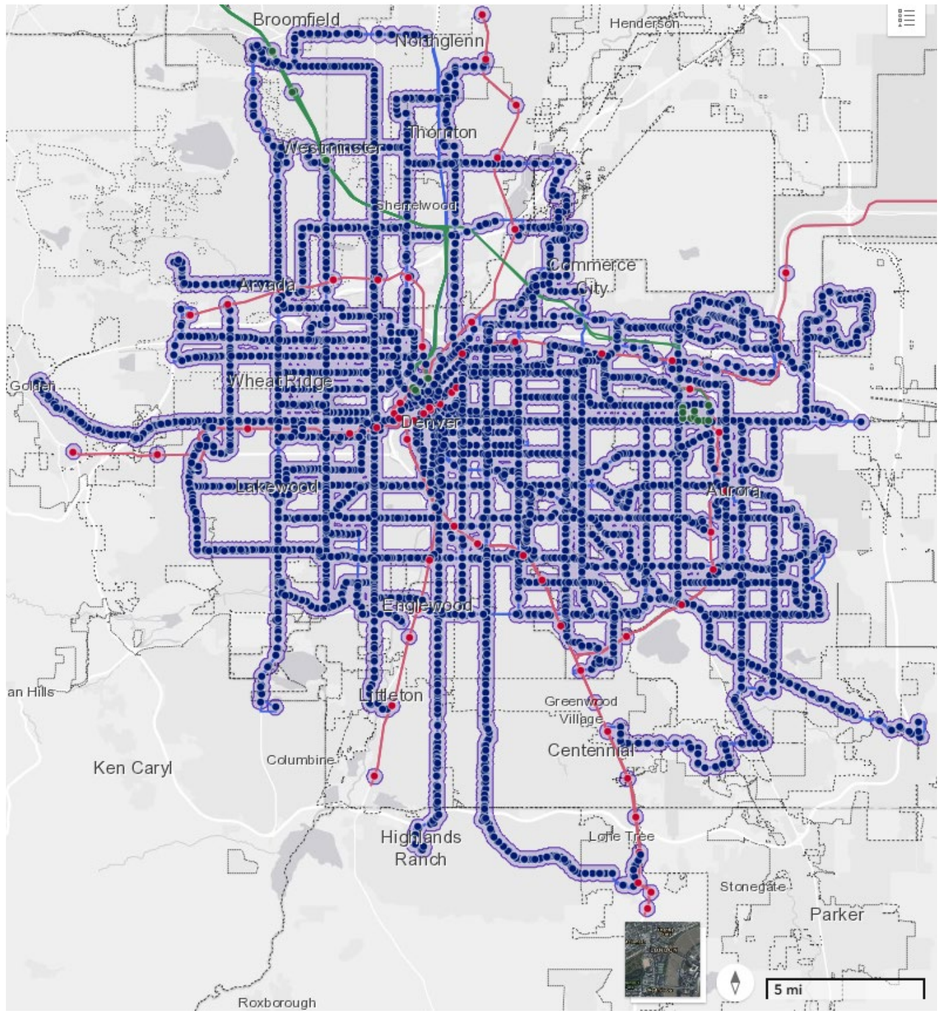
Policy Intervention

Many jurisdictions across Metro Denver, including Denver, Boulder, and Longmont, have eliminated minimum parking requirements. This shift represents a major change in how development decisions are made.

In the absence of mandated minimums, developers now can “right-size” parking supply based on anticipated demand. This change allows a more nuanced approach that considers exhibited parking demand at comparable properties and the availability of multimodal transportation options, including TDM programs, among other property features.



