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Priced Out

How Housing Subsidy Programs Can Reduce VMT

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Going from "Drive Til You Qualify" to "No Driving – You're Qualified!"

The catchphrase "drive until you qualify" is shorthand for the dynamic of a prospective homeowner or renter looking for a residence close to work or school, failing to qualify for financing, and then expanding their search farther and farther. The higher cost of housing is a key factor reducing opportunity for homeowners and renters to reside in highly accessible, centrally located neighborhoods. Many cannot afford to live where they work; they are simply 'priced out' of the market.

Housing cost dynamics can result in workers commuting longer distances, forcing them and other members of the household to live in less accessible, auto-dominated locations. In these areas, driving is required for nearly every household activity, and this can generate substantial vehicle miles traveled (VMT). From an equity lens, lower wage workers and lower income households are the populations most likely to be forced out of higher cost residential areas.

Program Concept

The Housing Relocation-Subsidy Program (HRSP) is a concept for a VMT mitigation program focused on reducing the housing cost differential between high accessibility areas and low accessibility areas.

Table 1: High and Low Accessibility Areas

High Accessibility/Low VMT	Low Accessibility/High VMT
	
Area is centrally located. Daily activities often do not require driving. Low VMT lifestyle is easier to establish and maintain.	Area is on the fringe of a region. Daily activities often require driving and therefore generate more VMT.

The HRSP would require the lead agency to fund grants, zero-interest loans, or monthly subsidies to offset the housing cost differential for ideal candidates. The program would require the lead agency, or it's contractor or partner agency hosting the program, to administer the program: recruiting and screening candidates for the grants or subsidies; monitoring to ensure that households receiving grants or subsidies continue to reside in a high accessibility/low VMT area; and providing assistance for households transitioning in or out of the program.

Eligibility

Lead agencies or partners would be responsible for identifying program candidates. An ideal candidate would:

- Currently work in the lead agency jurisdiction or adjacent areas and reside well outside the jurisdiction, in a low accessibility/high VMT area;
- Prefer to live in a high accessibility/low VMT area much closer to their place of work, but unable to afford a suitable residence;
- Be willing to commit to a minimum residence term in the low VMT area, and commit to doing periodic surveys to monitor program (not individual) impact on VMT; and
- Have employment in the jurisdiction that is likely to continue through the minimum residence term mentioned above.

Program Goals

VMT Mitigation

VMT mitigation would come from the reduction in VMT generated by the residents of households in a HRSP-enabled location in a high accessibility/low VMT area. The reduction could be calculated in several different ways:

- **Participant Household Travel Surveys:** The most rigorous approach would be based on actual travel by households relocating from low accessibility/high VMT areas, through a survey completed by the household in their current location, and similar surveys of the relocated households in the high accessibility/low VMT areas. The impact and effectiveness of the program would be measured by the reduction in VMT from all participating households.
- **Household Averages:** Another approach would be to base the VMT reduction calculation on the average rates of VMT for households in the low accessibility/high VMT areas and high accessibility/low VMT areas. This approach would not require travel surveys of the participating households. It would be assumed that the participating households reflect the average rates in both the current location, and in the area they relocated to. Candidates for calculation of average rates of VMT include the following:
    - Reliable travel model estimates (e.g., MPO's published rates)
    - Estimates from big data sources like Streetlight or Replica
    - Rates based on household travel surveys and keyed to observable land use and demographic characteristics of the candidate program participants (see Table 2 for a listing of sources of VMT per capita data).

Long Term Reduction

In all cases, VMT reductions would come from not just one day or one year, but for the full term of the expected relocation of the households. Most of the residential subsidy programs in use currently have a minimum requirement for years of residency, in order to qualify for subsidy. The HRSP should have a relatively long minimum term (5 years or more), but the number of years of likely benefit should extend beyond that minimum term, presuming that some households will remain after the minimum term is expired. Also in the long term, implementation of this program, in concert with other supportive policies and actions by participating agencies, should stimulate more housing development in high accessibility/low VMT areas.