Colorado Dept. of Local Affairs, HB24-1304 Map

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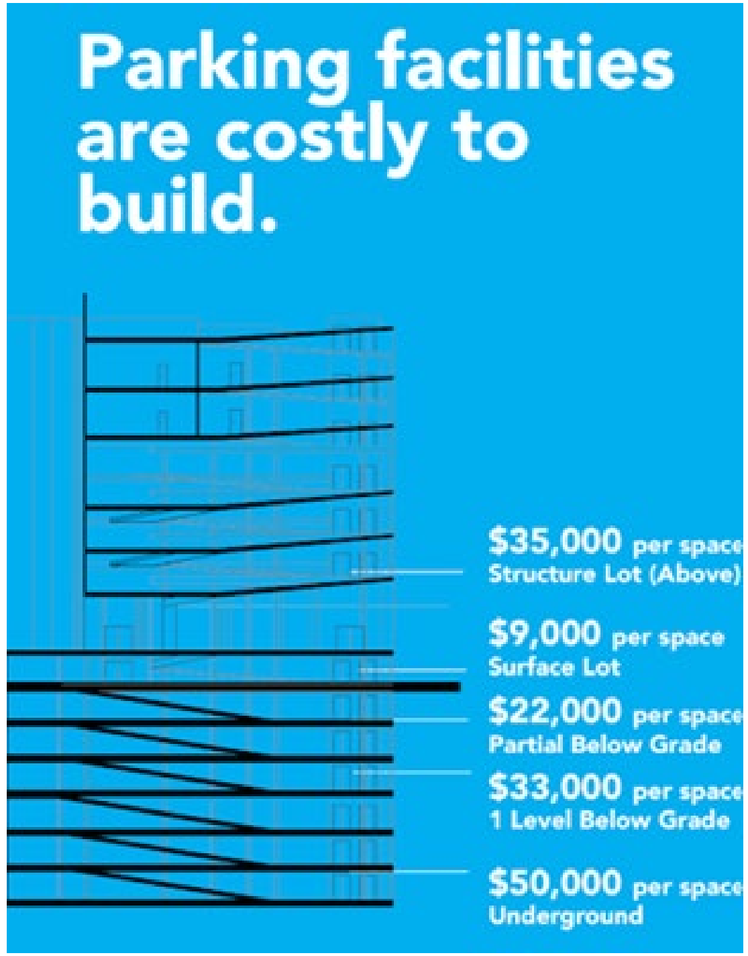
Market Response

At the same time, financial partners and lenders frequently require parking ratios that exceed demonstrated demand. This disconnect between actual usage and financing requirements represents a key barrier to optimizing development outcomes.

- 2021 RTD study (affordable TOD): 0.36 spaces per unit demanded
- 2021 Shopworks study (affordable): 0.25 spaces per unit demanded
- 2026 CU study (TOD, forthcoming): 0.54 spaces per unit demanded



Shopworks, Parking & Affordable Housing

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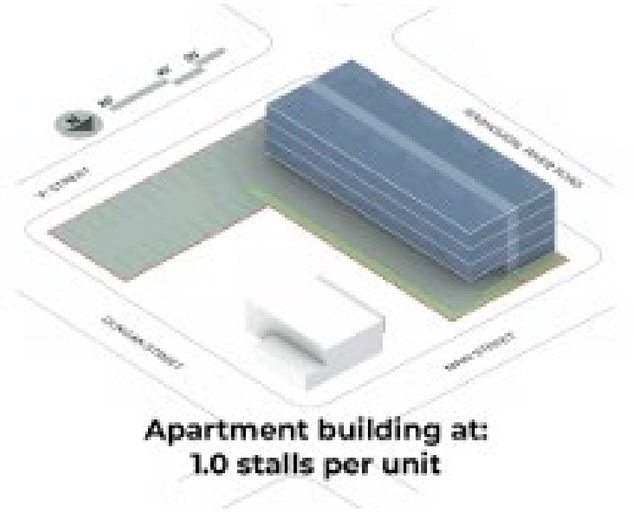
Market Response

Whether required by local zoning or financial partners, the effect of excessive parking supply is the same: market-rate developers typically pass these costs directly on to tenants in the form of higher rents; while affordable housing developers often respond by reducing the number of units they can build, thereby limiting overall housing supply. In the following example, a lower per-unit parking supply preserves more land for greater development, while a higher per-unit parking supply consumes more land and allows for less development.