Table 2: Potential Data Sources (VMT per Capita and Accessibility)

Data Source	Description	Coverage	Maintenance
VMT+	VMT per capita (based on Streetlight device traces)	Statewide	Future maintenance not guaranteed
Regional Travel Model	VMT per capita Accessibility	Region	4+ years between updates
Local/Sub-Regional Travel Model	VMT per capita Accessibility	Local Agency Sub-Region	Consistent with local agency planning
Conveyal, etc.	Accessibility	Potentially statewide	New platform Future maintenance not guaranteed

Source: Fehr & Peers.

Additional Potential Program Benefits

Although the impetus and main goal of this program is facilitating a long-term reduction in household-generated VMT, the program may serve additional goals:

- **Increased Diversity:** Because more low-wage workers and lower-income households are priced out of higher cost housing in high accessibility/low VMT neighborhoods, it is likely that more of these lower-income households will be ideal candidates for grants. This would increase access to housing for those households and increase income diversity in those areas.
- **Employees Can Live and Work in the Same Community**: Most current residential subsidy programs already in use are motivated by workforce concerns—basically, wanting to help employees of a large organization to find suitable housing closer to their worksite. This program, if targeted to workers in the lead agency jurisdiction, will have a similar impact.

Program Requirements

Establishing a program would require several significant resources and determinations.

- **VMT Datasets:** Identifying high accessibility/low VMT areas and low accessibility/high VMT areas should be based on the best available data on household-generated VMT per capita and land use. Travel models, household travel surveys, and regional GIS datasets may be useful.
- **Housing Market Analysis:** An analysis of housing costs in the different areas needs to be prepared to establish what the grants or subsidies need to be to stimulate the household relocations that drive this program. Some level of housing market analysis should be performed on a sample of housing in both high accessibility/low VMT areas and low accessibility/high VMT areas.
- **Supportive Housing Policy:** The long-term effectiveness of the HRSP to reduce household-generated VMT in a community will be determined by its ability to accelerate housing production in high accessibility/low VMT areas and limit new housing units in low accessibility/high VMT areas. For this reason, the program would work best if the lead agency or the jurisdictions within had explicit housing policies that prioritized and encouraged infill housing that mesh with the goals of the HRSP program while also minimizing new housing developing in low accessibility/high VMT areas.

Cost Effectiveness

Subsidy Criteria

For purposes of estimating cost effectiveness, the following assumptions are made about the basic form of a residential subsidy program:

- The program would target workers in the lead agency jurisdiction or adjacent areas who currently reside in low accessibility/high VMT locations. Census commuter flow data is one source for identifying potential markets that meet these criteria but big data could also be used.
- The program would provide subsidies to allow worker households to relocate to preferred locations in high accessibility/low VMT areas. See Table 3 for potential VMT savings based on program participant relocation pairings.
- Subsidies would be sized based on the housing cost differential between the current low accessibility/high VMT residential location and a targeted high accessibility/low VMT location within the lead agency jurisdiction or adjacent areas. Housing price research needs to be completed to assess the cost differential for some of the potential relocation pairings.
- Subsidies for owned homes could be provided as a forgivable loan to the worker, to eliminate the housing cost difference and allow the worker household to relocate. The loan would be forgiven entirely if the worker met conditions on term of residence in the new location and on participation in annual travel surveys to monitor program performance. Subsidies for rental homes could be provided for each month a worker resided in the new rental home or apartment and participated in annual travel surveys.

Table 3: HRSP Potential VMT Savings

Residence Type	Daily VMT per Capita	Residence Type	Daily VMT per Capita	Relocation VMT Difference
Ex-Urban Single-Family Home Area	40 VMT	CBD Fringe or Large Suburban Downtown	15 VMT	-63%
Fringe Suburb Single-Family Home Area	30 VMT	CBD Fringe or Large Suburban Downtown	15 VMT	-49%
Close-in Single-Family Home Area	25 VMT	Local Agency Sub-Region	20 VMT	-20%

Source: Fehr & Peers. Based on typical VMT per capita rate estimates by area type from various sources.