Apartment building at:
0.5 stalls per unit



Apartment building at:
1.0 stalls per unit

Apartment building at:
1.5 stalls per unit

Sightline Institute, How Parking Ratios Kill Homes

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The Role of TDM and Selecting TDM Strategies

The Role of TDM

Transportation Demand Management strategies play a critical role in reducing parking demand and supporting lower-cost development. Programs such as RTD's Neighborhood EcoPass (NECO) have been shown to significantly reduce driving rates, while carshare services can replace the need for multiple privately owned vehicles.

Additional strategies, including bike libraries, micromobility options, and proximity to destinations, help reduce vehicle miles traveled and expand access to affordable transportation options. In Denver, many of these strategies are not only encouraged but required as part of development processes.

Decision Framework:

Step 1: Site context

Step 2: Demand estimate

Step 3: TDM package from the TDM Strategy Menu

Step 4: Parking ratio

The Role of TDM

TDM can reduce parking demand and parking supply further:

- RTD Neighborhood EcoPass (NECO): reduces driving by 8x per Boulder
- Colorado Carshare: reduces demand for 13 to 15 personal vehicles per UC Berkeley and Victoria Transport Policy Institute
- Bike Libraries: reduces residents' cost of on-demand travel
- Density of Destinations (especially near transit): reduces vehicles miles traveled (VMT)

Denver requires many developers to implement a variety of TDM strategies, including but not limited to:

Programmatic	Subsidize Transit Passes (100% subsidized)
Programmatic	Subsidize Transit Passes (min. 50% subsidy)
Infrastructure	Transit Station/Stop Investment
Programmatic	Transit Connection Services
Infrastructure	Passenger pick-up/drop-off areas with Curb Management

Infrastructure	Bicyclist Support: Shared Amenities (Non-residential)
Infrastructure	Bicyclist Support: Shared Amenities (Residential)
Programmatic	Provide bicycle, e-bike, or micromobilty share
Programmatic	Subsidize shared mobility (e-bikes, e-scooters)
Infrastructure	Pedestrian- and Cyclist-Scaled Wayfinding

Denver, TDM Strategy Menu (selection)

Recent Project Successes

Recent affordable housing developments in Denver demonstrate how TDM strategies can be successfully integrated into project design. For example, projects such as Tapestry Apartments, Central Park Apartments, and Waldown Apartments have implemented a combination of reduced parking ratios and robust TDM programs, including transit passes, wayfinding tools, bike infrastructure, and transportation management association participation.

These projects illustrate that lower parking supply can be achieved without compromising resident mobility, while also improving competitiveness for funding opportunities such as tax credits.

Recent Project Successes

Tapestry Apartments, *Uptown, Denver*
0.69 spaces per dwelling unit, NECO, wayfinding, TMA membership – 2025 tax credit award

Central Park Apartments, *Central Park, Denver*
0.63 spaces per dwelling unit, NECO, transit screen, bike parking, TMA membership – 2025 tax credit award

Mobility Wallet Pilot, *City of Boulder & Boulder Housing Partners*
State-funded *program* to subsidize residents' multimodal fares and memberships

Tapestry Apartments

Central Park Apartments

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Glossary of Strategies

Strategy	Description
100% Subsidized Transit Passes	Transit passes with no resident cost-sharing
50% Subsidized Transit Passes	Transit passes with 50% resident cost-sharing
Flexible Sustainable Transportation Fund	Provides a dedicated pool of money for residents to spend on non-single-occupancy-vehicle transportation options
Unbundled Parking	Parking is an opt-in charged separately
Parking Fees	Charging residents for parking
Parking Cash-Out	Provides residents who choose not to use a subsidized parking space with the cash value of that parking benefit
TMA Membership	Annual membership with one of the eight Denver-regional transportation management associations, particularly the TMA representing the area of the building address
Access to Carshare	Provide dedicated parking space for a carshare
Shared Mobility Subsidy	Provide residents with subsidized passes for the local bike and e-scooter program, which is currently run by Veo in Denver
New Resident Kits	Provide all new residents with sustainable transportation resources

Glossary of Strategies

Strategy	Category	Est. VMT Reduction	Best Use
100% Subsidized Transit Passes	Transit	10%	Transit-rich housing
50% Subsidized Transit Passes	Transit	5%	Moderate budget option
Flexible Sustainable Transportation Fund	Supportive	5%	Custom incentive budget
Unbundled Parking	Parking	4%	Low-parking projects
Parking Fees	Parking	4%	Market-rate parking management
Parking Cash-Out	Parking	4%	Where free parking is offered
TMA Membership	Supportive	3%	Projects inside TMA areas
Access to Carshare	Carshare	1%	Low-car households
Shared Mobility Subsidy	Bike / Scooter	1%	Short local trips
New Resident Kits	Supportive	0.5%	Lease-up and onboarding

Highlighting Denver’s TDM Strategy of 100% Subsidized Transit

Estimated Reduction in VMT: 10%

Best For: Projects near frequent transit, senior housing, family housing, low-parking projects

Why use it: This is the highest-value residential strategy in Denver’s menu. It provides all tenants with fully subsidized RTD EcoPass access and directly reduces the cost barrier to transit. Per a 2023 City of Boulder survey, RTD EcoPass holders are 3x more likely to bus, 2x more likely to bike, and slightly more likely to walk than non-holders, and holders are eight times more likely to make at least one bus trip than non-holders.

Implementation: Pair with in-person onboarding, printed transit maps, and resident ambassadors. Residents are more likely to try transit when they receive hands-on guidance and trusted support.

Recommended Strategy Bundles: Choose a Starting Package

Core Affordable Housing Package

Best for most residential affordable housing projects.

It combines high-value transit support with low-cost education and wayfinding:

- 100% subsidized transit passes
- New resident kits
- Pedestrian- and cyclist-scaled wayfinding
- Transit information screen / kiosk / website
- Bicycle repair tools and shared residential bike amenities
- TMA membership, if eligible

Low-Parking / Transit-Rich Package

Best for projects proposing reduced parking ratios.

This package supports developments trying to justify lower parking supply by pairing pricing, transit, and flexible vehicle access:

- 100% subsidized transit passes
- Unbundled parking
- Access to carshare
- TMA membership, if eligible
- Shared mobility subsidy
- New resident kits

Impact Summary

We've presented a lot of data. Here are four of the most important takeaways:

1. Parking adds $50,000-70,000 per unit cost
2. 45-55% of spaces go unused
3. Reducing parking can unlock 1.3-1.8 times more housing
4. TDM programs measurably reduce vehicle ownership

System-Level Next Steps

To build on this progress, several next steps have been identified. These include conducting deeper evaluations of parking demand at comparable properties, sharing findings with financial partners, and working collaboratively to adjust underwriting standards related to parking and TDM.

Additionally, there is an opportunity to shape broader market expectations by normalizing reduced parking supply and emphasizing multimodal transportation as a core component of affordable housing.

Implications for funders, policymakers, and TDM professionals:

- Reducing parking minimums can increase affordable unit production by up to 180% in transit-rich areas.
- Current lender parking assumptions are misaligned with observed demand by ~2x.
- TDM investments can directly offset parking needs and reduce per-unit development cost.

While policy and development changes create the opportunity to reduce parking, achieving these outcomes depends on understanding and influencing resident travel behavior.

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TDM Outreach Strategies to Reach Affordable Housing Residents

Affordable Housing TDM Approach

Affordable housing communities require a tailored approach to TDM that differs from traditional models. Standard strategies do not always translate effectively due to differences in income, access, and lived experience.