Cost Factors

Table 4 and Table 5 show sample scenarios for owned and rental units, respectively. Major factors will affect the cost effectiveness of a residential subsidy program targeted at reducing VMT:

1. **VMT Differential**: Differential between the current low accessibility/high VMT locations of targeted residents of a subsidy program and the future residential location in a high accessibility/low VMT location. All other things being equal, the cost effectiveness of the program would be highest if residents are moving from a very high VMT location to a very low VMT location.
2. **Housing Cost Differential**: In areas where the housing cost differential between low and high VMT areas is very high, costs of relocation are also high and cost per VMT reduced will be higher.
3. **Duration of Program Participation**: By definition, relocation of a household should be a long-term arrangement, potentially with long-term VMT reductions. Especially for owned units, where the subsidy is likely to be a one-time, up-front payment, the longer the duration of the program, the lower the cost per VMT reduced. However, a long-term program will also require more administrative effort to deal with inevitable transitions during the course of the program (e.g., a participating household moving out), which could increase overhead costs.

Table 4: Sample Cost per VMT (Owned Residence)

	Scenario A		Scenario B	
	Daily VMT per Capita	Daily VMT per Household	Daily VMT per Capita	Daily VMT per Household
VMT Change				
Current	30	75	25	55
Relocated	15	38	18	40
Change		-38		-15
Cost Effectiveness Factors				
Relocation Subsidy (one-time)	**$100,000**		**$75,000**	
Duration of Relocation	10 Years		10 Years	
VMT Annualization Factor	350		350	
Total Daily VMT Saved	131,250		53,900	
Overhead (25%)	$25,000		$18,750	
Cost per VMT saved	**$0.95**		**$1.74**	

Source: Fehr & Peers, March 2023.

Table 5: Sample Cost per VMT (Rented Residence)

	Scenario C		Scenario D	
	Daily VMT per Capita	Daily VMT per Household	Daily VMT per Capita	Daily VMT per Household
VMT Change				
Current	25	55	20	36
Relocated	12	26	16	29
Change		-29		-7
Cost Effectiveness Factors				
Relocation Subsidy (monthly)	**$600**		**$300**	
Duration of Relocation	120 Months		120 Months	
VMT Annualization Factor	350		350	
Total Daily VMT Saved	100,100		25,200	
Overhead (25%)	$150		$75	
Cost per VMT saved	**$0.90**		**$1.79**	

Source: Fehr & Peers, March 2023.

Examples of Similar Programs

Many examples of employer-assisted housing programs exist in which a specific employer offers some form of subsidy or other assistance to offset high housing costs. These programs may be geared toward a new or prospective hire relocating to the employer; to existing employees relocating residences closer to the employer; or within a jurisdiction, as in the case of a public employer like a city or county. Housing assistance is also offered by universities (e.g., Stanford, most University of California campuses), and some cities or counties. A few examples of documented programs are provided below.

- University of California Regents —the UC system has adopted a systemwide policy on housing assistance provided to faculty and staff, with the policy implementation left to individual campuses and facilities.
    - UC Santa Cruz
    - UC Davis
    - UC Berkeley
- City of Detroit, Michigan—this program offered housing subsidies primarily as a strategy to develop neighborhoods within Detroit. The program offered subsidies for both renters and buyers, and 2000 households used the subsidies to move into targeted neighborhoods.
- University of Chicago—this program offered interest-free loans to U of C employees to purchase housing in targeted neighborhoods near the university. Subsidies have been provided to 228 households.
- Aurora Healthcare (Milwaukee, Wisconsin) —Aurora sought to facilitate "walk to work" potential for their workforce and used interest-free loans to households to assist in finding housing in targeted neighborhoods near their clinics. A unique and in-depth case study of the 208 participants in the program is available.

The HRSP program would be a variant of these existing programs. The existing programs are run by individual employers, targeting their own employees or prospective employees. The HRSP described here would target employees working within the entire lead agency jurisdiction or beyond and would not be limited to one employer. A second difference would be that the inclusion of VMT reduction as an explicit program goal would require some level of monitoring that existing programs do not have.