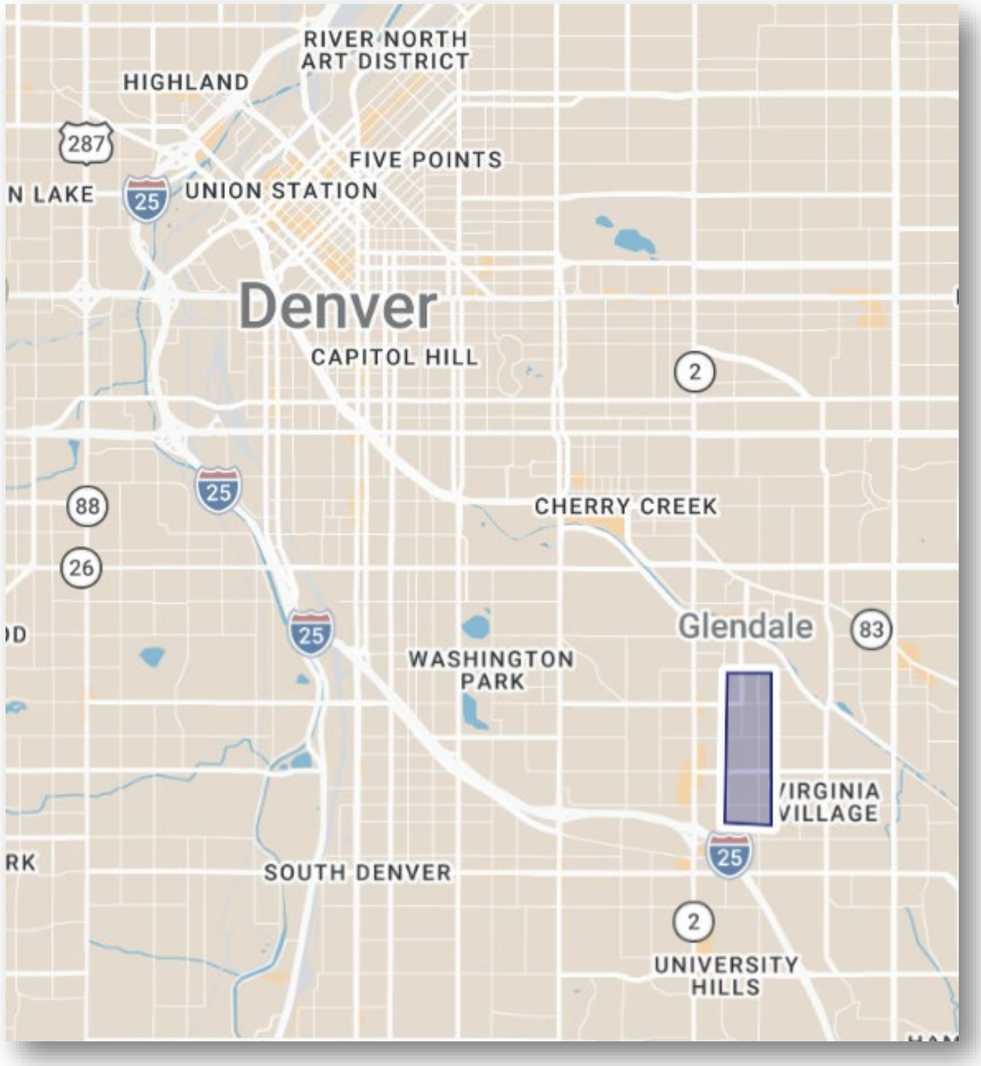
Successful programs must account for factors such as language, trust, and time constraints, and must be designed to meet residents where they are. Even in transit-rich areas, many residents continue to rely on personal vehicles, highlighting the need for targeted and supportive interventions.

Korsakov and Da Vinci apartment buildings where we did a few months of outreach

Pilot Outreach Programs

To better understand resident needs, pilot outreach programs were conducted across three affordable housing properties in southeast Denver. These communities included a diverse mix of residents, including Spanish-speaking families, older adults, and long-term residents with varying language needs.

A range of outreach strategies was tested, including surveys, door-to-door engagement, in-person events, and incentive-based programs such as free transit passes and mobility challenges. This iterative approach allowed the team to identify what methods were most effective in engaging residents.



All three communities are near Colorado Boulevard in southeast Denver

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Outreach Approach

The outreach strategy was built around four key principles. First, it is essential to understand how residents currently travel and what barriers they face.

Second, programs should focus on reducing those barriers through clear information and accessible resources.

Third, building trust is critical and requires consistent, in-person engagement and the use of familiar community messengers.

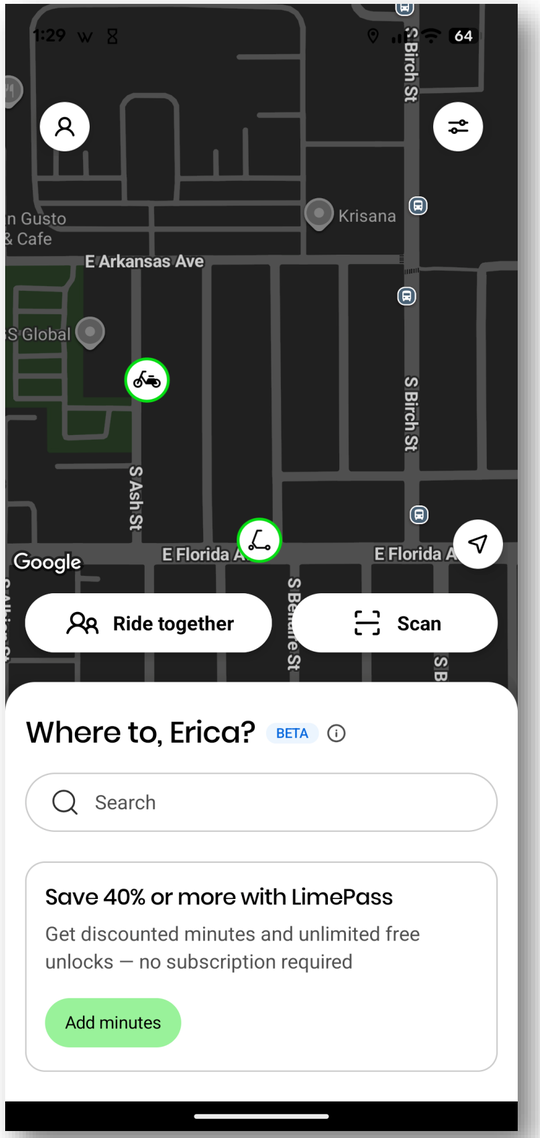
Finally, incentives such as free transit passes and rewards can help motivate behavior change when paired with supportive programming.

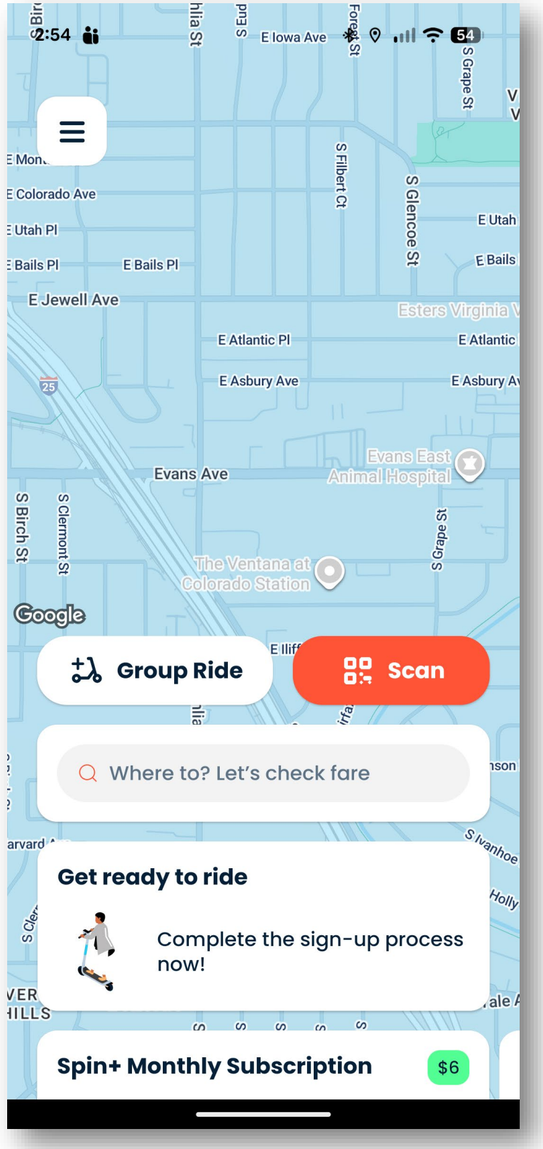
Elevator flyer for one of the events

Outreach Strategies That Worked

The most effective outreach strategies were those that prioritized direct human interaction. In-person conversations proved far more impactful than digital-only approaches, particularly when supported by simple, visual, and plain-language materials.

Surveys were most successful when used as engagement tools rather than purely for data collection, and paper formats often outperformed digital ones. Partnerships with property managers and resident ambassadors were also critical in establishing trust and increasing participation.





Monitoring and advocating for increased vehicle deployment to Bird and Lime

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What We Are Learning About Residents

Through outreach efforts, several key insights emerged about resident behavior and preferences. Most residents continue to rely primarily on driving, even when alternative options are available. However, many expressed openness to changing their travel behavior if they received guidance and support.

The most common motivations for change were improving health and saving money, suggesting that messaging and program design should emphasize these benefits. These motivations are similar to the motivations we see in employer/employee-based TDM.

Series of lobby tabling days to support residents

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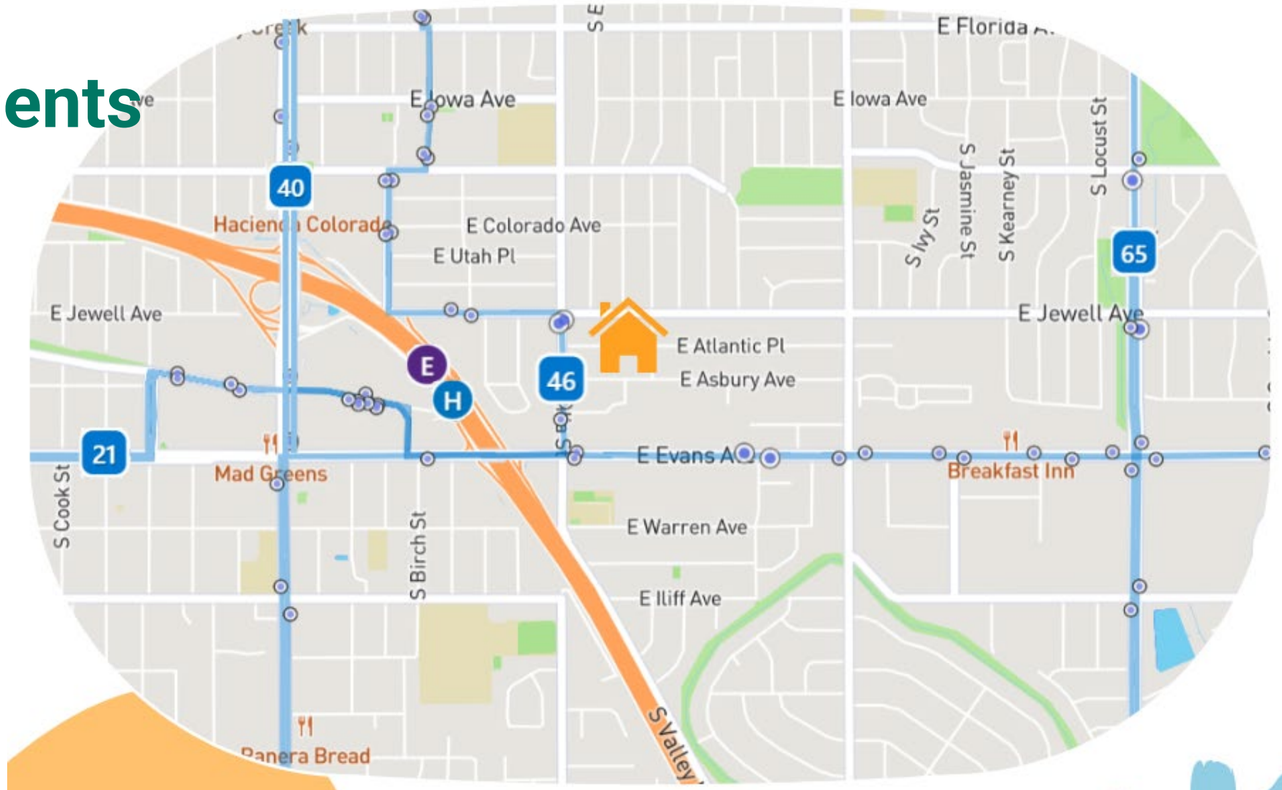
Case Study: Lynwood Senior Apartments

At Lynwood Senior Apartments, one of the most successful interventions was the introduction of a community resident transit ambassador who provided personalized support to fellow residents.

Residents were offered a range of resources, including free transit tickets, discounted micromobility options, and assistance navigating tools like Google Maps for trip planning. This hands-on approach helped demystify transit and build confidence among participants.



Free RTD Tickets

Fill out this quick form to get a free ticket to try transit. Then, download the RTD MyRide app and we'll send the pass to your app.

bit.ly/lynwoodfreepass

Free scooter/bike rides

Use these discount codes to get $5 in ride credit on Bird and Lime.

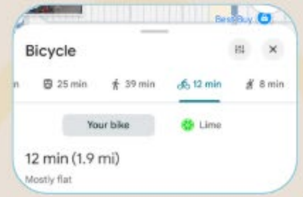
Lime: TSDISCOUNT
Bird: BIRDLYNWOOD

Discounted bikes

Visit **Mike's Bikes East** to get 10% off a new full-priced bike!
Discount code: **RTD**

Use Google Maps

Navigate by bike and bus on the Google Maps app on your phone!



Case Study: Korsakov and Da Vinci

Transportation Solutions hosted a Car-Lite Challenge throughout February at Korsakov/Da Vinci. Feedback from residents highlights the value of these programs. Participants reported increased confidence in using transit, appreciation for the support provided, and a renewed sense of independence in their mobility choices.

"Felt good walking again."

"Great communication and conversations with the team."

"I have used Denver transit since 2013 and I appreciate it."

"It was helpful to us with answers we received from Derek."

"It is manageable to use the bus and train, you just have to plan your trip in advance."

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Case Study: The Quayle

The Quayle, a multifamily residential development at 1st Avenue and Broadway in Denver, was designed in 2019 with an exceptionally low parking ratio of approximately 0.2 parking spaces per dwelling unit. Project representatives noted that constructing additional parking would have cost roughly $60,000 per space, significantly increasing development costs and ultimately translating into higher rents for residents. To maintain housing affordability, the project relied on transportation demand management strategies such as transit access, bicycle amenities, and mobility options that reduced residents' dependence on personal vehicles. These measures allowed the development to minimize parking supply while still meeting residents' transportation needs and supporting Denver's broader sustainability and mobility goals.

The Quayle at South Broadway and 1st

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Case Study: Survey at The Quayle

Resident survey results from 2026 at The Quayle property revealed many rely on transit and walking. Interestingly, some residents reported owning cars that they rarely use, indicating potential opportunities to further reduce parking demand. However, certain TDM programs, such as an e-bike library, were less successful, highlighting the importance of tailoring strategies to specific communities.

- Most have RTD LiVE reduced fares
- Transit and walking are the most common modes
- A few have cars parked that they never use
- Most don’t own a car
- eBike library only lasted a short time

The Quayle at South Broadway and 1st

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Summary

Takeaways for TDM and Housing Professionals

For transportation and housing professionals, several key lessons have emerged. First, relationships are foundational and should be prioritized throughout program design and implementation.

Second, early and ongoing collaboration with property managers is essential. Third, in-person engagement remains one of the most effective tools for reaching residents. Finally, successful programs combine incentives with efforts to reduce structural and informational barriers to access.

What We Need from Partners:

- Adjust parking underwriting assumptions
- Fund TDM as part of capital stack
- Support pilot programs and data collection
- Align policy with demonstrated demand

E-Bike Demo, March 2026

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Closing

Transportation Solutions remains committed to advancing integrated housing and transportation strategies that reduce the cost of living and expand access to opportunity. Continued collaboration among funders, developers, and public agencies will be critical to scaling these efforts and achieving long-term impact.

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